GEOPOLITICAL SIGNIFICANCE OF INTERNATIONAL HYDRO POWER PROJECTS: A CASE STUDY OF INDO-NEPAL MAHAKALI HYDRO PROJECT

Dissertation submitted to the Jawaharlal Nehru University in
Partial fulfilment of the requirements for the award of the Degree of

MASTER OF PHILOSOPHY

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20th July 1998

CERTIFICATE

Certified that the dissertation entitled **GEOPOLITICAL SIGNIFICANCE OF INTERNATIONAL HYDRO POWER PROJECTS: A CASE STUDY OF INDO-NEPAL MAHAKALI HYDRO PROJECT**, submitted by **Mr.GIDEON L. KHARKONGOR** in fulfilment of nine credits out of total requirement of twenty four credits for the award of Degree of **MASTER OF PHILOSOPHY (M.Phil.)** of this University, is his original work and may be placed before the examiners for evaluation. This Dissertation has not been submitted for the award of any other degree of this University or of any other University to the best of our knowledge.

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To My Dearest Mei, Pa
And All At
Roilang

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New Delhi
20th July 1998

GIDEON KHARKONGOR

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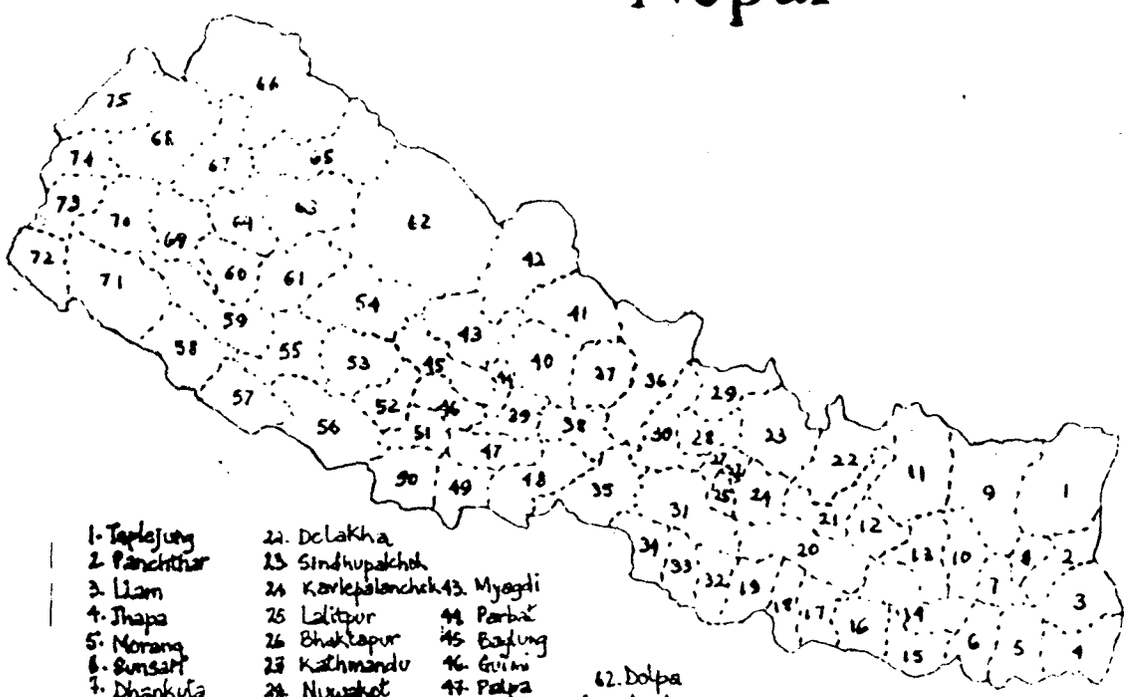
PREFACE

Today, hydro power projects on international rivers and boundary rivers draw significance due to the changing socio-economic and political institutions that have emerged in the riparian countries. The share of costs and benefits from the common water resources often causes discontentment and that leads to conflict because proper guide lines have not been clearly spelt out in the agreements signed between nations. India and Nepal cooperation in the common water resources have been selected for the study because these countries have a common heritage and the relationship between the two have been continuing since the Rana's rule in Nepal. Nepal, which is endowed with rich potential of water resources through her 6,000 rivers and rivulets can be `hydro dollar' rich if only it continues the cooperation with India who would be the chief buyer of its hydro power. Various hydro power projects have been initiated between the two countries on a collaborative basis; the output of which will help both stand as geostrategic important countries in South Asia or even in Asia as a whole.

The study which was initially stated for Mahakali project as a point of reference in the geopolitical importance in cooperation and development between the two countries, is now focused on all the hydro power projects and their implications in the Indo-Nepalese relation. The Mahakali Treaty signed in 1996 encompasses the deadlock of the past agreements and opens up for future negotiation in water resource development. Hence, this dissertation work can be best looked at as a study of `**Geopolitical Significance of International Hydro Power Projects: A Case Study of Indo-Nepal Hydro Power Projects**', rather than just a case study of the **Mahakali Project**. The cover title has been retained due to the bureaucratic constraints.

Nepal



1. Taplejung
2. Panchthar
3. Ilam
4. Jhapa
5. Morang
6. Sunsari
7. Dhankuta
8. Terhathum
9. Sankhuwasabha
10. Bhojpur
11. Solukhumbu
12. Okhaldunga
13. Khotang
14. Udayapur
15. Saptari
16. Siraha
17. Dhanusa
18. Mahottari
19. Sarlahi
20. Sindhuli
21. Ramechhap
22. Dolakha
23. Sindhupalchok
24. Kavrepalanchok
25. Lalitpur
26. Bhaktapur
27. Kathmandu
28. Nuwakot
29. Rasuwa
30. Dhading
31. Makwanpur
32. Rautahat
33. Bara
34. Parsa
35. Chitawan
36. Gorkha
37. Lamjung
38. Tanahu
39. Syangja
40. Kaski
41. Manang
42. Mustang
43. Myagdi
44. Parbat
45. Baglung
46. Gulmi
47. Palpa
48. Nawalparasi
49. Rupandehi
50. Kapilbastu
51. Arghakhanchi
52. Pyuthan
53. Rolpa
54. Rukum
55. Salyan
56. Dang
57. Banke
58. Bardiya
59. Surkhet
60. Dailekh
61. Jajarkot
62. Dolpa
63. Jumla
64. Kalikot
65. Mugu
66. Humla
67. Bajura
68. Bajhang
69. Achham
70. Doti
71. Kailali
72. Kanchanpur
73. Dadeldhura
74. Baitadi
75. Darchula.

ADMINISTRATIVE DISTRICTS

INTRODUCTION

Water is the cheapest renewable resources found in the interior of the earth, on its surface and in the atmosphere. It is used for domestic purposes, industrial, power generation and in agriculture. Its resources are concerned mainly with the management, conservation and administration, and policy formation. One of the important ways in which it is utilised is hydro power generation. Water is an indispensable means of economic growth and social welfare. It constitutes two-thirds of the earth's surface, and out of which 95 per cent is in the oceans and another 5 percent in the form of snow, glacier and runoff. It is ironical that this meagre runoff formed the basis of the present study. River water can be beneficial as a source of water supply, irrigation and generation of hydel power. The advancement in technology and better financing leads to diversion of river water, and with the increasing population and industrial growth, it only intensifies the demand for maximum use of the river water. This creates discontentment and jealously between the basin states or riparian states where the share of water is not equal. The case is more serious when we consider international and boundary river water where such discontentment leads to grave conflictual issues. Nepal and India are ideal illustrations of an upper and lower riparian

states sharing not only the international rivers[1] but the boundary rivers[2] as well. The cooperation between Nepal (the originating source of the rivers) and India (the rivers' destination) to harness these rivers, formed the focus for the importance of geopolitical study in hydro power projects.

Nepal has more than 6,000 rivers with a total length of 45,000 km and an average drainage density of 0.3 km per km^2. There are four main river basins (Sapt Kosi, Sapt Gandaki, Karnali and Mahakali) and a southern river basin. About 27 percent of the catchment area of Nepal's rivers lies in Nepal but only 10 percent of the surface runoff is available from the Tibetan side. The hydro potential is about 83,000 MW. Nepal's potential for water resources has frequently been compared to Switzerland's. The total volume of water which passes beyond Nepal's borders is estimated at about 150 billion cubic metres. The rich water resources will have to compensate the disadvantageous geographical situation. Being one of the 38 landlocked countries in the world, it experienced difficulties and restrictions in its trade and development. Its foreign trade is largely dependent on transit facilities provided by India. Thus

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1. International river flows from an upper to a lower riparian state.

2. Boundary river flows between two sovereign states.

there is a trade-off between the two countries where one seizes the other of the opportunities available to them. India has long diverted the river waters in the plains. Benefits of irrigation and flood control and particularly of power can only be had from large multipurpose storages in Nepal. Discussions on these possibilities were slow to commence and have not progressed very far and fast on account of a number of sensitivities on the part of Nepal and the lack of way agreements as yet on the allocation of costs and benefits from these projects between Nepal and India. Meanwhile, these potentials remain unused whereas they could generate wealth. Hydro power is to Nepal what oil is to Kuwait.

GEOPOLITICS OF WATER RESOURCES:

Major issues relating to distribution and exploitation of rivers are:

(a) The principle of unrestricted territorial sovereignty under which a state is free to take any action regarding waters within its own territory without regard to the interest of other states; or

(b) the principle of absolute riparian rights under which a state is entitled as against an upper riparian state to the continuance of the natural flow of a river in its own territory and is not allowed to alter conditions there to

the detriment of a lower riparian state; or

(c) some concept of a restriction on the right of a state to use the waters of an international river without regard to injurious effects on neighbouring states.

The principle of unrestricted territorial sovereignty, which has gone by the name of `Harmon doctrine', obviously falls into the later category. The US Attorney General, Harmon enunciated in 1896 that every nation has absolute sovereignty over the waters flowing in its own territory. It was referring to the nation of US in reducing the flow of the river Rio Grande which was ordinarily used by the people in Mexico.[3] It came under severe criticism from other countries.

The `principle of absolute riparian rights is another view, which is derived from the English common law of principle of riparian rights'. This principle is that every riparian proprietor is entitled to the water of the stream in its natural flow without sensible diminution and without sensible alternation in its character or quality. Pushed to its logical conclusion this principle would enable a state at the mouth of a big river to insist that no state higher up shall make any substantial diminution in the water which

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3. Whiteman, M., Digest of International Law, Vol.3, New York, 1964.

comes down the river. There may be desert areas in the upper states needing irrigation and there may be vast quantities of waters running waste to the sea passing through the lower states, nevertheless on the application of this common law principle a lower state can insist that the water shall flow down the river without sensible diminution, even if this means that the upper desert areas shall for ever remain desert.[4]

The third principle, `equitable apportionment' refers to the theory that every riparian state is entitled to a fair share of the waters of an inter-state river. What is a fair share must depend on the circumstances of each case, but the river is for the common benefit of the whole community through whose territories it flows even though those territories may be divided by political frontiers. This concept obviously envisages the distribution of the waters of an international river on the principle of maximum benefit for each co-riparian state with the minimum of detriment to each.[5]

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4. Utton, A.E., et. al., Water in Developing World. The Management of a Critical Resource, Westview Press, Colorado, 1978, pp.147-165.

5. Barik, N., River Disputes in South Asia: A Comparative Perspective, JNU, New Delhi, 1984 (Dissertation).

size, level of economic development, cultural practices, foreign policy objectives and the availability of alternative water sources. The failures in cooperation often leads to wasteful projects and environmental degradation.

The Indus Water Treaty of 1960 was not an exercise in the integrated development of this river, but division of rivers. It gave 80% of water to Pakistan and mere 20% to India. Thus the Indian dispute is inevitable since both countries also had a hostile past. The 1960 Treaty followed the pattern of 1954 proposals, but yet Pakistan agreed only after it was assured foreign assistance and a payment of more than 80 crores of rupees from India. Under the Treaty Pakistan was also entitled to unlimited flow of water from Ravi-Beas-Sutlej during the next 10 years of transition period.

Similarly, there was a dispute relating to India and Bangladesh regarding the waters of Ganges. Bangladesh contended that India's construction of a barrier on the Ganges River at Farakka, a few miles from the Bangladesh-India border, for the purpose of diverting the river into Hooghly river in India, and India's continued unilateral withdrawal of a large volume of water from Ganges had a devastating impact on Bangladesh, causing `cumulative and

permanent' damages.[7] The issue which was brought under the auspices of the U.N. General Assembly was referred back to the two riparians. The two parties met at Dacca and a negotiation took place arriving at a fair and expeditious settlement. It is quite wrong to treat the two augmentation proposals of India and Bangladesh as mutually exclusive but instead they are complementary and not competitive.

India needs to harness the Ganga and its Himalayan tributaries for water, energy and flood control, but much of the potential lies in Nepal, which is not showing adequate interest in these matters. Nepal had earlier signed agreements with India regarding Kosi, Gandak, Karnali Project, which it could not have managed without India's support. The recent proposal of the Pancheswar project will render both countries to internationalise the project as far as possible and be active in the Joint Rivers Water Commission for augmentation of water resources of the Ganges.

An agreement between India and Nepal was signed at Kathmandu on 25 April 1954 to undertake the Kosi Project on the river Kosi. Half of the energy generated by the project was to be made available to Nepal under the terms of the treaty. The Gandak project is primarily an irrigation project though it generates a small quantum of power. It is

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7. Ibid., pp.35-36.

an inter-state project in which Bihar and U.P. have participated pursuant to an greement signed with Nepal on 4 December 1959. Similarly, the Chatra Canal project was signed on 1 November 1964. It is designed to irrigate 2.12 lakh acres of land in Sunsari and Morang districts in Nepal. The Trisuli project was signed in 1958 and completed in 1971. It consists of a diversion dam power channel, balancing reservoir and a power house. The Devighat project was completed in 1981 by India at the cost of 50 crores rupees.

However, in December 1981, India and Nepal reached a comprehensive agreement on flood control under which 40 stations were to be set up in different parts of the Kingdom to provide advance flood warning and collect data of rainfall in the catchment areas. The etimated cost of setting up of these centres was Rs.1.5 crores and was to be borne by India. The agreement was reached during the four day ofi-cial visit of then Indian External Affairs Minister, P.V. Narasimha Rao, to Nepal.

India and Nepal also agreed on prior mutual consultations before either country embarked on any river project. The idea was that projects were designed in such a manner that one country did not suffer because of the action of the other.[8]

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8. Hindustan Times, 3 December 1981.

It may be noted that 60% of Nepal's existing hydel capacity has been built up with India's help. Sale of electricity to India ultimately could form the main export earning revenue for the mountain kingdom. That there is a close interdependence between Nepal and India is evident from the fact that when the Royal government approached the World Bank for the Karnali Project, the Bank shrewdly sought an assurance that India would buy the expected 3,600 MW of electricity that can be stepped up by an additional 1,000 MW.[9]

But in spite of the mutuality of interests involved there was a wide gap in the perceptions of India and Nepal, especially with regard to Karnali, Rapti and Pancheswar. Nepal at times has expressed its misgivings that India wants to keep Nepal in political and economic subjugation. It has also alleged that so far as water resources are concerned, India wants all the benefits at the cost of Nepal. For instance, river projects would submerge Nepalese land and yet India has shown no interest in fully financing the projects that may be located in Nepal not in buying electricity from it. `It is also said that Nepal suffered the maximum submergence on account of the Kosi dam while the irrigation benefit to Bihar was 100% higher. Power genera-

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9. Statesman, 1 April 1982.

tion was entirely in India, with only a small feedback to the kingdom.'[10]

Similarly, India rejected the proposal for Nepalese outlet into the sea because of two reasons: (a) it cannot take the water ways system because of its security interest in the region and (b) it will open the flow of smuggling and illegal migration of people.

In this context, it may be pertinent to note that the agreement in February 1983 on Karnali, Rapti and Pancheswar multipurpose projects and finally the Mahakali Treaty in 1996, were significant as they marked the principle of bilateralism, in the sharing of river water resources, despite Nepal's earlier preference for regionalising the issue.

Objective of Study:

The crucial importance of Nepal for India lies in her geostrategic position. Nepal's central location on the southern slope of the Himalayas, the imposing mountain system has always strongly conditioned India's attitude towards her. Moreover, skirting more than 500 metres along the Gangetic plain, Nepal could be described as India's northern gateway. Modern Nepal controls approximately one-

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10. Ibid.

third of the Himalayan bastion upon which India rely for protection as never before. Nepal's northern part lies more or less along the Himalayan watershed which is of vital importance for India's security. Nepal has no easy outlet to the outside world, moreover, her difficult terrain with numerous untamed rivers and dense forests makes even the inland movements quite hazardous. Not unnaturally, in many cases, India's territory provides the convenient route for movement from one place to another inside that country. Thus geographically, Nepal cannot be distinguished from India and this has an enormous impact on the nature of their relationship. Nepal's hydro potential is thousand times more than its present needs and will be wasted for centuries unless it can be developed for India's market which would absorb the output in several decades. Thus in the light of this, the present objectives of the study are:

1. To analyse the key issues relating to the Indo-Nepal hydro power projects.
2. What are the intricacies, disputes or agreements arising out of these projects.
3. What are the pros and cons of these projects that will determine the relationship between the two countries, each having its own strategic significance.
4. How is the geopolitical factor so important in cooperation and development between the two nations,

and

5. To formulate a conceptual framework for water resource management and cooperation.

Hypotheses:

1. Hydro Power Projects will foster faster economic growth for Nepal and partially to India too.
2. Development in trade, commerce and industry between the two countries will attain its peak primarily due to the development of hydro power projects.
3. The geopolitical significance of Indo-Nepalese cooperation on hydro power projects will also be relevant to other countries as well.

Data Base:

Though no field study is done, yet the primary sources of data are the government gazetteers, reports of various ministries and handbooks. But the main work relies more on secondary data comprising of books, journals and newspapers. Other publications like United Nations, seminar papers are also supplemented.

Methodology and Limitation:

The present study is very analytical. No quantitative technique is required, only tables and maps are appended to supplement the given literature. Care has been taken not to

misappropriate the stated facts and figures. Limitations may arise in course of this work due to lack of field proof.

Scheme for Chapterisation:

The introductory part of this work deals with the opening statement and relevance of the study, its objectives and hypotheses and a brief overview of the geopolitics of water resources.

The **first chapter** introduces the area of study; its physical and hydrological aspects. The various river systems and rich hydro potential are revealed here. The existing hydro projects in Nepal have due place in this chapter.

The **second chapter** deliberates on geopolitics and development in Nepal. Being a landlocked country yet Nepal has a strategic location and rich water resources. The defence and security patterns, its past and present trends and the new direction on Indo-Nepal security concerns, are dealt with in this chapter.

The **third chapter** focuses on Indo-Nepal development cooperation. Here the trends in cooperation in selected areas and regional cooperation, and India's role in Nepal's power development are included. A future framework for cooperation based on the existing relations is being formulated.

The **fourth chapter** deals mainly with the joint hydro power projects and energy generation. The status and modalities and implications of these projects are discussed meticulously.

In the **concluding chapter**, the developmental aid and assistance by India and the joint ventures is briefly examined. The work closes with the analysis and a proposal of applying the said hypotheses to other areas as well.

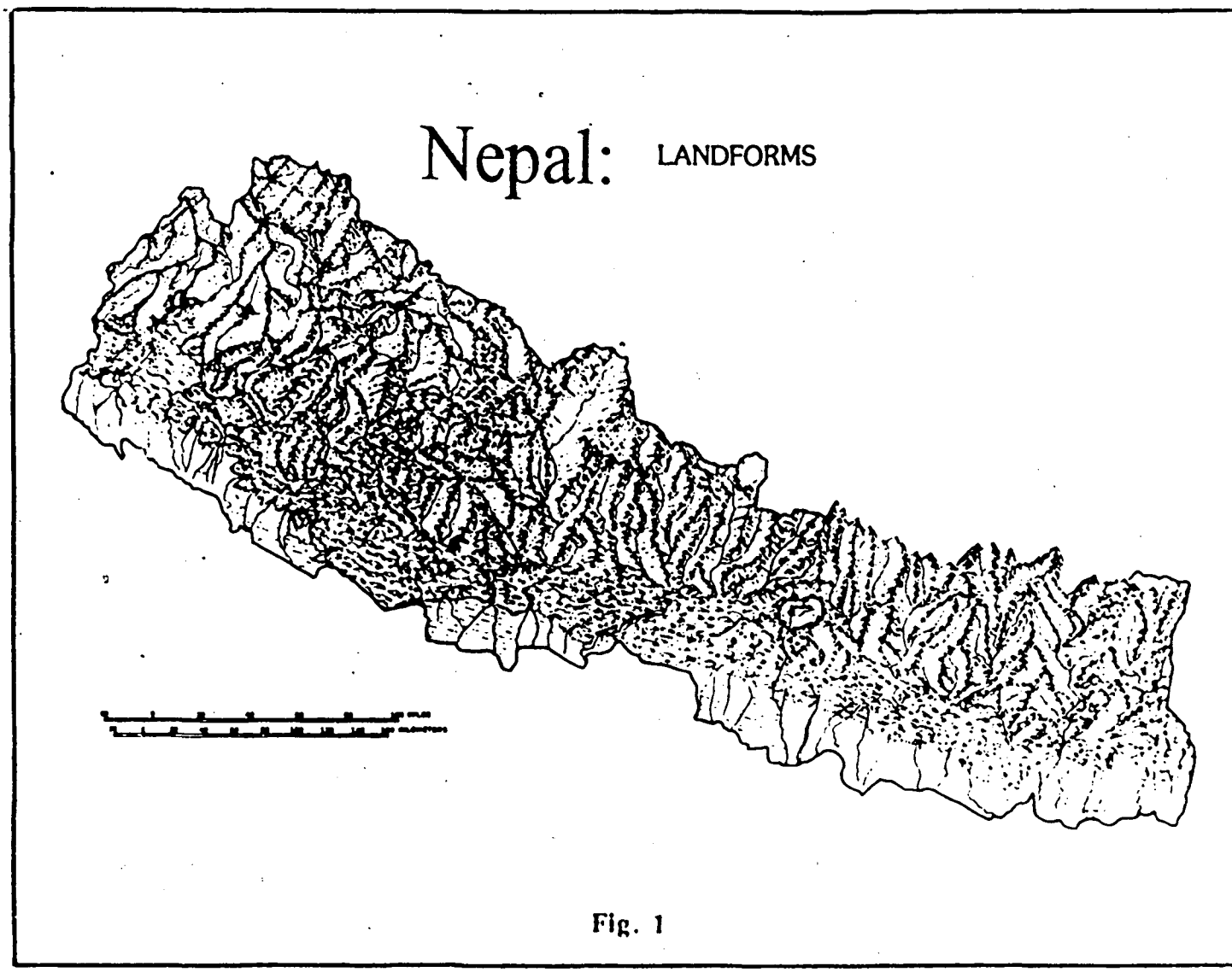

Fig. 1

Source: Pradyumna, P.K., et al., 1996 *Nepal: A Himalayan Kingdom in Transition*.

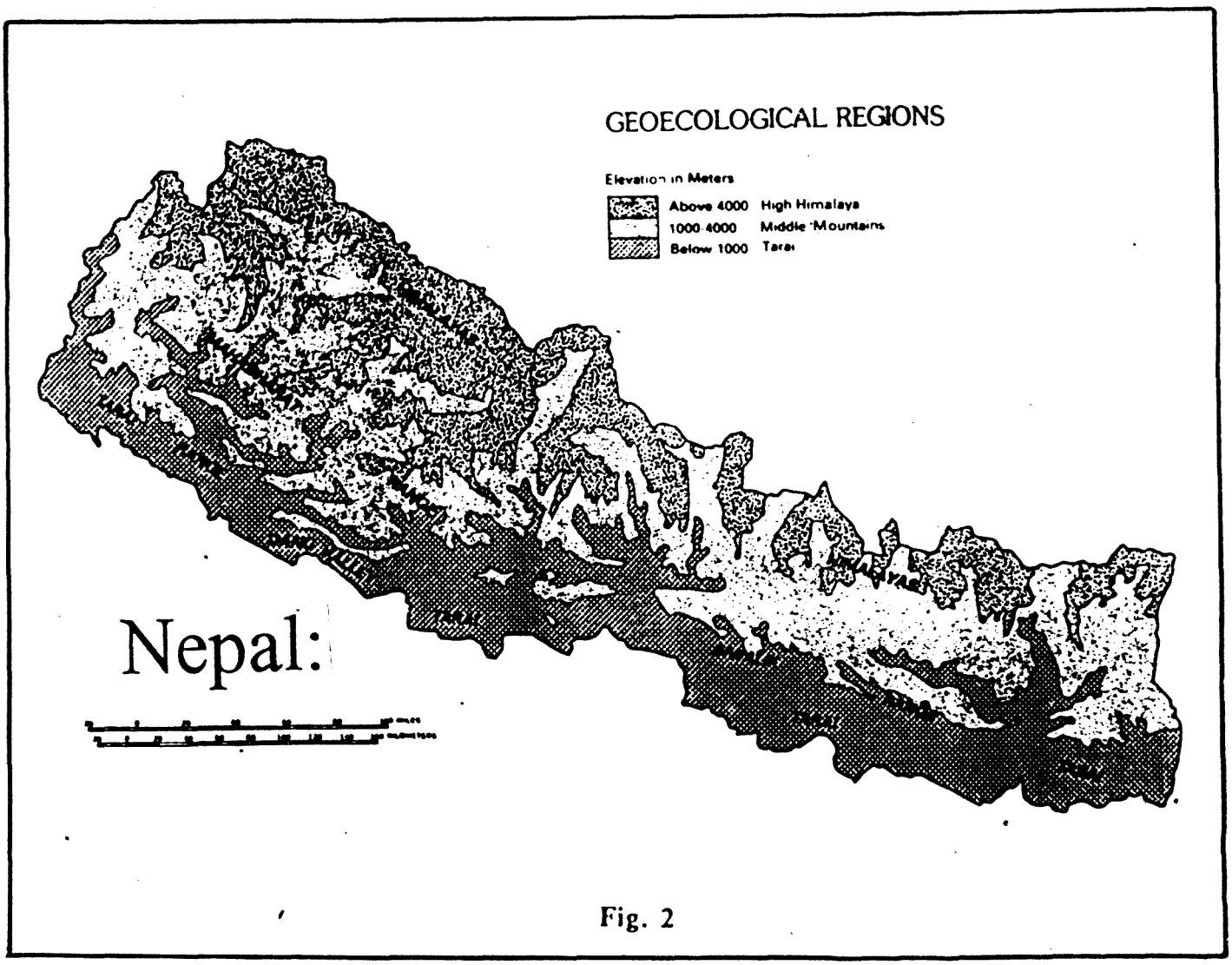

Fig. 2

Source: Pradyumna, P.K., et al., 1996. *Nepal : A Himalayan Kingdom in Transition.*

CHAPTER-1

PHYSICAL FEATURE AND HYDROLOGY

1.1 PHYSIOGRAPHY:

The Kingdom of Nepal lies along the southern slopes of the Himalayan mountains. It covers an area of 141,181 sq. km and runs along 885 km from east to west and 193 km from north to south. It lies between India in the south and Tibetan Autonomous region of China in the north.

Nepal may be divided roughly into four (4) physiographic regions, namely

(a) The Terai,

(b) The Inner Terai (Bhitri Madesh),

(c) The Hills and

(d) The Himalayas.

The Terai region lies in the extreme south. It comprises a narrow strip of alluvial plain having a very low altitude ranging from only 1800 m to 3600 m. The Inner Terai is enclosed between the Chure and Mahabharat ranges. It consists of broad longitudinal valleys composed of gravel and alluvial. Between the Himalayan region in the north and the Mahabharat range in the south, lies the most extensive highland, the Hilly region. It is rightly described as a `clusterous succession of mountains varying in elevation

from 12,000 m to 30,000 m. At interval, this mountain wall is pierced by gorges of transverse rivers. The Himalayan region which lies parallel to the Hilly region, is nestled on either sides of the Main Himalayas. It rises above the snow line into the peaks of perpetual snow.

Sandwiched between the Tibetan Autonomous Region (TAR) of the Peoples Republic of China (PRC) in the north, and the Indian Federation in the south, the independent sovereign and only Hindu kingdom of Nepal lies in the heart of Asia. Little was known in the outside world about this country before 1951, because it was a "Forbidden Land" and and very few foreigners could gain access to it. Nepal is the paradise for archaeological, anthropological and naturalist experts and scholars. It is also the seat of one of the ordeal religions i.e. Buddhism. For adventurers, Nepal offers the greatest challenge of some of the highest peaks in the world viz. Sagarmatha (Everest) 29,028 ft., Kanchenjunga (28,208), Makalu (27,807), Annapurna (26,545) and Dhaulagiri (26,795).

1.2 DRAINAGE SYSTEM:

Nepal's drainage system consists of four (4) major river basins and several smaller sub-basins. The country's water resource is contained within these river systems which drain towards the Ganga. The Himalayan geology results in

densely packed network of streams indicating its remarkable influence on the drainage pattern. Rivers in Nepal can be classified into three (3) categories in terms of their sources of dry season discharge.[1] Generally, responses of all rivers follow the rainfall pattern. However, individual response is governed by precipitation; extent, duration and intensity, characteristic of the drainage basin such as slope, geology, soil type, vegetation cover, channel characteristic and drainage pattern. Flow is derived generally from narrow and steep terrain with low natural flow regulation capacity.

The first group of rivers have their catchment areas in the snow and glaciers, in the dry season. The Mahakali, the Karnali, the Gandaki and the Sapta Kosi are the four rivers in the first category. The second group of rivers originates in the middle mountains i.e. Mahabharat range which are mostly rain-fed and have low dry season flow. Bagmati, West Rapti, Meehi, Kankai, Kamala and Babai are the rivers in the second category. Rivers in the third category originate in the Churia, southern face of the Mahabharat range, or in the Terai. These rivers have small catchment areas. In dry season, the discharge of these rivers become nominal, while several rivers dry up. Tilawe, Sirsia, Manusmara,

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1. Zollinger, F., The Sapta Kosi: Unsolved Problems of Flood Control in the Nepalese Teria, 1979.

Manusmara, Hardinath, Sunsari, and Banganga are some of the rivers in this group.

All these large and small rivers give rise to about 6,000 rivers and rivulets totalling about 45,000 km. in length. The drainage density of 0.3 km/km^2 of lateral drainage reflects the closeness of the drainage channels. Approximately 1,000 of these rivers are more than 10 km long and about 100 of them are longer than 160 km. Surface water is estimated to occupy 2.7 per cent of the country's area of which 97 per cent is occupied by large rivers.

The whole country is drained by three large river systems. From the point of water-parting, Nepal may be divided into three main divisions.

a) Land between Kanchanjunga and Gosainsthan: The eastern part of Nepal drained by the Taimur, the Arun, the Indravati, the San Kosi, the Dudh Kosi, the Likhu and the Tama Kosi is called the **Sapta Kosi region**.

b) Land between Gosainsthan and Dhaulagiri: Central Nepal drained by the Trisuli, Budhigandaki, Marsyangdi, Madi, Seti and Kaligandaki is called the **Gandak Region**.

c) Land between Dhaulagiri and Nandadevi: The western part drained by the Karnali, Rapti, Bheri, Seti and the Mahakali is known as the **Karnali Region**.

In addition to the three regions above, the part drained by the Bagmati and its tributaries such as the Nakhu, the Pravabati, the Karmanasha, the Bishnumati, the Bhachakhusi (Bhadramati), the Dhobikhola (Rudramati), the Manohara (Manamati), the Hanumante (Hanumati) and the Tukucha (Ikshumati) forms a distinct region and is called the **Bagmati Region** or **Chabhanjyang** Pradesh or the **Proper Valley**.

Similarly the Terai region may be divided into five parts according to the course of the rivers flowing through them:

a) From the Mahakali to the Rapti,

b) From the Rapti to the Narayani,

c) Frm the Narayani to the Bhagmati,

d) From the Bagmati to the Kosi, and

e) From the Kosi to the Mechi.

1.3 RIVER BASINS:

I. Himalayan Basin

a) Mahakali River Basin: The Mahakali forms Nepal's western international boundary with India. Starting from Api-himal, the river flows in a gorge section in the upper region. Its main tributaries are Chamelia and Surnayagad. The Mahakali after it flows into India is known as Sarada which meets the Karnali (Ghagra) in India. The river basin has a total

drainage area of 15,640 km^2 that drains area in Tibet, India and Nepal. About 34 per cent of the total drainage area lies in Nepal.

b) Karnali River Basin: The Karnali river basin drains Nepal's western region. The river originates from the southern region of the Mansarovar and Rokas lakes in Tibet. Its total drainage area is 44,000 km^2 of which about 773 km^2 is in Tibet and 43,227 km^2 in Nepal. With its swift currents, the river has formed several gorges. The main stream of the river is 507 km in length. The Seti, Humla Karnali, Mugu Karnali and the Bheri are its main tributaries.

c) Gandaki River Basin: The region between Dhanlagiri and Gosainsthan in central north Nepal, is drained by the Gandaki river system. The river basin has a total area of 34,960 km^2 of which 90 per cent lies in Nepal. The river basin is formed of seven major rivers. These are the Trisuli, Kali Gandaki, Seti, Marsyangdi, Budhi Gandaki, Daraundi and Madi.

d) Kosi River Basin: The Sapta Kosi is the biggest river of Nepal. It drains the region lying east of Gosainsthan and west of Kanchanjunga. The total drainage area of the river basin is 60,400 km^2 of which about 47 per cent lies in the Nepali territory. Indravati, Sunkosi, Arun, Tamur, Likhu, Dudh Kosi and Tama Kosi are the major rivers of the basin.

II. Mahabharat Basin:

The Mahabharat basins drain the region that lie between the Himalayan basins. These basins consist of non-snow-fed rivers which drain an area of 16,251 km^2 of the mid-hills. The basins of Babai and the west Rapti lie between the Karnali and the Narayani basins. Bagmati and Kamala form the other two basins between the Narayani and the Kosi basins which drain the south central region of Nepal. The Kankai basin drains part of Nepal that lies east of the Kosi basin.

III. Churia Basin:

The Churia basins drain the southern slopes of the Mahabharat hills and the Churia ranges. These basins can be further categorised into two types as that extend into the southern slopes of the Mahabharat and the others originating exclusively in the Churia region. These basins lie between the Mahakali and the Karnali, west Rapti-Gandaki, Bagmati and Kamala, Kamala and Kosi, Kosi and Kankai and Kankai and Mechi rivers. The catchment of most of these rivers are generally less than 350 km^2 in area, and drain a total of 22,797 km^2 in the Terai and southern slope of the hills.

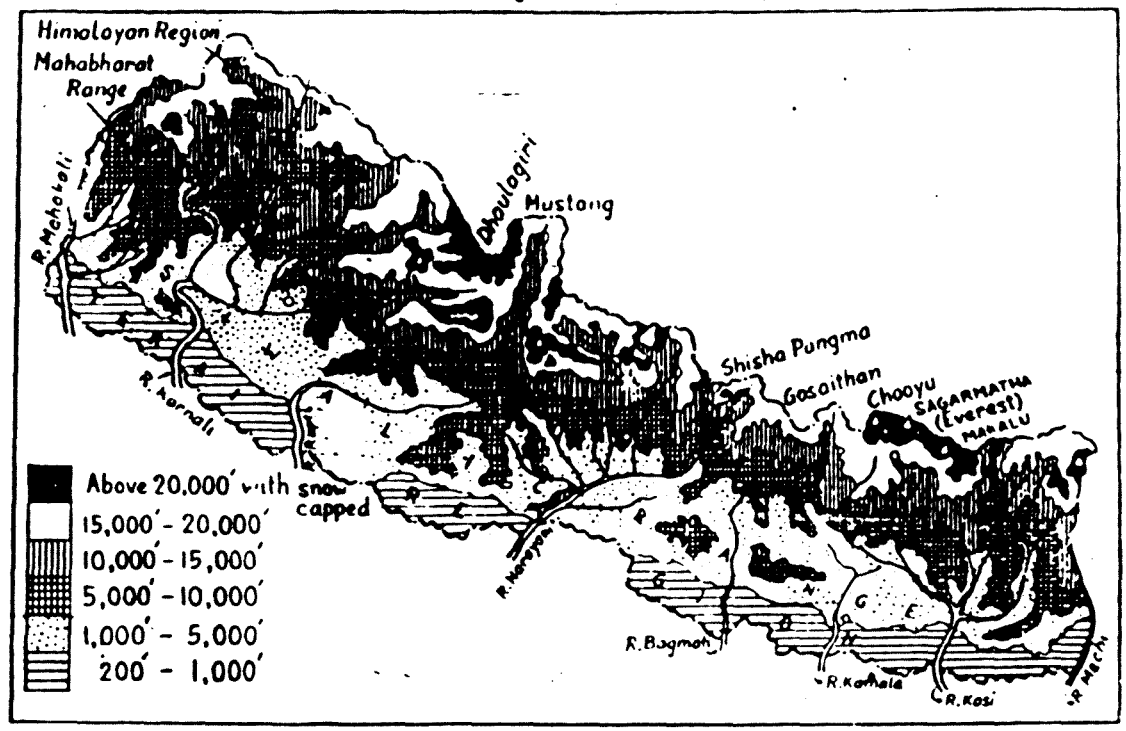

Fig. 3. NEPAL : PHYSICAL FEATURES

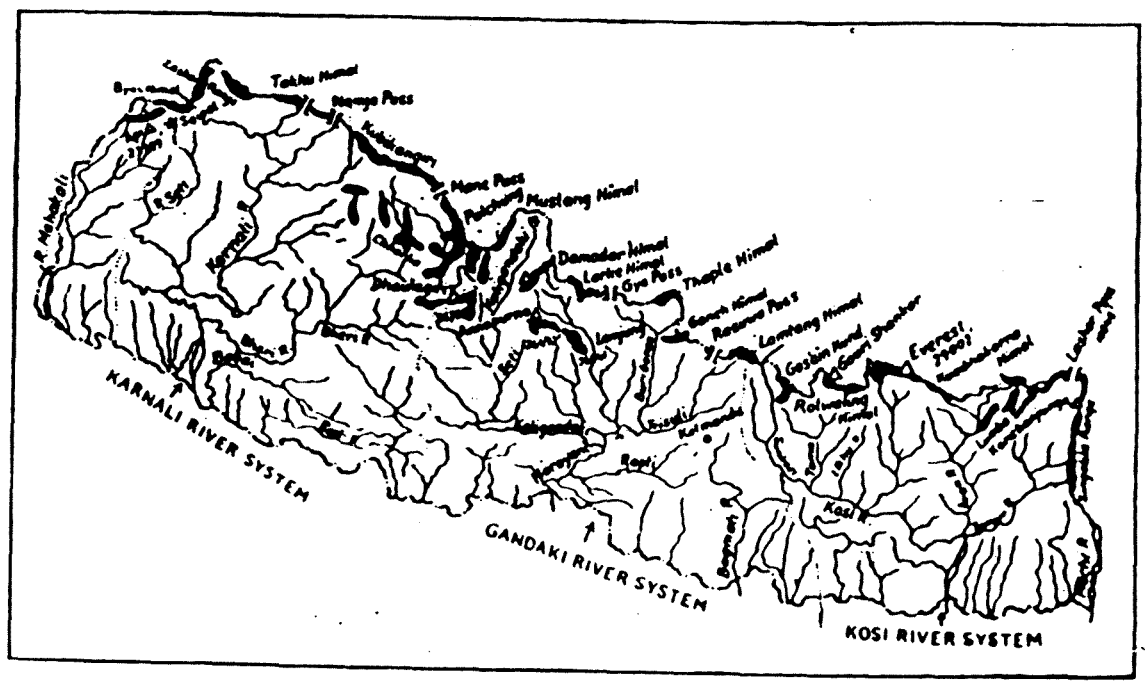

Fig: 4. NEPAL : RIVER BASINS

Source: Sharma, R.P., 1974 *Nepal: A Detailed Geographical Account*

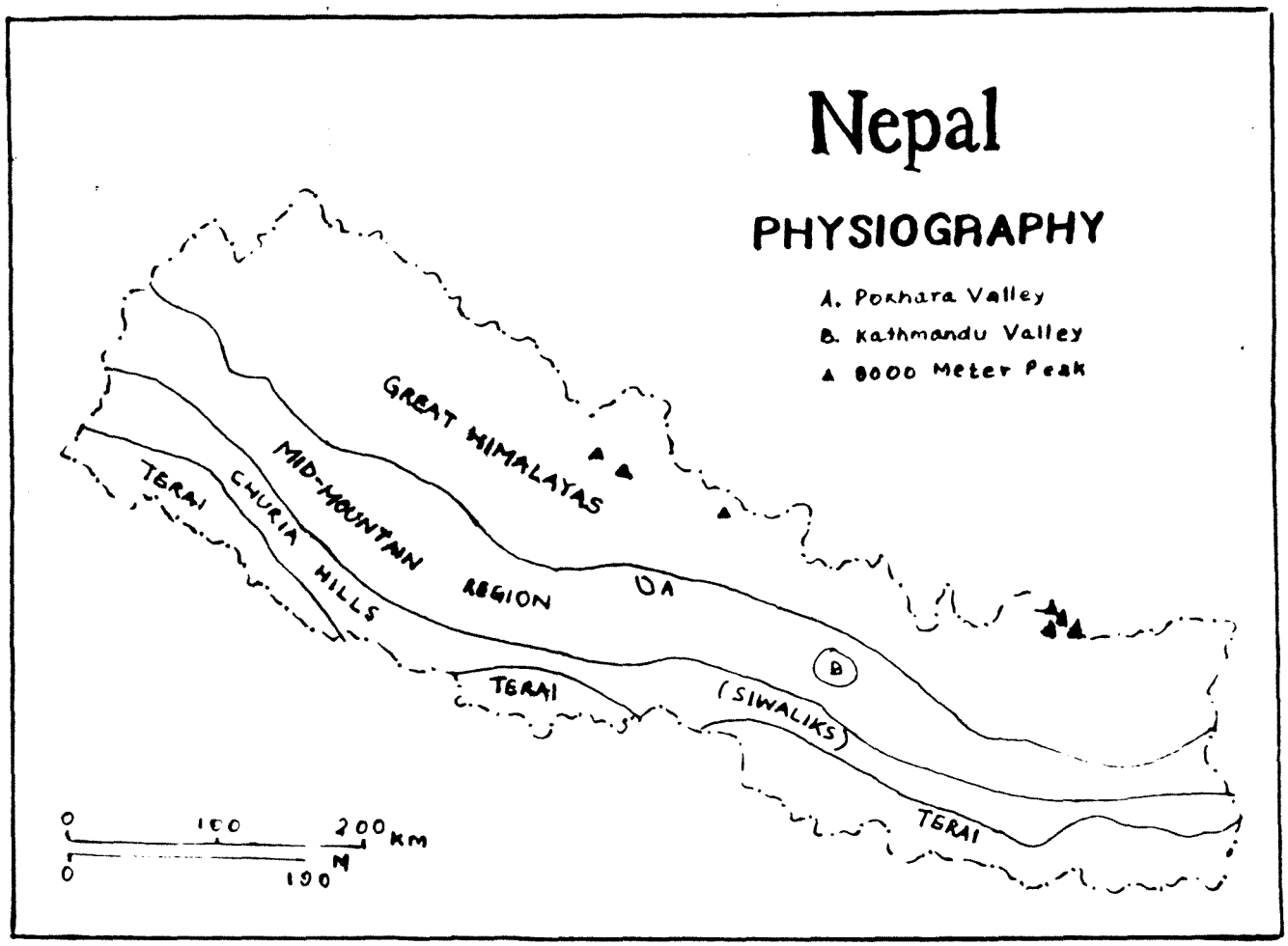

Fig.5.

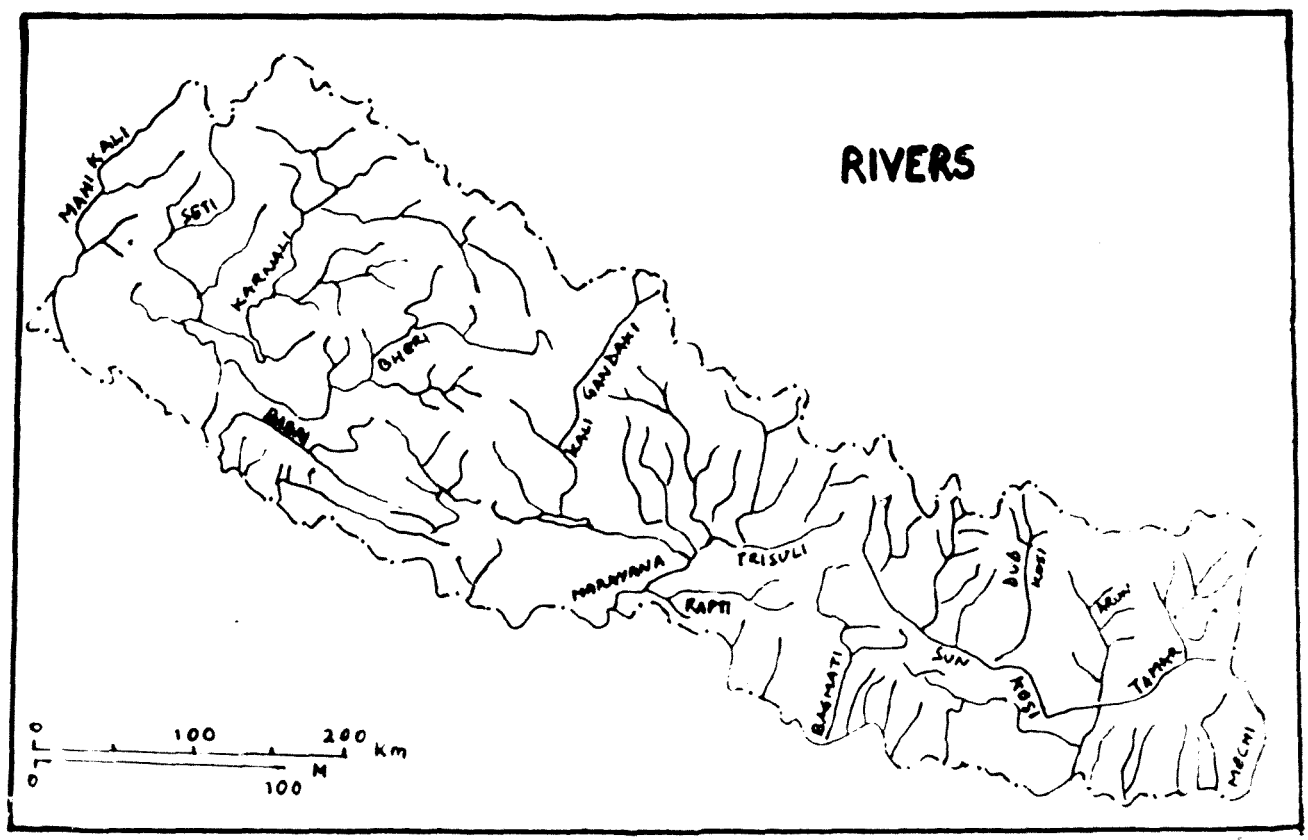

Fig. 6.

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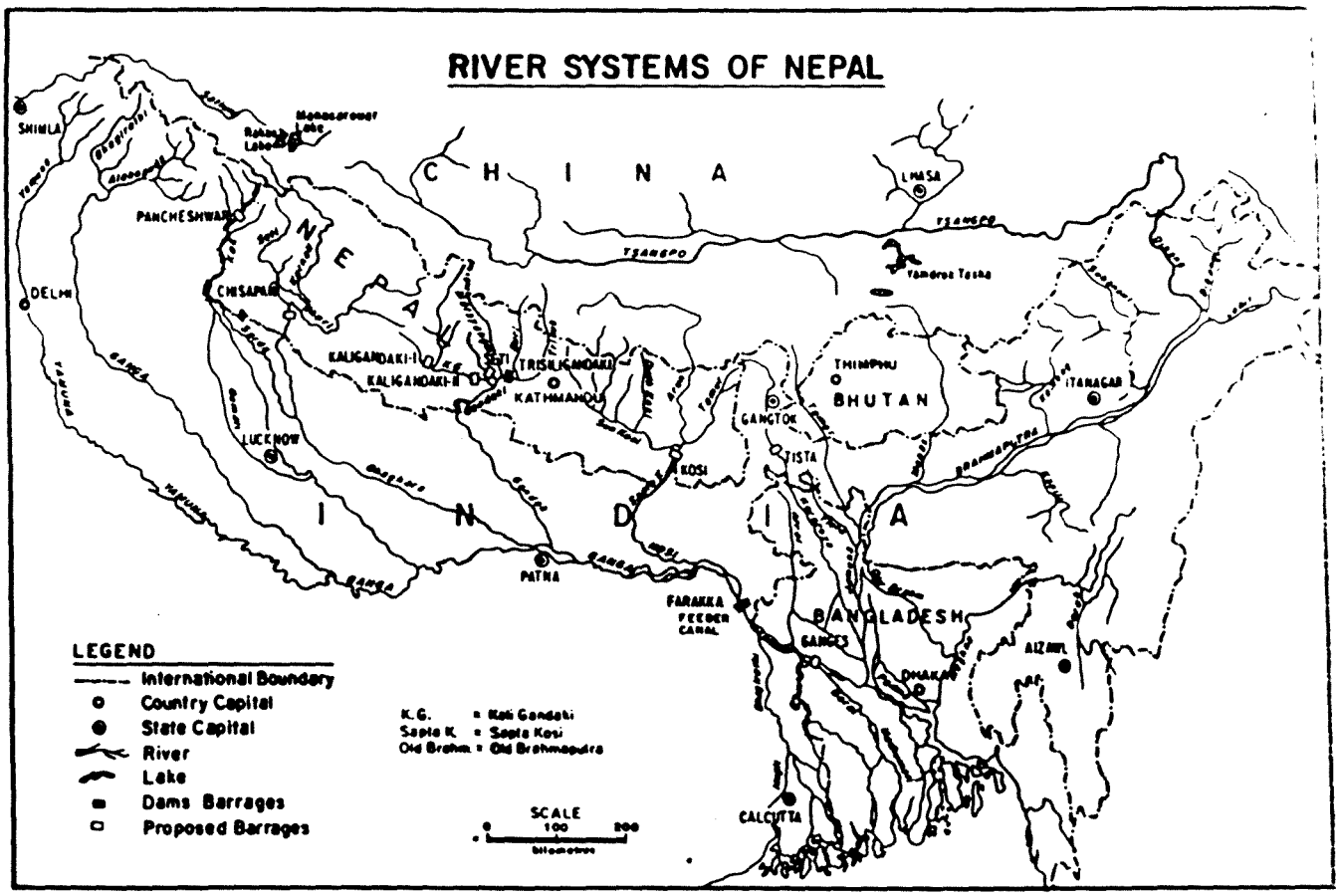

Fig. 7.

Source. Thapa, B., et al., 1995. *Water Resources Development. Nepalese Perspectives.*

1.4 HYDRO GENERATION:

Electricity was first generated in Nepal as early as 1911 with the construction of the Pharping hydro station with a capcity of 500 KW. The total generating capacity of electricity by 1990 amount to 294 MW comprising about 227 MW of hydro capacity and 22 MW of diesel capacity. In addition, provision exists for Nepal to import power from India at several points along the border in accordance with an agreement between the two countries in 1971. By 1995, the total hydroelectric plants in Nepal will have the following power generation potential.

Installed Capacity	244 MW
Available Capacity	
(i) during dry season	220 MW
(ii) during wet season	231 MW
Energy Generation Capacity	
(i) during dry year	1206 GWH
(ii) during wet year	1299 GWH

(Source: NEA, 1990.)

Table 1.1: Hydro Installations

Hydro Installations	Year	Installed capacity (MW)	Firm Power		Energy	
			Minimum (MW)	Maximum (MW)	Firm (GWH)	Average (GWH)
1) Small hydro projects +Gandaki +Andhi Khola	1991	25.6	16.0	16.8	144.4	147.8
2) Trisuli+ Devighat	1989	35.1	32.1	32.1	261.5	269.4
3) Sunkosi	1972	10.5	5.0	10.1	72.8	71.5
4) Marsyangdi	1989	69.0	69.0	69.0	462.2	499.5
5) Kulekhani 1 & 2	1986	92.0	92.0	92.0	181.9	230.0
6) Jhimruk	1995	12.0	5.4	10.6	83.3	81.1
Total		244.2	219.5	230.6	1206.1	1299.3

(Source: NEA, 1990.)

The electricity consumption in the late 1980s demonstrates that about 44 per cent of the total energy goes to serve the household requirement. The industrial and commercial uses account for 36 per cent and 20 per cent respectively of total energy consumption. The past trend of supply and demand growth over the period of fiscal years 1984-85 to 1988-87 indicates that power demand has increased annually by 14 per cent. The loss ratio has gradually diminished from around 30 per cent to 26.5 per cent while the load factor has remained virtually constant at around 50 per cent.

The average GDP growth rate (in real terms) has been about 4.7 per cent between 1979-80 and 1988-89, 5.2 per cent

for agricultural and 4.1 per cent for non-agricultural sectors. Power demand forecast have been based on the following GDP growth rate adopted for medium scenario load forecast.

(a) 4.3 per cent in the medium term from 1991-92 to 1995-96.

(b) 5.2 per cent in the longer term beyond 1995-96.

The lead forecast adopted entails an increasing electrification ratio from 8.4 per cent in fiscal year 1988-89 to 20 per cent by year 2000-01 and to 25 per cent by 2010-11. (Rural electrification rose from 4.7 per cent to 13.7 per cent in these years.) The domestic load forecast assumes a gradual increase in the consumption of the urban consumers from the current level of 1240 KWh/year to 1400 KWh/year by the year 2000-01, and 1800 KWh/year by 2010-11.

There has been a recent increase in electricity tariff amounting to about 96 per cent to 112 per cent in the case of different levels of domestic consumption, 96 per cent in the case of industrial consumption and 110 per cent in the case of commercial consumption. Electricity consumption of the years 1988-89 and 1989-90 reveal that the domestic, industrial and others (commercial included) consumption comprises to be about 94 per cent, 36 per cent and 20 per cent of the total power consumption.

Table 1.2: Electricity Demand-Supply

Year	Generation Capacity (GWH)	Demand Forecast (GWH)	Energy Balance (GWH)
1993-94	1169	977	+192
1994-95	1247	1072	+175
1995-96	1247	1177	+70
1996-97	1247	1297	-50
1997-98	1247	1428	-181
1998-99	1247	1574	-327

(Source: NEA, 1990.)

Table 1.3: Electrical Energy Shortfall

Year	Energy Shortfall (GWH) (Dry season)	Energy Surplus (GWH) (Wet season)
1994-95	3	178
1995-96	42	112
1996-97	118	68
1997-98	213	32
1998-99	333	6

(Source: NEA, 1990.)

Nepal's installed capacity is now no more than 253 MW and official load forecasts place demand at 610 MW by 2005, 1002 by 2010. But it has an assessed hydro potential of 83,000 MW of which half is techno-economically feasible.

1.5 HYDRO PROJECTS:

Nepal has about seven major power projects and more than twelve others are under consideration. As we are dealing with the joint projects between Nepal and India, we

shall focus more on these related projects which we will see later that these projects send more shivers to the masses, the policy planners and academicians than being a boon to both countries.

The country has no known commercial reserves of hydro-carbon, but it is fortunately endowed with plenty of water resources. The annual surface run-off of the rivers flowing in the country is estimated to be around 175 billion cubic metres whose theoretical energy potential is worked out to be 83,000 MW. The identified power potential is assessed to be 42,133 MW, a high quantum when we compare with the generating capacity of 244 MW.

Table 1.4: Hydro Power Potential of Rivers

River Basins	Area (sq. km.)	Linear Potential Resource (MW)			Potential Unit Area (KW/km^2)
		Major	Small	Total	
1. Sapta Kosi	28140	18730	3600	22350	794
2. Gandaki	31600	17950	2700	20650	653
3. Karnali & Mahakali	47300	32680	3500	36180	765
4. Southern	40141	3070	1040	4110	102

Source: B.K. Pradhan et. al., 1986.

Table 1.5: Identified Power Potential

River Basins	No. of Sites	Identified Power Potential (MW)
1. Sapta Kosi	40	10860
2. Gandaki	12	5270
3. Karnali	7	24000
4. Mahakali	2	1125
5. Other Southern Rivers	5	878
Total	66	42133

Source: Water & Energy Commission.

The important projects as reported by the study of Nepal Electricity Authority NEA) is given in the table with its energy potential and estimated costs.

Table 1.6: Hydropower Projects

Projects	Capacity (MW)	Energy (GWA)	Estimated Cost (ml. US $)	Commission date
1. West Seti	360	2095	793.57	End 2001
2. Upper Karnali	240	1845	440.86	Oct 2001
3. Burhi Gandaki	600	2815	996.62	Oct 2002
4. Kali Gandaki 2	660	3040	1117.36	Oct 2001
5. Kali Gandaki A	90	640	203.98	Mid 1999
6. Sapta Gandaki	225	1590	708.06	Oct 2000
7. Bagmati	140	625	458.33	Mid 2001
8. Kulekham's	22	60	80.76	Oct 1996
9. Kankai	60	245	225.06	Mid 1998
10. Upper Arun	360	2680	559.94	Mid 2005
11. Arun 3	402	2875	721.34	End 1999
12. Arun 3 (stage)	268	2155	590.56	

Source: NEA, September 1990.

Among the different major projects undertaken by the joint efforts of the two countries, the Kosi project and the Gandak project, Trisuli, Pokhra, Devighat, Karnali, Pancheshwar, Rapti, Arun are worth mentioning. The projects which will be discuss later are ones which triggers controversies and see the core of the study.

A study[2] shows the importance of storage project becomes all the more apparent when one takes into account the multiple uses of water, viz., agricultural, industrial, domestic and power generating purposes. Analysis of the total energy consumption reveals that the household sector consumes 93.5 per cent. While the industrial and transportation sectors consume 3.6 per cent and 2.9 per cent respectively. Resourcewise fuelwood and biomass account for 94 per cent of the total energy consumption, the contribution of petroleum products and coal combined being 5 per cent and that of electricity is 1 per cent.

The water resources that flow from Nepal to India not only symbolise a common heritage but actually represent the reality of vast untapped opportunities of common advantage. The turbulent Himalayan rivers provides Nepal and good scope for generating hydro electric projects, flood control,

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2. Study of 30 prospective dam sites in Nepal reveals that these have potential to store about 77,000 million m^3 of water which amounts to about 38 per cent of the total surface runoff.

irrigation purposes etc. Its vast potential would be fruitless of an understandable cooperation for joint projects with India is not fulfilled. Nepal has a long way to go to tapped its rich water endowments so that it can be self-sufficient in power energy and also earn recognition from other countries as far as energy reserve and installed capacity is concerned. This can be the `trump card' for nepal's development strategies.

CHAPTER-2

GEOPOLITICS AND NATIONAL DEVELOPMENT IN NEPAL

Like other less developed and developing countries, Nepal too has overemphasised on economic development without giving due regard to the changes in their social and political institutions and systems. The theories of development in the 1950s and 1960s have been on lines of the linear relationship between investment, savings and growth. Also in the 1970s and 1980s the developmental theories were primarily focused on growth and distribution but it failed to address the problems of socio-political and institutional changes. Importance of geopolitics and development has hardly been a topic of debate among the policy makers and intelligentsia in Nepal. Nepal should learn that maintaining good relation with her neighbouring countries, especially India, should be based on pragmatic options rather than going through by the basis of ideology and emotion. India and Nepal are bounded by strong historical ties of culture, religion, political and economy. "Nepal provides a buffer between China and India; it can ill-afford to play one country off against the other for its own benefit. Nepal must always remind itself and its two neighbours that only a neutral and independent Nepal can vouchsafe stability and

security to itself and to others."[1]

2.1 STRATEGIC LOCATION:

Nepal is being sandwitched between China and India, the two competing powers in Asia. Its geopolitical position is very important because it is in a state of dilemma, as on one hand it wanted to be independcent as far as foreign policy is concerned, and on the other, it still depends on the economic constrains of the neighbouring countries. Geopolitical factors are important in assessing the peace, security and development which Nepal aspires for and its policies and strategies are heavily dependent on it. The period during the `partyless panchayat' (1961-1990) has witnessed remarkable developmental changes under the autocratic rule of the monarch. But since the popular government took over in 1990, Nepal then changed into a constitutional monarchy with a parliamentary system of government. Nepal's geography has been influential throughout its history. In fact, as Spykman asserted, "*Geography is the most fundamentally conditioning factor in the foreign policy of states because it is the most permanent.*"[2] Nepal's location between two giants of Asia - India on the east, west and

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1. Khadka, N., Politics and Development in Nepal: Some Issues, Nirala Publications, Jaipur, 1994, p.25.

2. Taylor, P.J., `Progress Reports: Political Geography', Progress in Human Geography, Vol.2, 1978, pp.153-162.

south, and Tibetan region of China on the north - explains how significant geopolitical considerations have been, not only for regional and international relations, but also for domestic policy. This strategic location has compelled Nepal to plan its policies carefully in view, consideration and context of its immediate neighbours. The political, cultural and social heterogeneity between India and China and their endeavours for gaining the strategic and ideological spheres of influences in the region as well as their rivalry for a regional and global power status in Asia and abroad have further heightened Nepal's geopolitical status. The crucial strategic location of Nepal is rightly described by Rose and Scholz: "On several occasions it has had to face external threats in which the absorption of the central Himalayan region by political systems to the north or south appeared to be the issue at stake. Kathmandu's responses have generally been determined by the demands of the moment as perceived by the governing elite; however, a Nepali world view, derived from decades of contentious existence in an unhealthy environment, is also evident in the definition of policies."[3] As far as strength in territoriality, population and level of development is concerned, Nepal's comparison with China and India stands a pitiful sight. In terms of territorial area, Nepal is just 1.54 per cent of China's

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3. Rose, Leo, et. al., Nepal: Pacific of a Himalayan Kingdom, Westview Press, Boulder, 1930.

size and only 4.47 per cent of India. Similarly, based on the population figures for 1991, Nepal's population is just a fraction of China's and India's population - about 1.62 and 2.36 per cent respectively. In terms of per capita income the level is almost the same.[4]

Apart from being sandwiched between India and China, Nepal also has a great distance from the open water (land locked) and since its southern border with India is long and open (500 km), it makes it even more dependent upon for its security concerns also. Nepal's ethnic structure is neither simple nor complex. In the mountain region, a large segment of the population is of Tibetan descent. The Terai has a large population of the Indian descent and in the hill region the admixture of both Indo-Aryan and Mongoloid groups are found. These various ethnic groups form Nepal's cultural mosaic and are wholly synthesized and integrated into one of the two dominant religions, Hinduism or Buddhism.

The geographical pressure for Nepal to adjust continually and maintain its external and internal policies for safeguarding its independence have posed constraints to its economic development. The implications of Nepal's geopolit-

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4. 1991. Nepal with an area of 147,181 km^2 has a population of 22.5 million. India with 3,287,263 km^2 has 953 million and China with an area of 9,561,000 km^2 has 1234.3 million people.

ical position for the development strategies that have been formulated since the early 1950s, it is imperative to examine the nature of relations between India and Nepal that turned in a new direction during this period. India's effect on Nepal's economic development is so enormous that Leo Rose had remarked "Nepal's society is predominantly agricultural with an economic system that is better described as subsistence than as market oriented. Nevertheless, it is extremely sensitive to external economic influences, particularly those stemming from India - a fract which imposes severe limitations upon Nepal's capacity to devise what is now usually called an `independent' foreign policy."[5]

Nepal tried its level best to modernise its administrative structures and traditional economic base through various reforms and planning but has failed to succeed because of the following reasons. It lacked virtually everything except land, forests and an unskilled population. Its economic independence constrained by lack of financial resources (principally the capital) was restricted by India's strategy of bringing Nepal into its sphere of influence. Thus Nepal's policies are often integrated with India's policies and New Delhi is the seat for guiding

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5. Agwani, M.S. et. al., eds., South Asia: Stability and Regional Cooperation, CRRID, Chandigarh, 1983, p.45.

Nepal's decision-making. India's concern for Nepal is seen even in Nehru's statement when he anticipated China's aggression on India through Nepal, he said, "The fact remains that we cannot tolerate any foreign invasion from any country in any part of the Indian subcontinent. Any possible invasion of Nepal would inevitably involve the safety of India."[6] From Nepal's point of view, India's interpretation of its overly sensitive security interest has confronted Nepal with three goals. Firstly, to play a growing role in both regional and international politics; secondly, to pursue an independent domestic and foreign policy as dictated by its geopolitical position; and thirdly, to achieve internal stability, peace and development.

The Sino-Indian dispute of 1962, the aggressive regional policy pursued by China in the 1960s has helped Nepal to maintain an equidistance between China and India. By the early 1960s, it had become obvious that in order to reduce Nepal's economic dependence and trade deficit with India, Nepal had to seek alternative economic considerations. Realizing the implications of too much economic dependence on India, particularly at a time when bilateral relations were not normal, Nepal has made efforts since the 1960s to adopt a different economic approach from the one

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6. J.L. Nehru, Indian Foreign Policy, selected speeches, September 1946-19 April 1961, p.364.

used in the 1950s. Specifically, Nepal has adopted a deliberate policy that emphasizes (a) import substituting and self-reliance, (b) development of sufficient transportation networks, and (c) diversification of external trade.

2.2 NATURAL RESOURCES:

Nepal can be called unfortunate as far as natural resources are concerned. While India has vast deposit of natural resources, Nepal has hardly any to be proud of. Being devoid of any important mineral resources its geographical location would be insignificant. But Nepal's importance as a strategic country lies in the natural endowments of its topographic features of mountains and terrains. This has helped Nepal to boast of one and only natural resource i.e. the water resource. Its swift rivers coming from the northern mountains has provided such potential to generating hydro-power projects. The geopolitical importance of Nepal will thus lie chiefly because of its rich hydro power potential. Thus the geopolitics and development based on this will be discussed thoroughly in a separate chapter.

The chief natural resources of Nepal are as follows:

Water Resources:

The climatic configuration influences the availability of water resources and is an important factor in the evaluation of land resources. Nepal's potential for water resources has frequently been compared to Switzerland's. It is estimated that the total volume of water which passes beyond Nepal's borders is about 150 billion cubic metres. Aquifers suitable for development of weels with the capacity of 50 to 80 litres/sec range in depth from 150 to 250 m. The assessment of groundwater irrigation potential ranges from 0.4 million's hectares to about 1 million hectares.[7] Nepal is the second richest country in the world possessing about 2.27% of the world's water resources. Glaciers, snowmelt, rain, groundwater etc. are the sources of water to the estimated 6,000 rivers in Nepal having a total length of 4,500 km.[8]

Mineral Resources:

While it is assumed that there may be undiscovered deposits of commercially valuable minerals, to date they have not been found in economically significant deposits. The fact that the Himalaya is geologically young contributes

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7. Estimation by Upadhya; 1993 and Deo; 1993.

8. Gyawali, D., `When Does Falling Water Becomes a Natural Resources?' The Rising Nepal (Kathmandu), 1 July 1983.

to the general paucity of significant resources. Low grade iron ore deposits are found at Phulchoki, near Kathmandu. There are copper deposits scattered in many sections of Nepal, especially in Palpa and Okhaldunga. Throughout the length of the Kali Gandaki River and on the Marsyandi River to Dhaulagiri traces of gold can be found. Small deposits of mica have been found in the hills north-east of Kathmandu Valley. Limestone deposits have been located at Godavari and Nagarjung near Kathmandu. Deposits of talc, petroleum reserves in Siwalika are also found here.

Forest Resources:

In an area of 147,181 sq. km. forest cover is about 40.8% of the total land area. 92% of total fuel supply comes from forest. The chief forest cover are hardwood (53%) and mixed forest (20%).

Human Resource:

The Nepalis are strong and energetic people. With a population of 22.5 million and a growth rate of 2.6% they formed the important human resources. Out of this total population, 8.7% dwells in the mountains, 47.7% in the hills and another 43.6% in the Tarai plains.

2.3 DEFENCE AND SECURITY TRENDS AND PATTERNS:

When India attained Independence from Britain, it was more preoccupied with the rehabilitation of the refugees from Pakistan and the communal violence that took place in every corner of the country. Thus India did not focus on foreign policy; rather it had no time and put foreign policy at the back seat. But the then Prime Minister Jawaharlal Nehru's concern for peace, harmony, goodwill, cooperation, freedom, justice in the whole world came in the right time. Emphasis was on national interest as the main determinant of the country's foreign policy. Nehru considered Nepal as "the only truly independent kingdom in India"[9] with great affinity with India in terms of her geographical contiguity, economic linkages, cultural, religious and ethnic. India treated Nepal as an independent country as it sensed no security threat or aggression. India's view on the status of Nepal became crystal clear when in 1949, the Government of India promised full support to the latter in seeking admission into the United Nations.[10]

When Britain retreated from the Indian Subcontinent, Nepal was left under the rule of the Ranas, who instantly

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9. Sahay, S., "A Close Look: Indo-Nepalese Relations", The Statesman, 10 December 1981.

10. Shaha, R., Nepali Policies: Retrospect and Prospect, OUP, Delhi, 1978, p.24.

took strong foreign policy measures to protect themselves. During King Mahendra's regime he even postulated three criteria for it. Firstly, he wanted all democratic elements placed under his sovereign control; secondly, he built up strong ties with China and even signed treaties with it; and thirdly, he propagated Nepali nationalism at the cost of Indians, because he instills anti-Indianism in them too.[11] Thus, Nepal became suspicious of India's moves and hurriedly established contacts with other foreign countries including China. Nepal's position was like a `floating cork' when under the Rana's rule their foreign relations with China were very strong, but once the Rana-rule was overthrown, and a new popular government set up in 1950, Nepal's foreign policy was directed by creating various natural linkages patterns with India.

India's concern for Nepal is to keep her off the cold war tensions, to strengthen her northern border against communist China's expansionist policy in Tibet and help Nepal achieve a political and economic stability which will only enhance her political clout in Nepal. In 1950 there was an anti-Rana revolution in which the Ranas had no other option but to look towards India. New Delhi's stance was very diplomatic. India quickly responded and proposed a

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11. Singh, S.B., Indo-Nepalese Relations: Discord and Harmony, GK Publishing House, Varanasi, 1994, p.23.

suitable solution in what came to be known as the `Delhi Settlement' of 1951,[12] between the king, the Ranas, and the political party leaders, where they formally and openly committed themselves for developing Nepal into a modern state and develop a people-oriented policy in the kingdom. But the rift between the Ranas and the modern political elites continued. Indian efforts to patch the differences between the two did not last long. The Nepali Congress founder B.P. Koirala and his colleagues resigned from the coalition government followed by the resignation of the then Prime Minister, Mohan Shumsher. Hence, the king announced the formation of a new government in November 1951. This initiative by India has opened a new chapter in the political history of Nepal which symbolised the end of the old regime of the Ranas. There were anti Indian feelings instigated by few sections of the people but Nehru played well. He wanted stability in Nepal without interfering with its internal affairs so that intervention of other country in Nepal which would pose a threat to the security and stability of India, would be ruled out.

Defence and security between the two countries would not be meant entirely in military. Since India is a vast country with greater power both in its military strength as well as energy power potential and capability, Nepal is on

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12. ibid., pp.35-36.

the other hand non comparable. Its smaller territorial extent and weak position make it inseparative for her to have cordial relations and good political equation with its southern neighbour, India. But here the focus will be on security that encompasses military, poverty, terrorism, illicit traffic, trade and aid etc. Therefore there is every reason for Nepal developing friendly relation, with India. Due to these reasons many regional and global powers, including India, have recognised Nepal's uninterrupted status as an independent sovereign nation. The cold war period in the post World War II era, and as a non-aligned strategy, India supported Nepal in its endeavours for achieving national security and stability. India also felt that Nepal needs a special security relationship with it because of its alignment with China. It is to be noted that China's presence in Nepal is a threat to India, but on the other hand India's presence in Nepal is not a threat for China at all.

Regarding the transit point controversy, India was just conforming to International Law and did not practice hegemony. There was also a strong feeling that there exists a mini-Nepal in India and `an India in miniature' in Nepal. The other reasons are that the sovereignty and territorial integrity were never a problem in the 1950s and 1960s. In the 1990s, this security problem was highlighted because of

Nepal's being sandwiched between India and China, and lastly, Nepal will find it extremely difficult and practically impossible to change and reorient its trade and economic activity because it had been so dependent on India and it had shares common culture and religious ties with India.

Security Concerns

The Himalayan kingdom was maintained well since the British rule, particularly the defence and external affairs of the kingdom. The initial threat that India perceived and faced was when the Chinese Red Army entered Tibet in 1950. India's northern borders came to be exposed. Since the British policy all theory had been that it would not interfere in the Chinese affairs as long as the border states (including Tibet) remained firmly under the British control. Nepal being more or less a natural frontier of India, the new developments in China as well as Tibet, world only deepen India's concern for Nepal more and more as far as its strategic location was concerned. Nehru, while explaining Indian policy towards Nepal in 1950s said, "It is clear, as I said that in regard to certain matters the interests of India and Nepal are inevitably joined up. For instance, if I may mention it, it is not possible for any Indian government to tolerate any invasion on Nepal from anywhere. It is not necessary for us to have any military alliance with

Nepal... but apart from any pact or alliance, the fact remains that we cannot tolerate any foreign invasion from any foreign country of any part of this Indian sub-continent or whatever you may like to call it. And any possible invasion of Nepal would inevitably involve the safety of India."[13] He further went on to explain India's policy towards Nepal when he observed that "Frankly, we do not like and shall not brook any foreign interference in Nepal.... No other country can have as intimate relationship with Nepal as ours.... Therefore, much as we appreciate the independence of Nepal, we cannot allow anything to go wrong in Nepal or permit that barrier to be crossed or weakened, that would be a risk to our security."[14] Nepal perceived Chinese aggression and at the same time responded by soliciting India's aid and assistance, and were they willing to return to the policy which they had followed towards the British. Thus the internal situation compelled both governments to reach a strategic understanding with each other. India set up two committees headed in one by Maj. Gen. Himmat Singh and the other by Thorat[15] to assess the securi-

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13. J. Nehru's speech in Parliament, 17 March 1950, in Bhasin, A.S., Nepal's Relations with India and China. Document 1947-1992, Vol.1, SIBA, Delhi, 1994.

14. Singh, S.B., Indo Nepal Relations: Discord & Harmony, GK Publishing House, Varanasi, 1994, p.38.

15. Appadorai, A. and Rajan, M.S., India's Foreign Policy and Relations, South Asian Publishers Pvt. Ltd., New Delhi, 1985, p.154.

ty need of Nepal and India's assistance in Nepal. Both countries arrived at broad based understanding of mutual defence, security and development.

The security arrangements that existed between India and Nepal need to be focused from the early 1950s since it was from here that initial agreements between the two countries had started and the subsequent treaties, agreements, joint ventures and others follow from these. They include the following:

(a) The Tripartite Agreement for Gorkha Recruitment

The tripartite agreement between Nepal, India and Britain on the eve of British withdrawal in 1947, agreed to continue to allow recruitment of Gorkhas for the armed forces of India and Britain. India also permitted to maintain 12 battalions of Gorkha troops and another 20 battalions during time of are emergency. India, in return, would meet Nepal's military needs; its training and payment.

(b) The 1950 Treaty of Peace and Friendship

This treaty is the basis for Indo-Nepal relation. It can be said to be the `cornerstone' of the relationship. But only six months after M.S. Jung Bahadur Rana had signed it, the hereditary Rana was replaced by a constitutional monarchy. It is like a defence pact where both sides agree

to consult mutually on matters relating to national security and defence in addition to respecting each other's sovereign independent status. Nehru termed the treaty as "it is not a military alliance by any means, but a mutual assurance between friendly countries." The two most important clauses are Articles VI and VII, which we shall see later, are the bone of contention between the two countries. They are

Article 6: "Each Government undertakes in token of neighbouring friendship between India and Nepal, to give to the nationals of the other, in its territory, national treatment with regards to participation in industrial and economic development of such territory and to the grant of concessions and contracts relating to such developments."[16] India's allegation is that while the Nepalese settled in India enjoy all the rights, Indians in Nepal have been denied such rights. The Nepalese view is that this article is quite impracticle as such an agreement cannot be effective with a huge country which has a population of nearly 1 billion. Even if a small percentage of such a population is migrated, the situation can be quite worse in Nepal.

Article 7: "The Governments of India and Nepal agree to grant, on a reciprocal basis, to the nationals of one coun-

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16. Rastogi, M. et. al., India's Foreign Policy in the 1990s, Patriot Publishers, New Delhi, 1990, p.313.

try in the territories of the other the same privileges in the matter of residence, ownership of property, participation in trade and commerce, movement and other privileges of similar nature."[17]

The Indian Government feels, that the Nepalese laws curtailed the rights to Indians to immovable property in Nepal while Nepal argues that it was forced to do so because of the large scale migration from India which has threatened the very existence of the kingdom.

This treaty tied Nepal with India's northern security system on the Himalayan frontier and the latter's position in the kingdom was asserted. This regime overstretched foreign policy in the name of national interest, and oversee other issues like demographic onslaught and the attendent conflicts are going to be the real sources of national insecurity. And should this treaty be renewed and continued, is what both sides will have to review the foreign relations. Indian stand, as further postulated by S.D. Muni, was clear when he stated "Any determined Nepali demand for the termination of the Treaty, if and when advanced, would of course be stoutly resisted by India. This is so for various reasons... this would deny India the advantage of exercising unilateral option of meeting unforeseen secu-

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17. ibid., p.313.

rity contingency in Nepal."[18] Thus, the treaty needs to be reviewed with an open mind so that suspicious motives from either sides will be cleared and removed and given a democratic compatibility between the Nepali and the Indian systems. India is expected to be a positive factor for the survival of the regime as well as for better Indo-Nepal relations. Every treaty or agreement is relative to a certain situation and subject to change for readjustment to changing international relations. Any overpoliticization of Indo-Nepal relations would also adversely affect the development of the country. Both India and Nepal will also have to accept responsibility for the deteriorating relations, like for e.g., the unauthorised police entry into Nepal, and the use of Nepali territory by the disparate anti-Indians, free movements of peoples having no definite identity, etc.

(c) Establishment of Military Checkposts

India had asked Nepal to establish checkposts along the northern border of the kingdom for intelligence purposes. This was granted by the then Nepalese Prime Minister. These checkposts were manned jointly by the Nepalese Army Personnel and Indian Technicians.

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18. Baral, L.R., "Political System and the Elite Behaviour in the Context of Indo-Nepal Relations" in Bahadur, K. et. al. (ed.), New Perspectives on India-Nepal Relations, Har Anand Publications, New Delhi, 1995, p.49.

(d) Indian Military Liaison Group

Nepal requested India to assist in the task of modernization of the Royal Nepalese Army. They were also to assist in the training and reorganisation of the Nepali Army. The reorganised group would serve as an important link between the two countries regarding their mutual security arrangements specially after the Sino-Indian conflict of 1962.

(e) Arms Assistance Arrangement

Nepal had been receiving all arms from India. This was as per the agreement signed in 1965 between the two countries that India alone will be the supplier of arms to Nepal. But Nepal also procured rights over arms from China too.

Nepal's concept of non-alignment in the past was just compatible with India's foreign policy, but the 1961 concept acquired a new dimension i.e. being equidistant from India and China and equal friendship for both. Today, security is not only a defence related matter but also economic and ecological protection.[19]

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19. Bahadur, K., New Perspectives on India-Nepal Relations, Har Anand Publications, New Delhi, 1995, p.93.

(f) Zone of Peace

Since Nepal lies between two most populous countries of the world, King Birendra was apprehensive of the frontiers. This new foreign policy of Nepal had nothing but complete disregard for the 1950 Treaty. Modification in the later treaties took place but India never accepted the new changes in any form, shape or definition. But why did Nepal press for it to be declared a `Zone of Peace'. Threats on its territoriality, external reactions have kept Nepal keen on India's support especially after the Indo-nepal Treaty of Peace and Friendship 1950, where the main thrust was to be established "everlasting peace and friendship" between the two border countries. Implications of zone of peace are firstly for Nepal to establish relations with other countries particularly with its neighbours on the basis of equality and respecting each others' independence and sovereignty. Secondly, Nepal would internationalise its security concerns in the United Natgions; thirdly, Nepal wanted guarantee against adversary parties Nepal had even gone beyond the zone of peace when it so explicitly sent her senior military officers for training in the Chinese and Pakistani military institutions. This was a concern for India as these trained officers would then be posted in the Gorkha regiments who are commissioned in India. Thus, Nepal's decision provided a grave concern in India's defence

preparedness. Thus in this zone of peace, Nepal will use only to sustain the undemocratic regime so long as they have to follow the line laid by rulers, while on India's part, they will withhold support because they apprehend that it will be used as a means to mobilise external support for suppressing their voice.[20]

Defence and Security Aftermath: The Indo-Nepal relations got deteriorated firstly by Nepal's fear and scepticism on Indian action in Sikkim, a border state, and secondly by the highly publicised visit to Szechwan (China) by King Birendra. Nepal was persistent to have two separate treaties on Trade and Transit and the kingdom's plea to be recognised as a Peace Ione, urged the then Foreign Minister of India, A.B. Vajpayee to assure an open and responsive position on all critical issues dividing the two states. But the Indo-Nepal relations continued to be smooth and cordial till the Rajiv Gandhi regime.

A major setback in the Indo-nepal relation was in 1988, when Nepal imported anti aircraft, guns and other arms from China. This was a betrayal of the 1950 Treaty and 1965 Agreement on imports of arms, and thus Nepal undermined both the instruments. India sought clarification on this but no

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20. Permanand, "Indo-Nepal Relations in the 1990s" in Rasgotra, M. et. al., India's Foreign Policy in the 1990s, Patriot Publishers, New Delhi, 1990, pp.312-313.

satisfactory answer was provided. China also provided aid for road construction, projects in Nepali Terai which is too close to India. India was concerned and alarmed by the activities on its northern borders after the construction of East-west Highway, a trijunction of three countries. Communist China also greatly influenced in strengthening monarchy and sought it to be more autocratic at the cost of democracy, led to India's refusal to renew the treaties. Indians in Nepal numbered about 1,50,000 in 1990s. They were quite cynical of the new policy of `work permit'. This was a great discrimination against these people who had actively and persistently contributed to the economic prosperity of Nepal. India felt that this was another betrayal of the 1950 Treaty and could have retaliated in the same way to Nepalis living in U.P., West Bengal and North Eastern States, it refrained from doing so because of its traditional and long-established cultural affinities and also due to its special concern for the Nepalese speaking people.

The Indo-Nepalese relations were further worsened by the attempts on the part of King Birendra's regime to alter the pattern of Nepali attitude towards India. The movements of Indian nationals across the border, which was free for years, had now been restricted. This was in fact seen as an action by the Nepalese government against restrictions imposed in India on the movements of foreign nationals in

security sensitive areas of North Eastern States, parts of West Bengal and parts of U.P. This came as a surprise to India as it had always respected the guidelines of the Peace and Friendship Treaty. Nepalese regularisation of the citizen issue added another dimension to the erosion in the relationship. Besides this, property rights, transferring, residential qualification and even employment were all denied to Indians.

In the 1990s India wanted to review and redefine the whole gamut of Indo-Nepal relationship before going into any sort of agreements. The renewal of the 1978 Trade and Transit Agreement and 1950 Treaty were under severe scrutiny. P.V. Narasimha Rao, then Foreign Minister said in Lok Sabha "...I would like to see Indo-Nepalese relations as before a model... we want to continue our deeply cherished relationship on the basis of sovereignty, mutual trust, mutual benefit and reciprocity in understanding and safeguarding each other's interests and concerns."[21] Nepal perceived security as a threat not only to itself but to the entire region because of the disturbing situation in its neighbours.[22]

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21. Times of India, New Delhi, 27 April 1989.

22. Khanduri, C.B., "Security Imperatives of Nepal" in Bahadur, K. et. al. (eds.), New Perspectives in India-Nepal Relations, Har-and Publications, New Delhi, 1995, p.125.

The New Direction on India-Nepal Security Pattern

In the recent development meted out between the two sides, it spelt out the new government policy that high priority was to be given for improving relation with Nepal and that its problems and concerns were to be treated with understanding, sympathy and friendship. It agreed to respect for the principles of equality, territorial integrity, national independence, non-use of force, non-interference in each other's internal affairs and peaceful settlement of all disputes. The relation between the two countries reached the breaking point just when Nepal headed for a major political change towards the beginning of the 1990s. Nepal policy of playing one neighbour against another and an attitude of unwarranted assertion and antagonism with India came to an end with the collapse of the Panchayat regime. When the then President of Nepal Mr. K.P. Bhattarai met the then Prime Minister of India Mr. V.P. Singh in 1990, both reiterated their government's adherence to and full respect for the time honoured, principles of international law such as those of sovereign equality and others. Both countries agreed to respect eachother's security concern and to arrest unwanted activities in their territories prejudicial to the security of the other. Defence matter was also dealt in great depth by both sides. New areas like managing water resources would likely to be the focus between the two

countries as far as security is concerned. States have been claiming of exclusive rights over the waters within their territorial jurisdiction even while they have been complaining about the adverse effects allegedly from transborder problems. Issues need to be settled are common border rivers, land revenue, land use, treaty on use of rivers, export of power, watershed development and embankments. India and Nepal together share the Ganga Basin which is part of the larger GBM Basins.[23]

Multi-party democratic setup of India has always been viewed as a great threat to the so called. Partyless Panchayat system in Nepal. Nepal response meekly to India's repeatedly call to renew the Trade and Transit Treaty before its expiry where Nepal should have taken its own initiative. Nepalese stand could be taken as merely a political ploy to divert the Nepalese peoples aspirations for multiparty democracy into some other channels. Thus `India's security excuses kept Nepal pinned always like a butterfly, to maintain its hegemonic interests in the region.[24] Nepal's 40,000 strong armed force, 5-6 brigades may not be enough to defend the country. Resource limitation and strategic

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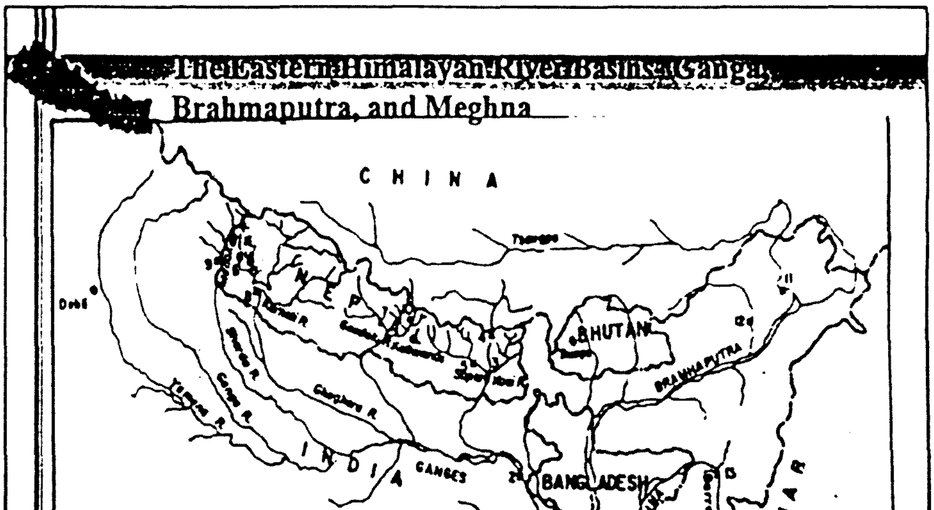
23. GBM - Ganga Brahmaputra Meghna Basin. This is 1.75 million sq. km. with potential energy (at 60% LF) - 150,000 MW.

24. Sharma, Prayag Raj,



River System	No.	Project Name.	Location.
Ganges.	1.	Ganges Barrage.	Bangladesh.
	2.	Farakka Barrage.	India.
	3.	Sapta Kosi Dam.	Nepal.
	4	Arun III Dam.	"
	5.	Sun Kosi Kamala Diversion.	"
	6.	West Seti Dam.	"
	7.	Kali Gandki Dam.	"
	8.	Karnali Dam	"
	9.	Pancheswar Dam	"
	10.	Buri Gandaki Dam.	"

Fig. 8.

consideration has led to the need of essential security for overall defence strategy. `Clever blend of diplomacy with other pressures may be a better security umbrella for Nepal.'[25]

India is also responsible to Nepal for transforming it from dependent to interdependence with dozen multipurpose projects for power, industries, irrigation and water transport. If given a mutual trust, there can be no stop for both countries achieving a modus vivendi in various projects which has far reaching implication. This is illustrated in the proceeding chapters. The fear psychosis and the anti-Indianism are all but narrow sectional interests of few political parties. Thus due to misperception of the rulers, the spirit of the treaties are lost. Thus, the stalemate that occurred in the relation between India and nepal was primarily due to the contradictions in the perceptions of the Nepalese ruling elite vis-a-vis the geopolitical and economic realities.[26]

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25. Khanduri, C.B.,

26. Bahadur, Kalim and Lama, M., New Perspectives on India-Nepal Relations, Har-anand Publications, Delhi, 1995, pp. 148-150.

CHAPTER-3

INDO-NEPAL DEVELOPMENT COOPERATION

`Nepal-India relation, set as they are by the long history of the sub-continent and woven into a fabric by religio-cultural, linguistic and racial threads, have been unique. In no two countries, can one find so much similarity between the peoples and the traditional interaction between them as in India and Nepal.'[1] And nature has bound them together that it seems almost impossible to think that one is independent of the other. India has had trade relations with Nepal since time immmemorial. That this trade relations is continued till date, is evident from the fact that 95% Nepal's trade is concentrated in India.[2] India has assured Nepal that it is willing to provide necessary economic and technical assistance to help it realise the progress and prosperity.

3.1 PAST AND RECENT TRENDS IN COOPERATION:

To have a panaromic view of the trends in cooperation, it is mandatory to briefly focus on the early Indo-Nepalese trade treaties. Because this will be the leading path to

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1. Bahadur, K. and Lama, M., New Perspectives on Indo-Nepal Relations, Har-anand Pub., Delhi, 1995, p.107.

2. Jha, S.K., Uneasy Partners, Manas, New Delhi, 1975, p.39.

the present trends of cooperation in various domains.

The first major treaty concluded between the two countries is the Treaty of Trade and Commerce, 1950 which is meant towards strengthening the Indo-Nepalese economic cooperation after India attained independence.[3] By this treaty, the Government of India recognised Nepal's full and unrestricted right of commercial transit of all goods and manufacturers through the territory and ports of India. It also allows Nepal to import through India without paying any duty. This also applies to the exported goods and manufacturers of Nepalese origin outside India. The Government of Nepal agreed to levy export duties on Nepalese manufacturers which were exported to India on par with the excise duties payable for the corresponding Indian goods, so as to prevent it from being sold in India at a more favourable prices. In order to give a new dimension to the Indo-Nepalese trade and commerce, they agreed to assist each other, by making available commodities essential to the economy of the other.

As an accommodating and conciliatory gesture, a new Treaty of Trade and Transit, was concluded between the two governments in 1960. This was to expand the exchange of goods between their respective territories, encourage collaboration in economic development and facilitate trade with

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3. Rawat, P.C., Indo-Nepal Economic Relation, National, Delhi, 1974, p.70.

third countries. They recognised the benefits likely to accrue from the development of their economics towards the goal of a common market. It stipulated that neither party will issue any import licence on the basis that foreign exchange for it will be arranged by nationals of the other party. This treaty tried to remove the shortcomings of the 1950 Treaty. It cntained some important provisions which provided for free trade, protection of infant industries, maintenance of separate foreign exchange and better transit facilities for Nepal in India.[4] India's intentions for helping Nepal prosper is clearer in this treaty.

India and Nepal signed a new five year Trade and Transit treaty that came into force in August 1971. This accord did away with the concept of common market envisaged in the 1960 Treaty. The new treaty has been concluded on the basis of most favoured nation treatment on a reciprocal basis.[5] A joint communique signed said that primary products of Nepal would have urestricted entry into the Indian market. Besides, in order to promote the industrial development of Nepal, concessions in excise duty available to small units in India would also be available to products imported from

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4. Das, R.K., Nepal and Her Neighbours: Quest for Status of a Landlocked State, Bhubaneswar, 1986, p.97.

5. Lama, M.P., The Economics of Indo-Nepalese Cooperation, M.N. Publishers, New Delhi, 1985, p.25.

small units in Nepal. Another important aspects of that treaty is the protection of each other's essential security interests, and to cooperate effectively with each other to prevent infringement and circumvention of foreign exchange and trade laws and regulations and deflection of trade.

Since the earlier treaty had lapsed, a new treaty was signed between the two governments in 1978. This treaty saw India conceding to Nepalese request of two separate treaties on Trade and Transit.[6] Under the Treaty of Trade India agreed to enlarge the market for Nepal's manufactured products in India in order to assist the industrial developent of Nepal. The two governments also agreed to make necessary arrangements to maintain supplies of essential commodities needed by each other, and preferential treatment was accorded to primary products on a reciprocal basis.[7] The Treaty of Transit and the protocol lay down the procedures to be followed for Nepal's traffic in transit through India. The Indian government agreed to 36 items as against 26 items as free of basic duties. Besides, 15 Nepali industrial items were freed from requiring Nepalese exporters to fill up the proforma.[8] This treaty finally

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6. Indian Foreign Review, Vol.8(22).

7. Foreign Affairs Record, Vol.24(3), 1978, p.146.

8. Singh, S.B., Indo-Nepalese Relations: Discord and Harmony, G.K. Publishing, Varanasi, 1994, p.101.

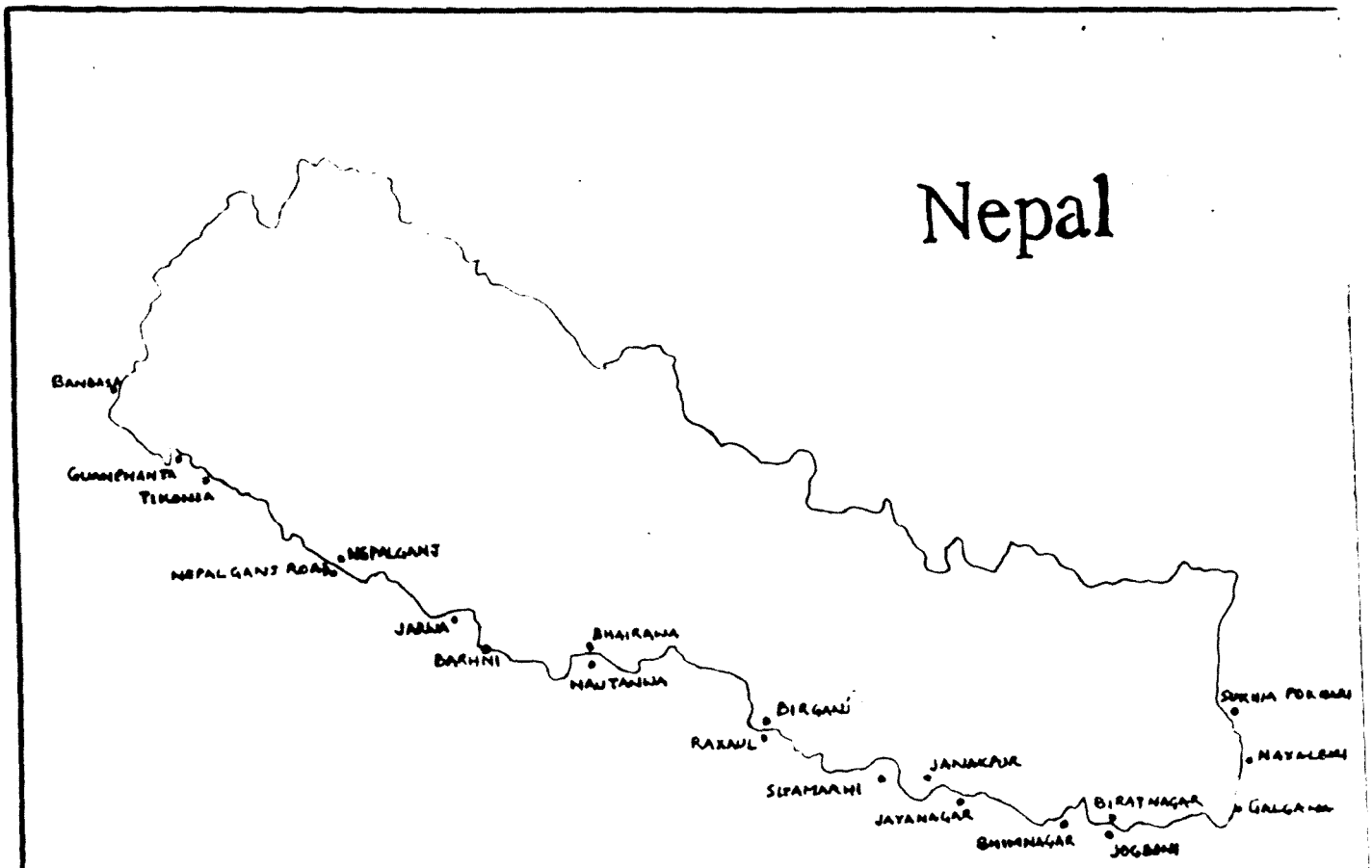

Fig 9. Routes for transit, 1991 treaty

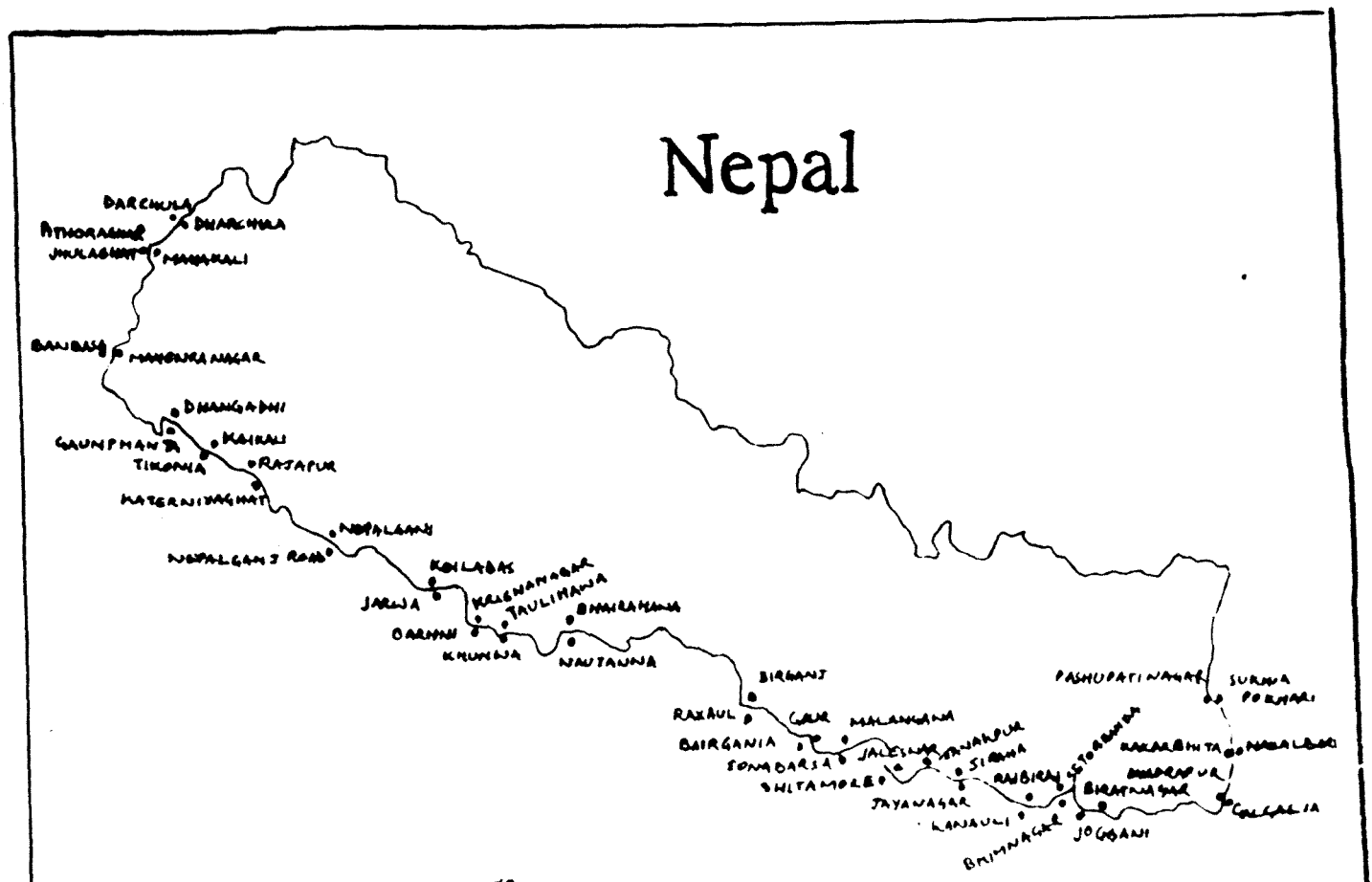

Fig10. Routes for mutual trade, 1991 treaty

expired in 1989 after a series of extensions. The treaty failed to be renewed on the view that Nepal wanted a separate treaties which India denied and the political development that took place was dislike by India. Finally, the changing parameter of Indo-Nepal trade and transit relations suggest one important thing that both India and Nepal are interdependent on each other and they should respect and keep in mind the long term interests of each other.

Regional Economic Cooperation

Regional economic cooperation could act as a catalyst for Nepal's development. Advantages can come in the form of profitable foreign and domestic investment, diversification of foreign trade, and the chances for innovation and the release of new economic forces. The major impact on Nepal's foreign trade would result from the reduction in transit cost, which would encourage competitiveness among exporters in South Asian countries and induce them to sell goods which were profitable in the region when prices in india are unattractive. This could lead to the establishment of industries and increased economic contacts in the region either through joint ventures or through other preferential arrangements.

Nepal's genuine interest in regional cooperation goes back to 1978 when stagnant agricultural and industrial

production, coupled with the national mood of frustrations brought forth a new response in the political system. King Birendra's declaration at the plenary session of the Colombo Plan Consultative Conference in Kathmandu is notable when he said that Nepal's vast water resources is not of national interest alone, but it calls for convicted cooperation so that these resources could be tapped and benefit the people of the region (i.e. Nepal, India, China, Bhutan, Bangladesh).[9]

Nepal has bilateral agreements with India and also Sri Lanka. After India, Bangladesh is Nepal's most important trade partner; the major items for export to Bangladesh are pulses, railway sleepers and rice, while important import items are office equipment and stationery. Nepal has economic ties with Philippines, Singapore and Thailand too. Exports to Thailand are Nepalese paper and its products, carpets, handicrafts, while imports consist of textiles, ready-made garments, and development materials. Exports to Philippines are carpets and handicrafts and imports machinery parts, tractors and cement. Trade with Malaysia is in herbs, handicrats, textiles and lubricants. Pakistan exports raw cotton to Nepal and imports cardamon, ginger, raw jute, jute bags. Concerted effort is required to evolve a

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9. Parmanand, `Prospects for Indo-Nepal Ties', Patriot, New Delhi, 19 January 1990.

consistent approach towards closer economic cooperation. "A pattern of industrialisation based on greater specialisation within the region will be more economic than the one based on production dictated by the colonial system of the past which was believed to be the harbinger of hope for Nepal."[10]

Nepal's Economic Relations with India:

Similarly, in its commercial and economic relations with India, Nepal constitutes what to all extents and purposes is an appendage of the broader Indian economy, tied very closely in numerous ways to the Indian economic system. But once again Nepal cannot really accept this reality because it wanted to be different from India. Quite the contrary, Nepal's economic policy has as a primary objective the greatest possible reduction of the existing ties with the Indian economy. This is sought through programmes like (a) the diversification of Nepal's trade to reduce its present virtually exclusive dependence upon India, and (b) a diversification of sources of foreign economic assistance even though this vastly complicates planned economic development in Nepal.[11]

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10. Nigam, R.S. et. al., "Economic Fallout of Nepal's Bonus System", Eastern Economist (New Delhi), July 27, 1978, p.167.

11. Shreshtha, B.P., An Introduction to Nepalese Economy, R.P. Bhandar, Kathmandu, 1974, p.40.

A number of advantages that would accrue to Nepal of its economic relations with India were rationalised in terms of some form of economic union or customs. It is obvious, however, that such a programme is totally unexpected to Nepal for what are considered to be sufficiently persuasive political and psychological reasons.[12] And Nepal though dependent, but yet want to declare that it had achieved full independence, including economic independence, from India.

But it was evident from the 1967 economic crisis when the Indian rupee was devalued and had its repercussion on the Nepali rupee too. But there is no evidence as yet that the lack of success in its bid for economic diversification has convinced Nepal of the advantages of a regional-oriented economic development policy especially its policies towards India.

Cooperation in Selected Fields:

Nepal is one of the poorest countries in the world with a GDP per capita (1987 US $) of 203. The country's land-locked situation makes exports to overseas countries difficult. The 500 mile long open border with India is both disadvantageous and advantageous. On the hand, it hinders the development of an independent economic policy and, on the other, providing Nepal with opening to the vast Indin

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12. ibid., p.53.

market.

Agriculture accounts for 44% of Nepal's GDP and 80% of its export earnings; 90% of the labour force is employed in this sector.[13] During the past decade agricultural production has fallen short of expectations. Nepal's present economic situation may be explained by the following facts. 90% of the families in the hills own less than 0.6 ha and 98% of the families in the terai have less than 1.7 ha of land; more than 40% of the rural population lives in poverty. Population pressure is another problem for Nepal's economy. The hills have two-thirds of the cultivation area but are not self-sufficient, while the Terai, with one-third of the cultivated area, feeds two-thirds of the population. In the terai and the inner terai the total area suitable for agriculture may amount to 676,000 ha, sufficient to accommodate some 1.4 million persons.[14]

About 50% of Nepal's trade is with India and the remaining trade with other countries is done through India under the Transit Treaty signed with India. About 20% of the cost of a Nepalese export commodity at Calcutta is the transit cost. Foreign aid is another major factor in Nepal's balance of payments position. It has received sub-

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13. Human Development Report, 1997.

14. Asian Survey, Vol.21(3), March 1981, pp.345-46.

stantial aid ever since it came out of its self-imposed isolation. In 1994, the external debt of Nepal is of the tune 2.3 billion US $ i.e. if expressed in percentage of GNP, it will be 56%.[15] The major donor countries are USA and India. Most of the aid it receives is in the form of grants.

Nepal had a surplus balance of payments until 1977-1978, but the situation has deteriorated because of the rising costs of petroleum and other imports. The increasing volume of non-essential imports has also aggravated Nepal's balance of payments problems. India's monopoly position in Indo-Nepalese trade means that Nepal has limited options to choose among different sources of supply for its imports. The trade diversification policy has not altered its traditional trade structure, while exports to overseas countries increased, exports to India declined with the result that the trade deficit with the latter rose alarmingly. The situation was worsened by the absence of any increase in production in the Kingdom.

Agriculture:

Agriculture is the `heart and soul' of the Nepalese economy, contributing about 44% of GDP (1994), 75% of ex-

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15. Human Development Report, 1997.

ports and 90% of employment. More than 90% of the country's total population derives its livelihood from agriculture. The diversity of landforms, diverse climate, soils and vegetation and coupled with higher population growth rate rather than agricultural production, have been responsible for extensive poverty among the people and precariousness of of their resources. The need of the hour for Nepal is in harnessing the irrigational resources, increasing the output of energy and streamlining similar other infrastructure so as to enhance the per capita income and offset the deplorable conditions of the people. Agricultural output can only be increased by investing in land development, particularly in irrigation (where only a mere 3% of the total cultivable land is under irrigation in Nepal), and in strengthening the institutions for agricultural research and intention.

India has provided Nepal an assistance of Rs.2.5 crores with the help of which about one lakh acres of land is being irrigated, and more than two lakh acres of land will be irrigated when the Chhatra canal Project will be completed. India has also assisted in other irrigation projects like Kosi, Gandak, Trisuli and Devighat. When India produces 145 million metric tons of foodgrains, Nepal could produce a mere 3.4 million metric tons. Nepal is the only country in Asia where the foodgrains production has further aggravated the shortage situation. Cereal crops account for about 90%

of the total cropped area in Nepal. They include rice, maize and wheat.

Nepal will not be able to overcome the agricultural constrains if it does not seek India's assistance. India can provide cultivable land in the Terai, which is more or less a continuation of the fertile Gangetic plain. It can also provide irrigation water, fertilizer and other agricultural machineries which can boost up agricultural production.

Industry:

Nepal is one of the least industrialised nation of the world. Economic development in Nepal has been marred by the slow process of industrialisation. The reasons being inaccessibility of raw materials; lack of facilities with regard to power, transportation, maintenance of auxiliary materials; inadequate investment and credit facilities; a limited home market, competition of foreign products, lack of trained personnel, at all levels and so on.[16] Nepal's economy is still agrarian in nature. Industrial production represents a small but growing segment of economic activity. The contribution of industry to GDP (1994) was 21%. About 70% of the manufacturing activities in Nepal consist of the

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16. Dharamdasani, M.D. (ed.), Democratic Nepal, Shalimar Publishing House, Varanasi, 1992, p.162.

processing of agricultural products. Almost all of the manufacturing industries are oriented towards the production of consumer goods for the domestic market. Most of the industries are small, localised operations based on the processing of agricultural products. Few among them are jute industry in Biratnagar; sugar factories in Bhairawa and Nepalganj; cigarette factory at Janakpur saw mills at Hitaura; rice and oil mills in the Tarai; and other industries include brick and till manufacture, paper and brewing of bear. In general, there are more industrial enterprises in the private than in the public sector.

The industrial sector has not achieved any remarkable success in improving its relative position in the overall production and employment structure of the economy. But Nepal had little resources and infrastructure for an intensive industrialisation. Any large scale industrial plants have been in collaboration with foreign companies. Nepal cannot stand on its own to develop industries because it lacked competent managerial talent, low initiative and lack of industrial acumen. The Indian industrialists have accepted the offer to invest in private sector and they are operating about 22 joint ventures with their Nepalese counterparts in the sphere of textiles, transport, vehicle, engineering appliance, food products, alcohol, mineral to hoteliering and soft drinks etc.

India have aided Nepal to develop its industries. Being the largest trading partner, it had the responsibility to provide the necessary loans and assistance when Nepal needed most. India have constructed railway lines in the border areas so as to ease the flow of heavy bulk in and out of Nepal. These raillines runs right up to the Tarai region in Nepal. Nepal in turn have provided land for laying down these raillines. India also constructed the 2000 metre roadway connecting Kathmandu with the other important manufacturing centres. India have so far provided the managerial skills which Nepal didn't have, it also provided the large labour force needed in the factories. India has welcomed Nepalese workers to be trained in various training institutes in the country. It reserved few seats in the engineering institutions for Nepalese students who can pursue their studies and utilise this knowledge in their own country. Besides, India availed Nepal of the banking facilities and exempted most taxes that would have caused a hindrance to the prosperity of Nepal. India has given full assistance for Nepal to develop and boost its tourism industry, which is the largest single revenue earner of the country.

These all, and coupled with the various treaties signed between the two countries, can be forged in a new dimension of regional cooperation and development. Nepal can have

free access to the transit routes and the flow of commodities is less restricted. India too, will gain from this trade because it will be less dependent on other third countries. This mutually interdependent attributes will have a long standing repercussion on the future industrialisation in both countries.

Energy:

According to the joint UNDP/World Bank Energy Sector Study (1963), the overall energy demand in Nepal is estimated to increase at the rate of 2.9 percent per year, that of non-commercial energy being 2.1%, and commercial energy 8.5%. Electricity consumption is estimated to rise even more rapidly at the rate of about 13 percent per year, increasing the level of per capita consumption to 198 KWh by 2010 A.D. Fuelwood consumption is on the increase but due to various conservation measures, this too has been declining. A study conducted by Nepal Electricity Authority (NEA) in 1990 indicated that the peak demand and electricity consumption by 2010 will be 916 MW and 3386 GWH respectively.[17]

Nepal's long-term objective is to develop its enormous hydropower resources, both for domestic use and for export,

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17. Verghese, B.G., Converting Water into Wealth, Konark Publisher, Delhi, 1994.

thereby increasing its export earnings to finance overall economic development programmes. Associated with this is the need to reduce the cost of power produced in Nepal substantially, for the domestic market, so that a change in use of electricity in houses, industry and agriculture can take place, and electricity can find a good market.

At present, Nepal is facing an energy crisis. The power shortage is to be increased to about 200 MW by the next millenium. But various options are considered to face this power shortage. One option is to import power from India and strengthen the transmission lines, while the other option is to accelerate the commissioning of medium and small hydro power projects. Few that have already been started are Arun 3, Seti, Upper Arun, Upper Karnali, Sapta Gandaki, Bagmati, Kankai. They will not only cater to domestic need but also to export to the adjoining countries. These projects have early feasibility and await environmental clearance only.[18]

After the earlier impasse on the Kosi and Gandak and later on the Janakpur, India has since then reiterated new strategies for confidence building in Nepal's power and development. India has taken initiative over the Karnali, Pancheshwar and the Kosi High Dam and diversion scheme.

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18. ESCAP: Water Resources Series, No.71, 1992.

India has aided the construction of Arun 3 and the Burhi Gandak (600 MW) project built near the East-West Highway which is easily accessible, and a proposal to build a thermal station in India with 200 MW dedicated for supply to Nepal. The World Bank is reportedly empowering such possibilities and may be prepared to fund a viable package.[19]

Table: Energy Status in Nepal

(in Terajoules; 3.6 TJ = M.KWh)

Total energy requirement	226,070
Final consumption	225,252
By industry & construction	5,463
By transport	5,851
By household and others	213,938

Source: 1994 Energy Balances and Electricity Profiles, UN, 1996.

3.2 INDIA'S ROLE IN NEPAL'S POWER DEVELOPMENT:

Regarding the development cooperation, India always wanted to take a leading role and did not want any other country to interfere. This monopolistic status of India in Nepal's development lead to the significance of India's role in bilateral issue. The present attitude of India on cooperation is not congenial to regional development. Signs of an uneasy relationship betwen the two unequal partners, India and Nepal, are very evident in water resources devel-

19. Verghese, B.G., op. cit.

opment programs.

India had recognised the hydro-power potential of Nepal. The 1950 Treaty of Peace and Friendship stated very clearly that India should be given the first priority in Nepal's development of natural resources or any industrial projects in aid and assistance, provided that the terms offered by the Government of India or the Indian nationals are not less favourable to Nepal than the terms offered by any other foreign governments or by other foreign nationals. India was also the first country to help Nepal develop its water resources. It has helped in the construction of the Kosi Barrage in 1963 and the Gandak Barrage in 1970, of which these provided enormous irrigation and flood control to both the countries. Between 1961 and 1971, India spent Rs.10 crores on the Chatara Canal on the Kosi. In 1978, India constructed the Chandra Canal on the Gandak at a cost of Rs.19 crores. Similarly in 1976, a barrage was built on the Kamala at the cost of Rs.2 crores. The first major hydro power project was built at Trisuli in 1962 with a capacity of 21 MW of power at a time when the total capacity of Nepal to produce hydro-electric power was only 4.56 MW. The following are the various projects on water resources undertaken by India in Nepal.

Table

	Name of the Project	Duration	Amount (IRs lakhs)
1.	Minor Irrigation, Water Supply & Power	1954-73	456.63
2.	Trisuli Hydel Power	1958-73	473.44
3.	Kathmandu Water Supply	1962-71	87.00
4.	Chatara Canal Project	1964-80	1,053.11
5.	Kamala Barrage Project	1973-76	175.72
6.	Chandra Pump Canal Project	1978-85	1,813.10
7.	Devighat Hydro-Electric Power	1978-83	2,000.00
8.	Rural Electrification Project at Nuwakot	1985-88	400.00

(Source: Strategic Analysis, June 1996, p.486.)

The current water resources development projects which are under consideration, and negotiations on these projects are going on between the HMG, Nepal and the Government of India. These are:

a) The Karnali-Chisapani multipurpose project with 10,800 MW power storage where the feasibility stage has been computed. It is upto the Environment Impact Assessment agency to have deemed it complete.

b) The Pancheshwar (Mahakali) 2,000 MW storage project which is dependent on major agreement with India is now underway.

c) Tanakpur Barrage for supply of 150 cusecs of water, irrigating 5,000 ha of land, providing 10 million units of electricity which got formalised in 1991.

d) Kali Gandaki 2, a 660 MW storage project with 165 m rock filled dam, where the pre-feasibility study was completed in 1985 including preliminary environmental and socio-economic work.

e) Buri Gandaki, a 600 MW storage project which can be used for Nepal's domestic purposes.

f) Arun 3, a 402 MW where detailed engineering work is aided by India; and

g) Other priority projects chosen like Upper Arun (360 MW), Budhi Gandaki (600 MW) and Upper Karnali (240 MW).

The significance which India attaches to harnessing of water resources in Nepal can also be seen from the draft treaty of 1990. This is just a replica of the 1950 Treaty of Peace and Friendship on harnessing water resources. Here, the two contracting parties being equally desirous of attending complete and satisfactory utilisation of the waters of the commonly shared rivers had to undertake, under the purview of the treaty, to (a) plan new uses of projects and protect the uses of the rivers; and (b) to cooperate with each other to formulate and modify these projects. The draft proposal did not come through in the treaty but it showed the domineering attitude of India in dealing with Nepal.

Of late, India has been assisting Nepal in the utilisation of its hydro power potential and four hydro eletric

schemes viz., Pokhara, Trisuli, Western Gandak and Devighat have been implemented with assistance from government of India. Three major water resources projects in Nepal, viz., Karnali, Pancheshwar and Sapta Kosi are presently under discussion. The feasibility report of Karnali Multipurpose Project was prepared in 1989. The key parameters of the project are to be finalised after mutual discussions. Pancheshwar Multipurpose Project (Stage 1:2000 MW) has been investigated by the two countries in their respective territories and Detailed Project Report (DPR) is presently under preparation/finalisation, jointly. The development of this project is covered under Integrated Mahakali River Treaty signed between His Majesty Government, Nepal and India in February 1996. India had offered financial and technical assistance for investigation of Sapta Kosi (3300 MW) Multipurpose Project. Joint technical experts groups have been constituted for each of the above projects for joint guidance for investigation and preparation of DPRs. The exchange of power between India and Nepal is presently taking place at 17 points along Indo Nepal border. The voltage level for new water connections has been agreed to be 132 KV to enable increase the quantum of exchange of power. Two point Indo Nepal committees viz. Power Exchange Committee and Power Exchange Coordination unit are looking into the matter concerning the exchange of power between the

two countries. India has agreed to provide 70 MW of energy to Nepal annually free of cost from Tanakpur Project.

3.3 INDIAN AID, INVESTMENT AND JOINT VENTURE

Nepal's export-import ratio has put a strain on its balance of payment (BOP). In 1994, the external debt amounts to 2.3 billion US dollars, i.e. 56% of GNP. The BOP gap has witnessed an alarming increase both in absolute terms and as percentage of GDP. Domestic resources for development are very meager in Nepal. The aggregate saving as percentage of GDP is only about 6.5 percent while the share in investment over the last two plans is over 19 percent. This shows the deplorable state of the country's economy. Hence, such a country cannot stand on its own feet but to seek external assistance. India came as a savior to Nepal's problems.

Out of the total Rs.22332.6 million economic assistance of India to various countries in Asia and Africa, Nepal received 22 percent of the quantum. India has been Nepal's biggest donor in infrastructural development. However, the Indian aid to Nepal has seen a decline from 74 percent in the First Plan to a meager 9 percent in the Seventh Plan period. The directions of the aid are 74 percent for construction of roads and airports, 3 percent for power and irrigation sector and the rest for industries and agricul-

ture and community development. The absorption of Indian aid by Nepal in the Seventh Plan revealed the authorised grant and loan to the tune of 772 and 903 million rupees respectively, while the utilised grant and loan tunes to 628 and 583 million rupees respectively. A major reason for this under-utilisation has been the project tied character which provides for only initial capital formation and not for requisite raw materials and components.

Recognising the need for co-operating among developing countries, India, though a capital scarce country, began a policy of permitting Indian investment. The uncertain attitude of Nepal has been a major drawback for the expansion of Indian joint venture in Nepal, yet at the same time it wanted to acquire technical know-how and domestic manufacturing capabilities taking into account the cordial astmosphere in cooperation between the two countries.

Joint Ventures:

Nepal is not the resource poor country as the general impression goes. It has reached a critical point of development and the advantages lying with those goods whose trade could be expanded in the region. Industrialisation process can only be achieved if the following industries are developed. They are fertilisers, fruit preservation and canning, breweries and soft drinks, glass and porcelain

products, woolen textiles, paper and pulp, hydroelectric power, cement, plywood and hardboard, drugs and pharmaceuticals, hotels, soap and others.

South Asian countries could provide an impetus to economic growth because they offer good market prospects. Nepal could supplement its resources with technological know-how and capital from these countries. Nepal has already an access to the sizeable Indian market, and for developing some industries it could share its experience and expertise with India who already had several joint ventures in Asia and Africa.

Energy is a potential area for regional cooperation Nepal's vast water resources could be used for the industrialisation of the subcontinent since its river system has the potential for providing 83,000 MW of hydroelectric power, equalled to the combined installed capacity of Canada, US and Mexico.[20] India has already undertaken joint power projects with Nepal, the details of which are dealt in a separate chapter.

Joint ventures are one of the most neglected areas in Nepal's foreign economic policy. Although the 1971 treaty with India was favourable to joint venture, no attempts were made in this direction under the treaty. It was only in the

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20. Economic Times (New Delhi), June 15, 1978.

1978 trade treaty that Nepal and India mentioned the need for cooperation for ensuring a steady rate of economic growth. But because of the lack of the identification of potential areas of cooperation and the absence of any farsighted policy, that regional cooperation has not made a good beginning. Nepal lacks a comprehensive and clear-cut policy on joint ventures. In any formulation of joint venture policy in the future, Nepal should incorporate a provision governing the role of multinational corporations which could concentrate in those areas where Nepal has good resource endowments, e.g. forest based industries are good potential for collaboration.

When Nepal signed the Memorandum of Understanding and Economic Cooperation with India in 1978, Indo-Nepalese economic relations entered a new phase of economic growth through cooperation. Under the new agreement, India and Nepal decided to cooperate in a number of large, medium and small cottage industries to be set up in Nepal. The investment in these areas would amount to Rs.210 million.[21] These projects were expected to bring a total turnover of Rs.870 million and provide direct employment to 10,000 people. An Agreement had also been reached on the extension of industrial estates, entrepreneurship, technological personnel and

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21. According to Ministry of Industry and Commerce, India, 1980.

provision of credits. Other projects to be covered are a production-oriented polytechnic institute in the central development region of the country and a regional training institute for the far western development region. Moreover, India had agreed to lay out railway lines to the Nepalese side of the border in the terai.

3.4 FUTURE FRAMEWORK FOR COOPERATION

Apart from a strong motivation to cooperate, it is also necessary to agree a framework of cooperation which is acceptable to both the sides not only at the present moment but also for the future. Such an arrangement calls for clarity with an appropriate degree of flexibility. Acceptance of a flexible framework of cooperation is a prerequisite to cooperative development of water resources in Nepal. Clarity is need for the interest of both countries. Both Kosi and Gandak have several elements which lack clarity. Prior consultation should be promoted and unilateral action should be abandoned. India's unilateral action on Tanakpur, Sarada Sahayak and embankments across several rivers could prove disastrous. Appreciation of the sensitiveness of the other side should be handled with utmost care and concern and a timely consultation would not have aggravated the Tanakpur Barrage issues. The restrictive role played by India in the case of Kankai, West Rapti and Mulghat project

is perceived by Nepal as a conspiration and this could have been avoided.

The level of cooperation hasn't been that satisfactory. The differences among the governments have led to a poorly studied aspects of water resource development. The sense of insecurity at the level of the states has led to the lack of proper articulation of irrigation and flood control mitigation benefits, also disagreement on allocating cost to the electricity generated from the proposed High Dam. Nepal owns most of the project sites but at the same time had to face floods to its fertile and populated valleys.[22] It viewed that India is controlling its site without adequate compensation.

Mainstream development thinking has moved ahead blindly without considering the alternative and new international ground realities which does not favour large projects. The need of the hour is good faith from both sides. Nepal is too sceptical on India's motives. But India too have failed on many instances. Nepalese will be learnt from Chukha plant in Bhutan built with Indian cooperation. While it only ensured revenue to the government but yet it has not be

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22. Subba, B., `Tapping Himalayan Water Resources', Water Nepal, Vol.4(1), Kathmandu, 1995, p.19.

ensured security to the masses.[23]

Meaningful cooperation to produce a forward movement, and the perceptional impasse and uncertainty associated with social and ecological sustainability of large dams should be transcended with cooperative efforts. Cooperative security hinges on trust between governments and between individual and governments and its citizen.[24] Because social constructs are different in the two countries, unitary concept of development would not be suitable. What is sustainable in New Delhi would be unsustainable in Kathmandu and totally so in the hills of Nepal and Garhwal. The effort should be directed towards creation of resource use that would not be exhausted, as well as in a mass based instead of elitist approach. It should not be solely technology driven but based on ethics, and good governnance. This is not a one time affair but continued interaction should be initiated through advocacy and dissemination and here the role of the state as the facilitator and adjudicator, and the civic society as active participants are both significant.

Cooperative development of water resources is a subject which is being actively pursued by both the countries but a

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23. Bandyopadhyay and Gyawati, Water Nepal, Vol.4(1), 1995, p.20.

24. Khanna, D.D., Sustainable Development, Macmillan India Ltd., Delhi, 1997, p.451.

meaningful step in the right direction must be taken. Areas of mutual interest can be broaden and areas of differences narrowed down. The policy framework which will provide guidelines for future cooperation between the two countries are the role of India as a forerunner to the individual projects, such framework should reflect issues of long term interest to Nepal; inter-basin transfer for maximum resource value should be realised; Nepal's access to the sea on its own rivers can promote its international trade; framework should identify the areas for cooperation, mechanisms for cooperation, and mechanism for dispute avoidance/resolving; and demarcation and identification of international and boundary rivers, where rules apply differently for both.

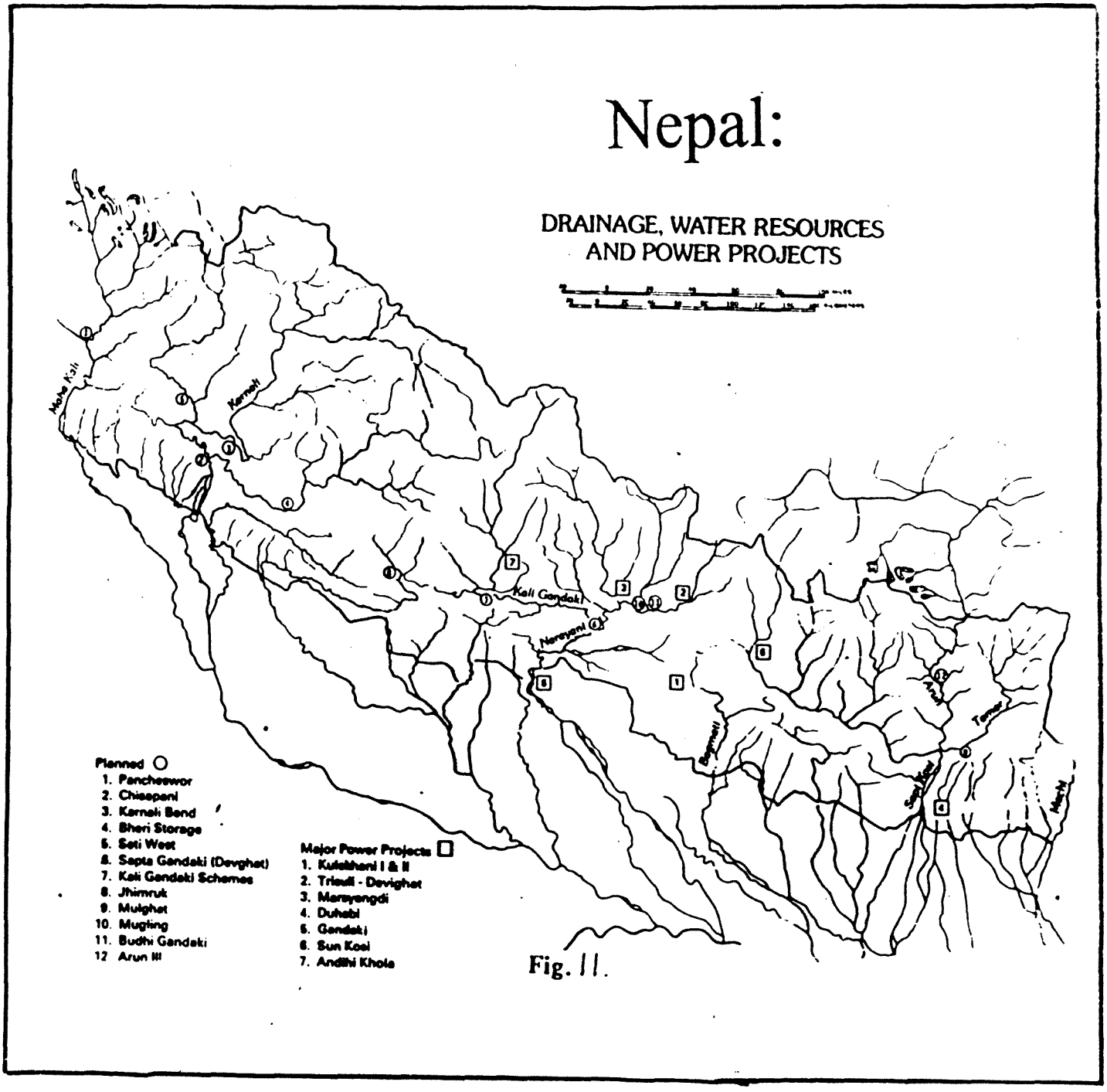

Fig. 11.

Source: Thapa, B., et al., 1995. *Water Resources Development. Nepalese Perspectives*

CHAPTER-4

COOPERATION IN THE SPECIFIC FIELD OF POWER PROJECTS OR ENERGY GENERATION

Cooperation in water resources development between Nepal and India began as early as in 1920 with the exchange of letters relating to the development of Mahakali (Sarada) project in Mahakali boundary river till recently in February 1996 when the Indian Prime Minister P.V. Narasimha Rao met his counterpart His Majesty's Government of Nepal, Sher Bahadur Deuba and agreed to jointly prepare a Detailed Project Report of the Pancheshwar Multipurpose Project to be implemented in the Mahakali River. A stalemate in understanding of the Kosi and Gandak Projects and the subsequent mistrust of the Karnali and Pancheshwar has led both sides in agreeing on supply of water, electricity, flood control, irrigation, leasing of land and others. The coming to terms by both parties is very significant when we consider the long standing cooperation between these two countries and how it applies to the development and strengthening of Indo Nepal relations.

i) Historical Perspective:

Agreement relating to the Kosi Project was signed in 1954 and to that of the Gandaki was signed in 1959. These projects were designed to yield irrigation, flood control

and power generation. Nepal had hoped that these projects would benefit it abundantly. It had given large share of its land and even displaced people living in the valleys. But to its utter dismay, Nepal was deprived of its share and even lost land due to inundation and the designs was only to benefit India. Thus these projects which were only meant to enhance the long traditional understanding and goodwill that existed between these two countries failed miserably, and instead, they created hatred, mistrust and a feeling of anti-Indianism and jeopardise the basic attitude of cooperative efforts.

During these last few years both sides have made repeated attempts to develop new areas of cooperation in water resources sector. Karnali (Chisapani) Multipurpose project in river Karnali in the west and Pancheshwar Multipurpose project in river Mahakali (Sarada) in the far west are just some of the important projects which were discussed now and then by both parties, but yet nothing tangible has emerged so far.

From a wider regional perspective, many of these large water resources projects do make economic sense. The economic benefits from hydro power generation, production and water storage on reservoir sites in Nepal will be substantial and when compared to the costs, could probably be

attractive projects.[1] But what concerned Nepal more, is that how much will it benefit itself from these projects rather than benefiting other countries of the region. The `renting the dam site' approach advocated by P.J. Thapa, a Senior Research Associate in Nepal, where Nepal essentially letting India have her way but charges her adequately for this privilege, is an important starting point which has not been sufficiently discussed in Nepal. Any other regionally cooperative outcome must make Nepal better off than this base case. This will prolong the life of the reservoir through better technology and better understanding of the environmental processes, the dam site will be more valuable to Nepal in the near future and then it will be able to use domestically most of the electricity generated.

There are various `age-old features'[2] that existed between India and Nepal in water resource cooperation and these are yet to fade till recent times taking into account the changes in economic, political, social and cultural spheres that took place in both countries. They include the following: (a) Initiative has always been from India, say from hydro projects to economic development. India has always treated Nepal with a `big brother attitude'. Its

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1. Thapa, P.J., Water Led Development in Nepal, p.48.

2. Bahadur, Kalim and Lama, Mahendra, eds., New Perspectives on India-Nepal Relations, Har-anand Publications, Delhi, 1995, p.248.

intentions are only to see Nepal achieving a viable economy. Nepal on the other hand, fears India's moves and doubts it. The Karnali initiative is said to be the only Nepali initiative.[3] (b) India's initiative has been for flood control and irrigation. Electric power generation is recently given top priority. This issue of contending priorities especially sharing of costs still persists. (c) The dialogue between the sides lacks scientific approach in giving priorities. (d) The development of water resources is dominated by a non-business like approach like misuse of the state apparatus. (e) It has been said that India's domination is too apparent in the water resource development. It has been a one-sided affair instead of a partnership. This only aggravates mistrust that has always been lingering on the Nepalis' mind.

ii) Nepalese Perspective:

Nepal started making use of the benefits of cooperation in water resource development through the establishment of a network of irrigation system in Kanchanpur district of Mahakali zone. The first scheme of cooperation took place in the form of the Kosi and then the Gandak agreements. They were both initiated by India. Planning, implementation and financing were done by India. Nepal provided land,

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3. ibid.

construction materials and labour in these projects. Since then cooperation in other projects took place at a `snail pace' because of misgivings on both the Nepalese and Indian sides. This is quite wasteful if we consider the huge water resources in the Himalayas that could have tremendously benefitted both countries. What has so far stopped Nepal and India regarding the joint harnessing of water resources is the inadequate consultation during the planning stage which would have led to the project's design and implementation being satisfactory to both the sides. Another reason is the lack of conscientious effort to generate consensus on both sides. Other reasons are the inappropriate mechanism of project management like the failure of the Joint Coordination Committee, no regular sharing of information and there is no consensus on sharing of benefits and costs arising from the projects. Nepal is also unable to take up large projects on its own because of limited resources. Hence it will have to go to multilateral or other donor agencies who, on grounds of riparian rights and financial viability, would want to come to terms with its neighbours. India on the other hand has large water resource potential in areas other than the industrial belt. So the only option when it has to meet the increasing demand of electricity especially in the north is to buy it from Nepal. A whole range of possible medium, large and mega projects in Nepal

is under consideration, and are at various stages of technical readiness. Burhi Gandak (hydel), Kamala and Bagmati (irrigation) represent the first, Pancheshwar the second, and Karnali and the Kosi High Dam the third category.[4] Again, questions of cost-benefit sharing, tariffs, management and indigenous contributions to design and construction have sometimes appeared contentious in open ended discussions, but are likely to crystallise into workable agreements if the projects really appear likely to take off.[5]

iii) Parameters of Cooperation:

The prerequisites to water resource development need to be clearly understood for building a sound data base. There are studies on international water laws and practices and of international treaties on the cooperative development of water resources; manpower and institutional development; improving accessibilities to project sites; and funding, including innovative organisational arrangements for financing giant projects.[6] Nepal could develop only 88.5 MW out of the power potential of 27,000 MW, while another 800 MW might be harnessed by 2000 A.D. The main contributors will

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4. Verghese, B.G. and Iyer, R.R., eds., Harnessing the Eastern Himalayan Rivers, Konark Publishers, Delhi, 1993, p.274.

5. The Statesman, 10 December 1981.

6. Verghese, B.G., Waters of Hope, Oxford & IBH Publishing Co, New Delhi, 1990, p.338.

be Karnali and Pancheshwar projects. Nepal cannot depend on India alone for financing. United Nations guidance and assistance will be sought in studying, implementing and managing the developments. For example, Nepal's development budget in 1983-84 was $406 million, and the cost of the Chisapani Project would be of the order $3.7 billion. How can Nepal manage to run the project? Thus Australia (Snowy Mountain Engineering Corporation), Japan (Koei), Norway (Electrowatt) and UNDP have come to Nepal's rescue.

iv) Cooperation in Boundary Rivers:

All major and medium rivers in Nepal flow down to India, and then to Bangladesh before reaching the sea. These trans-boundary rivers are in the purview of the Helsinki Rules which direct the development of these water resources to be in consultation with the interests of the riparian countries. Both sides (India and Nepal) have expressed their commitment to hrness the resources of these international rivers viz. Mahakali (Tanakpur), Karnali (Chisapani), Gandak, Kosi etc. to their mutual benefit. Many projects arising from these rivers are of course feasible within Nepal and yet have a potential to yield a great deal of benefit to both the countries. It is imperative that the two sides have a process of consultative cooperation on issues like sharing of data and other relevant

informations, establishment of an appropriate Institutional Mechanism, preparation of a comprehensive Action Programme, technical and financing, a 50-50 basis of sharing the water and power generation and irrigation etc. and come to a conclusion which is acceptable to both. But Nepal also wishes to have more benefits from the cooperation since being an upper riparian and having most of the projects within its territory. Its participation in the project will be partial because of limited technical and financial capability. It would like to draw any amount of water to meet its requirement, and make the best use of the river projects to meet its domestic requirements in power and irrigation, and sell her excess power to India. It would also like to see that flood control, rehabilitation, river navigation and fish farming and also overall management of the projects are within its purview.

India's interest, on the other hand, stems from the fact that such development can lead to the following benefits to India:[7]

(a) availability of more hydropower with potential to conserve on thermal generation, saving on non-renewable energy resources and reducing pollution;

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7. Banskota, N.P., "Nepal: Towards Regional Economic Cooperation in South Asia", Asian Survey, March 1981, p.12.

(b) availability of regulated release of water with potential to provide greater irrigation benefits;

(c) mitigation of damage caused by flood.

v) Cooperation in Hydro Power Projects:

Past history in hydro power cooperation has not been smooth sailing. There has often been mistrust and misunderstanding between the two countries because in each country there are divergent views regarding the pros and cons arising out of these projects. What India feels is beneficial to both, Nepal feels it is one sided i.e. it benefits India only. But despite the lacunae in these cooperation, both countries have not given up the space for talks. Both meet at occasional instances where views are shared. Treaties and agreements are signed by both realising that for the betterment of the living standards and economic development one will have to depend on the other. India with a sound economic base will have to rely on Nepal's power supply to meet its peak demand, while Nepal, on the other hand, will have to depend on India for trade and transport and economic development. The following are the projects in question.

4.1 KOSI PROJECT:

An agreement on the Kosi Project was signed between the Governments of Nepal and India on 25th April, 1954, and it was revised on 19th December 1966. It included the following main features:

i) Nepal's right to withdraw water for irrigation or for any other purposes from the Kosi river and from the Sunkosi river or their tributaries.

ii) The earlier agreement conferred on India the ownership of all lands acquired by Nepal and subsequently transferred to India for project purposes. The revised agreement changed `ownership' to `a lease for a period of 199 years at an annual nominal rate'.

iii) The revised agreement eliminated the earlier agreement that granted Nepal its consent to storage or detention dams and other soil conservation measures on the Kosi and its tributaries.

Provisions of the Agreement:

The agreement provides for the construction of a barrage along the Kosi river 3 miles upstream of Hanuman Nagar in Nepal, with afflux banks, flood embankments, and other protective works, canals, power house and communication lines.

The agreement has a provision for Nepal to acquire land required for the construction of the project and lease it to India after payment of compensation for a period of 199 years from the date of the agreement at an annual nominal rate. It has provisions for India to use stone, timber, gravel and ballast obtained from Nepalese territory for the construction and future maintenance of the barrage and other connected works upon payment of royalties to Nepal. Besides, Nepal would not levy customs duty or duty of any kind during construction and subsequent maintenance on any articles materials required for the purpose of the project and the work connected with it.

The agreement does not mention anything about the costs and benefits of the project. Nor does it say anything about how much water will flow along the irrigation canals and what amount of land will come under the command of these canals. Similarly, no mention is made about irrigation benefits to Nepal, or how much power is available to it or what the installed capacity of power plant will be.

The project has been conceived primarily to yield irrigation and flood control benefit. For this a barrage of 1150 metres has been built at Bhimnagar. The Eastern Main Canal provides irrigation to 612,500 ha of agricultural land in India and a power house with an installed capacity of 4 units of 5000 KW each. The Western Main Canal passes

through a distance of 35 km in Nepal before entering the Indian territory. This canal provides irrigation water to 11,300 ha and 356,610 ha of agricultural land in Nepal and India respectively. Flood control works in Nepal consist of a western afflux bund about 12 km long and a 40 km embankment along the eastern bank of the river. Extensive embankments about 220 km long are constructed on either side of the river in the Indian territory to confine the river flow and protect land beyond from the flood disaster.[8]

Besides these, the Chatra Irrigation Project on the Kosi river was handed over to Nepal in 1975. The total cultivable command area of the project was originally defined as 66,000 ha though it has been reduced to 58,000 ha now. The intake and headworks of the project were designed for a capacity of 45.3 m^3/s (1600 cusecs).

Modality of Project Implementation:

An `Indo-Nepal Kosi Project Commission' was set up for the discussion of problems of common interest in connection with the project and for purposes of coordination and cooperation between the two governments. Some of the main issues taken up for consideration, from time to time, in these meetings are as follows:

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8. HMG/N, Ministry of Water Resources, Report 1984-88.

i) acquisition of land and payment of compensation,

ii) stone quarrying within Nepal,

iii) supply of timber by Nepal,

iv) compensation for forest land, waste land and the submergence areas in Nepal,

v) soil conservation in Nepal,

vi) rehabilitation of the displaced population,

vii) crop compensation on lands, and compensation for damaged crops,

viii) income tax exemption to the Nepalese contractors working in Indian territories,

ix) protection of areas on the banks of river Kosi.

4.2 GANDAK PROJECT:

An agreement on Gandak project was signed between the two governments on 4th December 1959. Its main features are the exclusive right of Nepal to withdraw water for irrigation at any time from the river and its tributaries. But it also restricts the transvalley use of Gandak water by Nepal during the months from February to April. It also permits Nepal to operate the Don Branch Canal in such a manner as to ensure the flow of adequate water in Nepal Eastern Canal for irrigation requirements.

Provisions of the Agreement

The agreement provides for the construction of a barrage, canal head regulators and other accessory works about 1000 ft below the existing Tribeni canal head regulator. it also includes provisions for taking out canal systems for purposes of irrigation and development of power for Nepal and India. Nepal is also required to acquire lands that are necessary for the construction and maintenance of the project and after payment of reasonable compensation by India, it should be transferred to India. The agreement permits India, on payment of reasonable royalty to quarry materials such as block stones, boulders, shingles and sand. The agreement also provide irrigation benefits to Nepal. India is to construct the western canal with capacity 0.57 m^3/sec (20 cusecs) to provide irrigation to 16,000 ha of land in Nepal. The Eastern canal with some capacity and providing irrigation water to 41,400 ha of agricultural land in Nepal is also constructed at India's own cost.[9]

A barrage has been constructed at the Gandak river near Bhaiselotan to regulate the flow of water for irrigation and power purposes. The Main Eastern canal serves the irrigation needs of 9,20,520 ha and 37,200 ha of agricultural land in India and Nepal respectively. Another canal wholly in

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9. ibid.

Nepal called the Nepal western canal irrigates 16,000 ha of land.

Modality of Project Implementation:

The agreement decided to have a Gandak coordination committee to look into matter regarding the project. The issues that were discussed every now and then in the meetings are (i) royalty and collection of stones; (ii) location of Nepal power house; (iii) alignment of main western canal and western guide bund in Nepalese territory; (iv) customs duty exemption on materials required for the project; (v) river training works in Nepal; (vi) land compensation; (vii) navigation provisions in the river; (viii) transmission lines from the power house to feed Nepalese system; (ix) water management, canal construction; and (x) power tariff and augmenting water flow in Gandak river.

Apprehension over Kosi and Gandak:

These projects have instilled the minds of the Nepalese that more incentives in the form of benefits would be given by India. The high expectation that the Nepalese got from these agreements did not match with the reality. There was a widespread feeling in Nepal that the first two Indo-Nepal projects taken up after the democratic revolution of 1951 were not entirely in favour of the kingdom. It is felt that Nepal would have received greater benefits all round had the

barrages been sited further upstream. This would necessarily have placed them wholly within Nepal which in the management and control of these projects and ensured fairer sharing of the costs and benefits. A Kosi barrage located upstream of the present side would have enhanced its river training capability and reduced the attacks upon it by a wounded river.

The Kosi is highly silt laden and wayward and had over the past century migrated over 100 km west from the point where it debouches into the plains. Its annual floods have devastated north Bihar and it has come to be known as Bihar's `River of Sorrow'. The coarse silt it spreads over the flood plain rendered vast areas unfit for cultivation and the westward swing had continued unabated. The 1954 flood had created greater concerns for the Indian government to adopt immediate preventive measures. Expert consultations in the past failed miserably. The newly formed Indian Control Water and Power Commission in 1950 proposed a 239 metre Kosi High Dam at Baraksheta and a barrage lower down at Chhetra, both within Nepal, to regulate the river, control silt flows, generate 1800 MW of power, irrigate large tracts in Nepal and Bihar (India) and provide an element of navigation in the reservoir as well. The proposed 850,000 hectare metre storage would have moderated a peak flood of 24,050 cumecs to a more manageable 5660 cumecs. The idea

was stopped since it was uncertain to have a market for such an excess power and building of embankments was taken to be a problem in the border. Variants such as a lower dam and different combinations of sites were explored and abandoned.

A new proposal was evolved in 1953 to anchor the river by means of a regulating barrage below Chhetra and it was this scheme, with some modifications and a pair of embankments to jacket the Kosi within its existing course, thet came to be adopted in answer to the 1954 flood. The Kosi embankments were completed by 1959 and the barrage in 1963. The entire cost of the Barrage and appurtenant works were borne by India. Nepal got, what India feels, enough share of irrigation, flood protection, an estimated 10 MW of hydel power and a bridge over the barrage which also opened up east-west communication.

But the Nepalese thought it otherwise. They pointed out that in the Gandak too, they got 56,650 ha of irrigation and 15 MW of hydel power while a huge benefit went to India. Nepal now felt that it could have gained more and even become economically strong if it had not depended on India and instead built the entire system by itself and sell the power to India. Thus later on Nepal even went ahead with the Mulghat hydro-project on the Tamur, an arm of the Kosi, as a replacement. This would give it additional 60 MW of

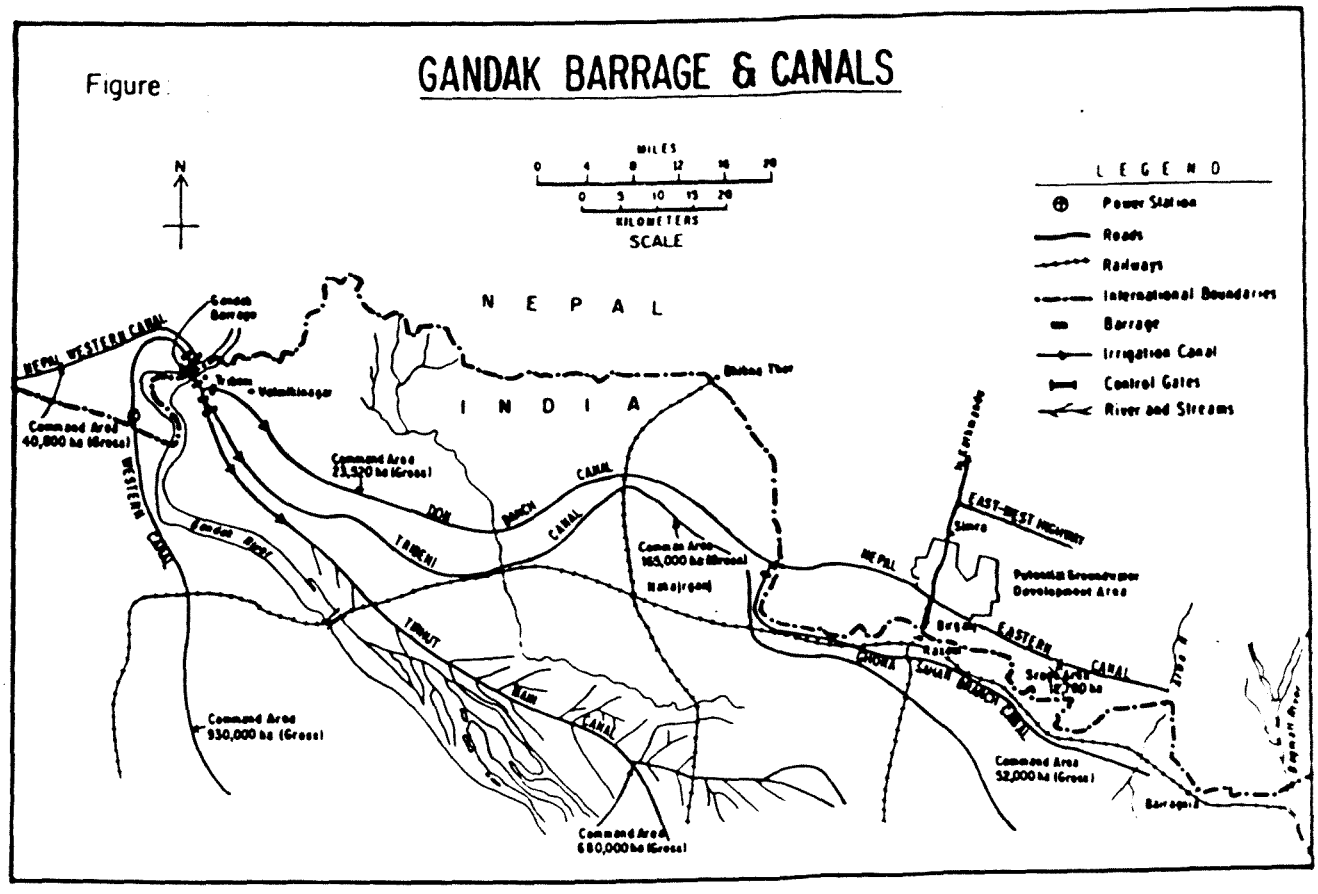

FIG. 12. Gandak Barrage and Canals.

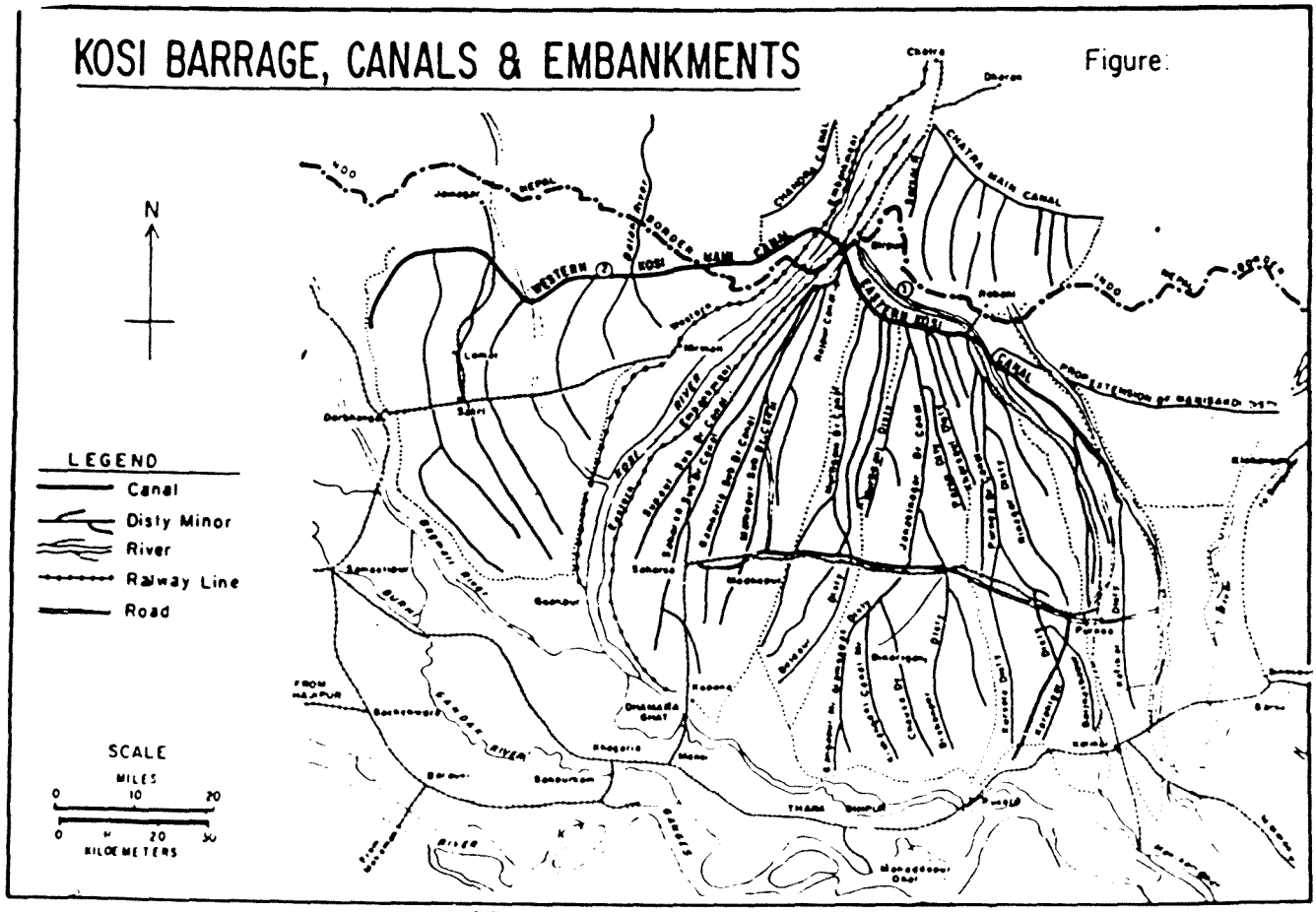

FIG. 13. Kosi Barrage, Canals and Embankments.

energy. But India felt that this would jeopardise the Kosi High Dam, because once it is finished it would submerged the Mulghat project and the Dharan-Dhankuta highway. Both are at loggerhead and a stalemate still exists between the two. It is only cooperation and understanding for confidence building measures that will work out between the two sides taking the present situation into consideration.

4.3 KARNALI PROJECT:

After a lot of deliberation the Chisapani Dam on the Karnali got the green signal for implementation. It earlier on got a raw deal because of the mistrust Nepal had on the Kosi and Gandak. The High Dam at Chisapani was first investigated by the Japanese in 1966. Nepal kept out Indian consultancy and design skills and instead preferred to opt, indeed to insist, on engaging international consultants. Some would attribute Nepal's diffidence about Karnali and similar projects at various times to an unspoken fear among sections of the ruling elites that a massive development programme of this kind might create alternative power centres and change the political balance within the kingdom. Mortgaging such a massive investment to a single buyer, India, might also be dangerous where excessive interdependence can erode independence. Another view is that hydroelectric developments `have largely failed because they have concentrated too heavily on the hardware and ignored or

downplayed the changes needed in the social software' (Gyawali, 1989). Moreover, any major water resource development project today must be conceived as both an area development as well as a human development programme rather than as a simple power project.

The project as then conceived was to have an installed capacity of about 3,600 MW at 60% load factor. In 1989 the Himalayan Power Consultants studied on the project. They proposed a 270 high gravel-fill embankment dam with live storage of 16.2 cubic km and a total installed capacity of 10,800 MW (at 25% LF) producing an average energy output of 20,842 million KWh/yr. It also envisaged a 300 km long 765 KV line and a shorter 200 KV line connected to the Northern Indian grid, an irrigation potential of 191,000 ha in Nepal and much more in India through supplementation of the existing Saryu and Sharda Sahayak schemes. The capital cost was estimated at $4.89 billion (1988 prices).[10]

In the Karnali Coordination Committee, India expressed a preference for a lower dam at Chisapani that might yield around 7,000 MW at reduced cost and easier to finance. It has, at the same time, indicated two or three other upstream projects on the Karnali that could be taken up later as the

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10. Pradhan, B.K. et. al., Opportunity Costs of Delay in the Development of Himalayan Water Resources, A Nepalese Perspective, Kathmandu, May 1986.

load develops. India must guarantee to buy all of the Nepal-surplus Karnali power, which will be 95% or more, if the project is to be internationally funded with a credible repayment commitment.[11]

The Karnali river has plenty of water. The monsoon, although variable in annual intensity, provides a reliable source of precipitation over the long term. The ground-water, snow pack and glaciers of the Himalayas provide storage which produces, even in the dry season, a substantial base flow. Thus, even at its lowest flow, the Karnali can irrigate the entire command area of the Tarai, from the Mohana River in the west to the West Rapti in the east. Because the Himalaya is a young mountain range, still being uplifted and eroded, the sediment load of its river is also among the highest in the world. The Karnali is estimated to carry 260 million tonnes of sediment per year.[12] But on a whole, the Karnali Project would serve several purposes: enhancing agricultural production and providing power, flood control and environmental benefits.[13]

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11. Verghese, B.G., Waters of Hope, Oxford & IBH Publishing Co., New Delhi, 1990, p.344.

12. Himal, May/June 1991, p.14.

13. Karnali would eliminate the need to burn about 10 million tonnes of coal per annum, thus reducing emission of carbon dioxide and sulphur. (Himal, May/June 1991)

Bilateral Issues:

Any project between the two countries does not have a smooth sailing and Karnali is no exception and the point to ponder refers to relocation, the environment, natural and man-made hazards, the threat to sovereignty, and also `the general fear of the unknown' (Paul Terrel, Jr., 1991).[14] The Karnali Project would inundate about 100 km of streambed and 340 sq. km. of land. Its dam would also constitute a 270 m high `fence' against migratory fish life. There are natural hazards deriving from earthquakes, floods and drought. Man-made hazards derive from mal-operation, lack of maintenance and repair, lack of periodic inspections, and lack of continuing collection and analysis of data. There is also threat to sovereignty. On the one hand, there is the possible sale to India by Nepal; on the other, India will become somewhat dependent upon the product that is sold-energy, irrigation water, and flood control. This dependency may be perceived as a hazard to India and certain guarantees may be needed e.g. territory, operation, maintenance etc. so that India feels comfortable with that dependency. But all these may be perceived by Nepal as a threat to the nation's sovereignty.

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14. Paul Terrell was adviser to Nepali Government on Karnali from 1984-1990. Paul Terrell, Jr., 1991.

On the critical side of the project, the power Nepal needs would not come from Karnali, but from smaller hydro-electric projects that rely less on large storage and more on the minimum flow found in the Himalayan rivers. This continues to appear to be the best choice for Nepal's own needs. And a combination of flood-plain zoning and levels could provide a relatively high degree of flood control to Nepal's agricultural zone in the Tarai.[15] Though Nepal is the undeniable owner of the project having a veto voice in the final decision, yet it cannot develop without the cooperation and encouragement of India and also of the International financial community as it is not well equipped for such mega projects.

4.4 PANCHESHWAR PROJECT:

Impatient at the slow pace of progress on Karnali, India had started pushing Nepal for consideration of the Pancheshwar project on the Mahakali, a boundary river, to generate 2000 MW and provide irrigation benefits in the plains below. Having already investigted the Pancheshwar site from its side and obtaining sufficient data, India wanted this project to move faster. But Nepal had a different apprehension and feared that if Pancheshwar, a shared Indo-Nepal project, was to get off the ground, then India

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15. Himal, Sept./Oct. 1989.

might slow down on Karnali, the larger and wholly Nepalese project. With the result that despite India also has agreed to refer Pancheshwar to international consultants, this has not been done as the Nepalese are still completing investigations on their side of the border.

Pancheshwar Project built on the Mahakali River would generate 6,480 MW of power and having an energy output of 10,671 gigawatt hour annually at the cost of 3 billion US dollars (1995 prices).[16] The 290 m high Dam would be constructed and this would store water for irrigation purposes. At present, Mahakali has a storage of 24,000 cusecs of water. India has already acquired 9,000 cusecs from the Sharada and Janakpur Barrages, while Nepal acquired only 1,000 cusecs from the same. Now from the remaining 14,000 cusecs, the joint communique would share this equally. Thus India would be getting in all 16,000 cusecs while Nepal would receive 8,000 cusecs. The Pancheshwar Project would irrigate 16 lakh ha of land in India and another 40,000 ha of land in Nepal.[17] The twin Karnali-Mahakali would generate 66.50 million NW of electricity[18] which would make Nepal not only self-sufficient but also `power rich' to sell the

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16. Economic Times, 13 July 1996.

17. Economic Times, 5 July 1996.

18. Pioneer, 13 February 1996.

excessive hydro power.

Pancheshwar could be implemented as a model for all future hydro development in the region. Transparency is essential to ensure consultation, participation and accountability from the level of local communities upwards. The very construction of the project would entail building a good deal of infrastructure: roads, railheads, communications, townships, water supply, educational and medical facilities, markets and others. Pancheshwar would thus trigger the area development of the backward far-west Nepal region and the equally neglected Pithoragarh district of Uttarakhand.

4.5 TANAKPUR BARRAGE PROJECT:

In December 1991 when the head of states of the two countries met, it was decided to make available to India a site at the Mahendranagar municipal area in the Jimuwa village for tying Left Afflux Bund, about 577 meters in length (an area of 2.9 ha) to the high ground on the Nepal side for a Tanakpur barrage project. The barrage itself and the power station had already been built inside the Indian territory during the Panchayat regime (1985-1989). India had undertaken to construct a head regulator of 1,000 cusec capacity near the left undersluice of the Tanakpur barrage and also the portion of canal up to 150 cusec of water to

irrigate between 4,000 and 5,000 ha of land on the Nepali side. It was also agreed that the head regulator be released to increase flow after the Pancheshwar project is constructed. India also agreed to undertake the construction of the East-West Highway at Mahendranagar.

India also made clear that Nepal would retain its sovereignty over the land made available to India to the west of the site of the bund up to the border, and that neither side was deprived of its share in storage projects. In a further move to modify Nepali public criticism of the Tanakpur deal, the quantum of energy to be provided to Nepal was doubled to 20 million units (20 million KWh) of energy and the supply upto 150 cusecs of water was to be made on a round-the-year basis from the Tanakpur barrage.

Debate on Tanakpur

At this time there was a change in the political set up of Nepal. The Interim government took over after a pro-democracy struggle and put an end to the Partyless Panchayat regime. When such transition took place from the traditional monarchical order to a new constitutional order of parliamentary monarchy, it is inevitable that its subjects will try to promulgate this new constitution. Thus the Janakpur question is nothing but mere political gambit.

A section of policy makers had a long-harboured grudge against India because they had the general impression that Nepal had not had a fair deal from India in water sharing arrangements in the past. They brought the Janakpur question on the purview of Article 126 of the constitution. According to this article, subjects such as peace and friendship, defence and strategic alliance, boundaries of Nepal and natural resources and their distribution have to be approved by a two-third majority of the Joint Session of Parliament. But if any treaty or agreement is of ordinary nature having no extensive, grave and enduring effect upon the country, such treaty or agreement may be `ratified', `accepted', or `approved' by the House of Representatives by a simple majority of the members present and voting.[19]

The government's declaration that the deal was nothing but an `understanding' between the two countries and therefore did not require the parliamentary approval, the opposition took the question to the Supreme Court. The Supreme Court's verdict is that the nature of this case should be in accordance with the constitution, and it is upto the government to decide on whether a two-third majority or a simple majority is needed. The government formed a committee for fact finding. This committee came out with

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19. Kalim Bahadur, New Perspectives on Indo-Nepal Relations, New Delhi, 1993, p.4.

the findings that the Agreement was of ordinary nature having no serious implications for the vital interest of the country. An All Parliamentary Committee was also formed to look into the seriousness of the agreement and at the same time create an impression on the public that the two-third majority would be implied.[20] The bill on this issue was passed later by a two-third majority and talks between Nepal and India on Janakpur project continued. Thus `the Janakpur Agreement is like the sword of Damocles hanging over the Nepali Congress Government, and the question of its ratification by Parliament is making the position of the government uncertain everyday. The disunity in the Nepali Congress, if anything, makes political uncertainty and instability more pronounced' (Parmanand).[21]

4.6 MAHAKALI TREATY AND ITS IMPLICATIONS:

The Nepali Prime Minister, Sher Bahadur Deuba and the Indian Prime Minister, P.V. Narasimha Rao emdorsed the Mahakali Treaty on 12th February 1996. This was originally signed between Nepal's Foreign Minister, Prakash C. Lohani and India's External Affairs Minister, Pranab Mukherjee on January 29, 1996. The agreement or the 29th Accord is for the integrated development of Mahakali River including

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20. Rising Nepal (Kathmandu), 28th and 30th January 1996.

21. Statesman, 22nd June 1993.

Sharada and Janakpur barrages and Pancheshwar Project.[22] For the use of a piece of land of about 2.9 hectares for the construction of the eastern afflux bund of the Janakpur Barrage, India has agreed to supply 1,000 cusecs of water in the wet season and 300 cusecs of water in the dry season. Additionally, Nepal is also assured of the supply of 70 million kilowatt-hours (unit) of energy on a continuous basis annually, free of cost. There is a provision in the treaty under which Nepal will also receive 350 cusecs of water for the irrigation of Dodhara-Chandani area of Nepalese territory.[23]

The provisions of the agreement on Mahakali Treaty are as follows:

Nepal has the right to receive the amount of water specified by the Sharada Agreement. Arrangements have also been made in the accord for irrigation facilities to Kailali and Kanchanpur districts of Nepal. Nepal's contribution for the Janakpur Barrage is the land for the Left Afflux Bund (577 mt) and part of the pondage, in addition to the upstream waters of the Mahakali river. The particular location of the Afflux Bund has special importance in terms of

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22. Rising Nepal (Kathmandu), 23rd February 1996.

23. Jha, Hari Bansh, Mahakali Treaty: Implications for Nepal's Development, FESC, Kathmandu, 1996, p.29.

generating capacity of the project. That is why, Nepal is to receive the benefit from the Janakpur barrage. Utilisation of the water and sharing of other benefits from the Pancheshwar multipurpose project will be on the basis of equality, a guiding principle for the implementation of future projects in the Mahakali River. Construction of the project and its maintenance will be carried out in an integrated manner and both countries will have to invest in proportion to the benefits they receive.

A special provision has been made in the treaty under which any project that can affect the flow of the Mahakali River water cannot be taken up without prior agreement between the two countries. Regarding implementation of the Treaty, there is also a provision for a joint Mahakali River Commission for inspection, coordination, monitoring and solving problems. During the execution of the treaty, suggestions can be provided by the commission whose basis is the principle of equality and mutual benefit. After ratification the treaty is expected to remain valid for 75 years. However, a provision has been made in the treaty for amendment, if necessary, after 10 years or sooner.

The maximum total net benefit from the Pancheshwar project is 6450 MW of power. It is estimated that a considerable amount of money will be required for the future Pancheshwar Project to be completed within 8 years. Nepal

is also to receive half of the share of energy from Pancheshwar and its two other power stations. The treaty also include the construction of 22 bridges in Kohalpur-Mahakali sector of the East-West Highway, and it is expected of these projects to start soon and be completed within 3 years.

In the signing of this treaty between the two countries, Nepal and India, unprecedented consensus among the major political parties played a vital role as did strong determination. The Mahakali River accord as a power trade agreement with India, is considered a significant achievement in the history of Nepal-India cooperation. The government, semi-government and private sectors of both Nepal and India are allowed to deal in power trade independently by the agreement. On the basis of `avoided cost principle', India has accepted to purchase Nepal's excess power. According to this principle, international tariff rate will be the basis for investors who produce electricity in Nepal. Private sectors from India and the third countries will be encouraged to invest in Nepal's hydel project by this agreement.

Facilities will be provided for the Indian investors in Nepal under the power trade accord. Validity of the arrangement will remain for 50 years from the day of ratifica-

tion and through mutual understanding it can be extended, if needed. Under the agreement a party that is obtaining more benefits from this project (Pancheshwar) shall also have to bear more cost. Nepal is also to fix the price of energy from Pancheshwar Project which is operated jointly and see that benefit also runs in the form of flood control, irrigation etc.

Revenues in the form of royalties and export will accrue to Nepal through power deals by the private sector under the existing legal provisions for the power projects constructed in Nepal. Other benefits would be customs tariff, tax on the contracts and income tax from individual. Thus, the agreement on power trade will be greatly helpful in reducing Nepal's trade deficit with India.

The Mahakali treaty is overwhelmingly important for the development of Nepal. It is potential enough to open new vistas of cooperation in water resources in other bigger projects as well, including Kosi and Karnali. It is on account of this treaty that the Mahakali project is expected to generate hydropower on a massive scale (6,000 MW), which is 30 times more than the power expected to be produced from Arun 3 (405 MW). Spin offs of the project are eco-friendly environment, development of education, health, and other facilities; the multiplier effect will be on the economy of Nepal especially agriculture. Since Nepal has not developed

enough infrastructure for the exploitation of all the hydro-power to be produced from this project, it is likely that the country might earn substantial amount of Indian rupees from the export of surplus power to India. The benefits from this project in terms of irrigation and flood control are also no less important.

Thus, we see, in this chapter the various hydropower projects involving both countries of India and Nepal and their implications for better cooperation and development. Certain issues or apprehensions like sense of grievance regarding past wrongs in relation to water issues; fears of Indian domination; and conceptual doubts regarding mega projects that are beyond Nepal's financial, technical, social and political capacity need to be clarified. All these projects will also require careful environmental impact, their seismicity and basin studies, downstream effects, resettlement and rehabilitation strategies, grid links and so forth. Wider and deeper cooperation on water resource development would build such mutually - reinforcing vested interests in both countries in continued good relations and cooperation with each other as to constitute a powerful factor for rationality and good-neighbourliness.

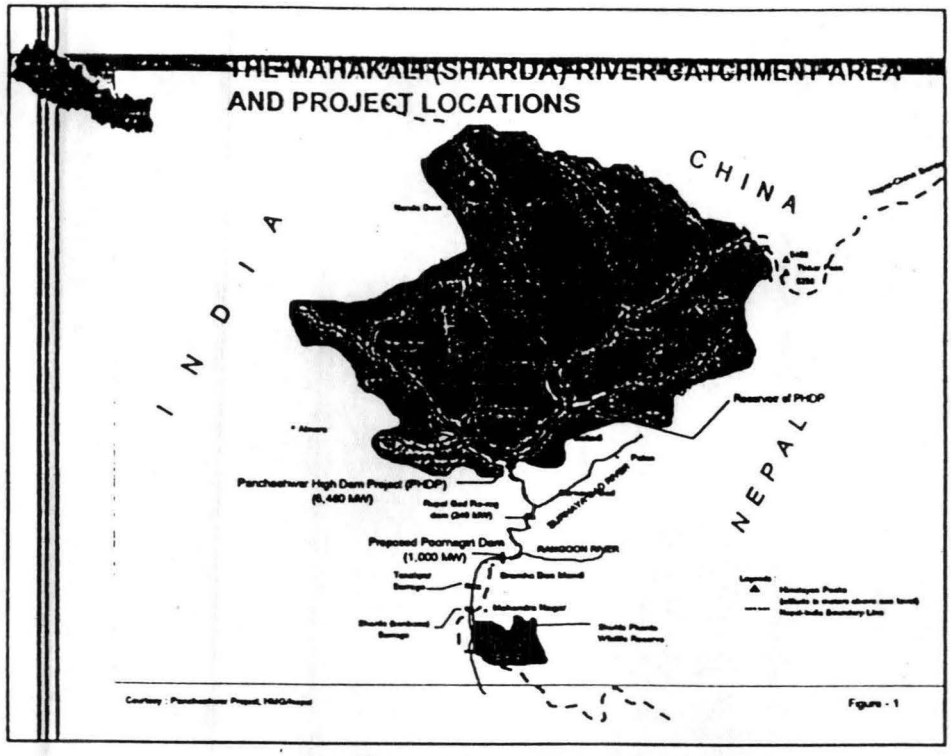
THE MAHAKALI (SHARDA) RIVER CATCHMENT AREA
AND PROJECT LOCATIONS
INDIA
CHINA
NEPAL
Reservoir of PHDP
Pancheshwar High Dam Project (PHDP)
(6,480 MW)
Proposed Poomagri Dam
(1,000 MW)
RAMGOON RIVER
Figure - 1

Fig. 14.

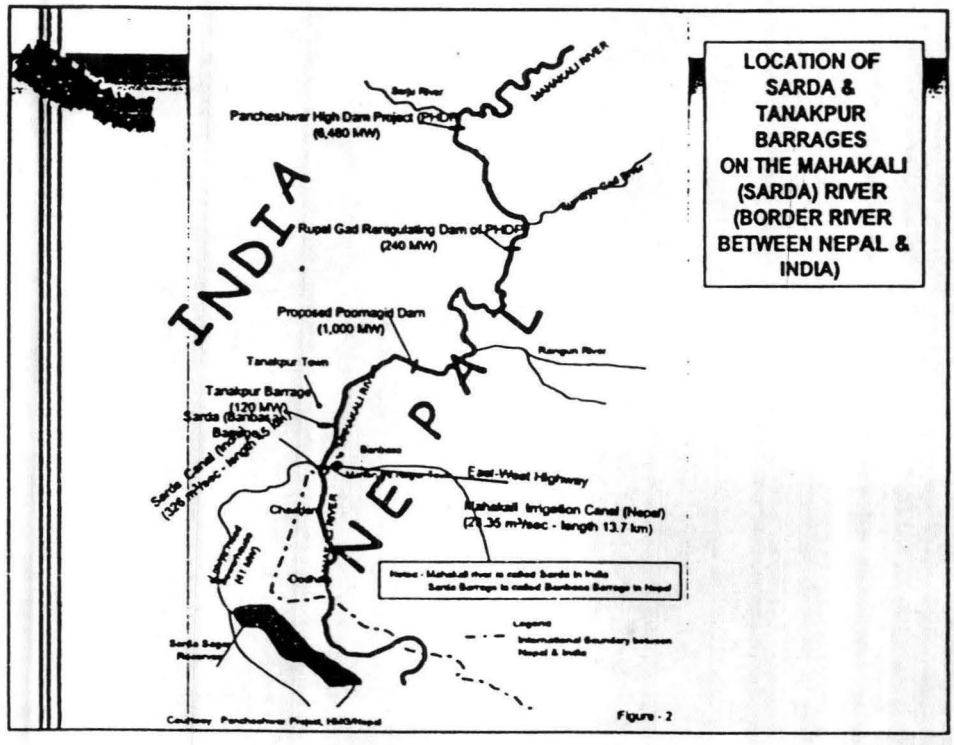
LOCATION OF SARDA & TANAKPUR BARRAGES ON THE MAHAKALI (SARDA) RIVER (BORDER RIVER BETWEEN NEPAL & INDIA)
INDIA
NEPAL
Pancheshwar High Dam Project (PHDP)
(6,480 MW)
Rupel Gad Reregulating Dam of PHDP
(240 MW)
Proposed Poomagri Dam
(1,000 MW)
Tanakpur Town
Tanakpur Barrage
(120 MW)
Rangun River
East-West Highway
Mahakali Irrigation Canal (Nepal)
Figure - 2

Fig. 15.

CONCLUSION

The present work has revealed few remarkable features on India-Nepal relations. The countries which have a common background in terms of socio-cultural, economic and political domain, have seen in the last two decades a shift from a weak traditional cooperation to a firmer and dynamic one. It is a change from being over dependence on trade and commerce by Nepal to one of interdependence where the biggest bargain is on the rich water resources of Nepal. The high water potential of Nepal has not only made it gain economically but has also changed its attitude towards India. This was not so realised before as it is today. Nepal which has remained in isolation during the traditional Panchayat based monarchical rule, has ushered in new perspectives and changes in the political system under the new multiparty based democratic regime. Along with this change came a new dimension in Indo-Nepal cooperation.

Nepal's water resources potential is quite high compared to its size. However, due to the extremely uneven distribution of this resource across locations and over the years, very little of the water resources in Nepal have been tapped so far. It is also seen from the study, as to how the benefits accrued out of the hydro power projects can bring good revenue and change the balance of payment of

Nepal and the impact of which is seen in the high investment in education, health, creation of economic infrastructure, industries and others. This has improved the living standard of the people, provided new employment and due to the development of roads, telecommunications, health, education, the regional imbalances is corrected and a new area development impact is seen throughout the country. These projects provided Nepal with better power generation, a network of irrigation and flood control measures. But yet, this water of hope is not all wealth to Nepal. More is needed to harness the free flowing rivers, which itself would not be able to do, but would require the country's total treasures to see more mega projects developed. Thus, at this critical juncture, India's cooperation is sought most. Nepal's location is such that it cannot help India away, and due to scarcity of minerals, industries, lack of agriculture and its trade links with India, it would need a holistic view of the policy makers. Negotiations for cooperation is the only viable solution.

The Himalayan kingdom of Nepal or the `Forbidden land' is located in the mid-segment of the Himalayan belt. The average rainfall in the country is around 1,500 mm per year, and the total runoff accounts for about 200 billion m^3 per annum. Because of concentrated rainfall during the monsoon period about 72 per cent of the total runoff is in the form

of instantaneous flow and the rest is conserved as snow and ground water which ultimately ends up in the rivers during the dry season. Thus, time-wise and location-wise the resources is distributed extremely unevenly. The major rivers of Nepal like the Mahakali, Karnali, Gandaki and the Sapta Kosi have their sources in the Great Himalayas. The whole country as such is drained by three large river systems i.e. Sapta Kosi region, Gandak region and the Karnali region. There are about 6,000 rivers in Nepal, having a total length of 45,000 km. Most of the rivers originate in the high mountains and this gave a high potential to generate hydroelectric power. TH-7342

It is conspicuous of a country gifted with such river systems to generate more power. The hydro-power potential in Nepal is 83,000 MW though a workable potential is now worked out to be 42,000 MW, but the installed capacity is only a mere 0.3 percent. The present generation capacity is 1247 GWH, while the demand forecast is 1574 GWH, which gives an energy balance of (-)327 GWH. There is also a sharp increase in electricity tariff amounting from 96 percent to 122 percent in different levels of domestic, industrial and commercial consumption. Such a deplorable state in power sector from a potentially rich country is but a pitiful reality. More is needed for Nepal to identify new sites for power potential, and realise that projects like Pancheshwar,

Kosi, Karnali which are in collaboration with India should go forward in implementation and not linger too long in unnecessary delays. Delay is denial; historical past of mutually distrust and suspicion will have to make way for a broader mindset and mutual confidence in each other's developmental strategies.

The geopolitical significance of Nepal lies in its location between two regional powers, India and China. The landlocked country also behaves as a buffer zone. The political and social differences between India and China and their ideological and strategic stand in the region has only heightened the geopolitical status of Nepal. India, with a closer and dominant position over Nepal has played a `big brother role' and sidetracked China's preponderance on Nepal. Nepal on the other hand, is dependent more on India rather than China. India's economic budget extends to the territory of Nepal, and it has a strong influence on the policy decision of Nepal. There is a direct impact on the defence and security patterns too. While a new development took place in China's expansionist policy towards Tibet, India, on the other hand, recognises. Nepal as a truly independent kingdom. It helped Nepal in obtaining economic growth and foreign policy and kept away from cold war influences. Nepal at this time saw the overthrown of the Rana's rule and a new government was formed. It is the task of the

new government to check the Chinese advancement into their territory and at the same time re-establish a relation with India to erode the anti-Indian feelings of the Nepalese which was instigated by King Mahendra. Since then a security arrangement existed between the two countries where contentious issues like the Tripartite agreement for Gorkha recruitment, Treaty of Peace and Friendship, zone of peace, military posting are continuously discussed with renewed vigour. The 1950 Treaty of Peace and Friendship which was only a pact between peaceful nations and not really a military alliance, should be resolved of any misgiving. Both countries have failed to comply with the treaty. The Indians with no definite identity moved freely in Nepal and the unauthorised police entries into Nepal have been retaliated by Nepal's introduction of `work permit system' and restricted employment to Indians. This led to overpoliticising the issue and security continued to remain sensitive as it used to be. What is demanded of both now is an unconditional surrender and withdrawal of all ideological clashes. This would enable the reconciliation of the 1965 Agreement on Arms Assistance and the 1975 Zone of Peace accord. Though the treaties may be old enough, but yet the essence of the treaties are carried on till today where both countries are ready for a dialogue for their revival.

The early Indo-Nepal relations is seen in the free trade between them. The earliest being the 1950 Treaty of Trade and Commerce. Then the 1960 Treaty on Trade and Transit came as a conciliatory gesture and it got renewed in 1971. Nepal had been pressing for separate treaties on trade and transit which India conceded in 1978. It is very essential that the trade relations is rejuvenated so that Indo-Nepal cooperation may render new changes to Nepal's scientific and technical knowledge and helps economic development. There are only two transit routes opened to Nepal i.e. the Raxaul and Jogbani. Nepal can now have access to the sea and extends its trade with other third world countries through these transit points. The need for reduction in transit points from twenty one to nineteen and then to two is because of the differences between the two governments and because Nepal has not been able to assure India of preventing illegal smuggling of goods and terrorist activities across the borders.

Nepal can hardly boast of its agriculture and industry because of its over-dependence on India. India has provided arable land and irrigation in the Tarai plains of Nepal. Foodgrains are being imported from India, so there is scope to invest in agriculture. India has 22 joint ventures to help Nepal in building up its small industrial units else tourism would be the only industry striving well in Nepal.

India's role in Nepal's power development is significant because of two reasons. Firstly, the energy demand in Nepal is increasing at the rate of 2.9 per cent per year and the level of per capita consumption is 198 KWh. The balance of power is very negligible that in most times the country faced a power crisis. Nepal can seek no other help, but India. Secondly, India's northern part is gripped by shortage of power supply. The power required cannot be distributed from the far-flung areas of North-East or South India. The only way-out for India is to assist Nepal in power development and in turn avail itself of the power needed. India has allocating grants and loans to Nepal for developing the Karnali-Chisapani multipurpose project, the Pancheshwar, Tanakpur Barrage, Kali Gandaki, Marsyandi and Arun 3. If India accomplished in these projects, there would not be any doubt that the future projects too, would have the consent and optimism of the Nepalese.

India's only way to reconcile over the Kosi and Gandak is by going forward with the other projects; giving Nepal an assurance of the modalities, the benefits and clarity of these projects as laid down in the agreements. Kosi and Gandak issues were felt as a `betrayal' by Nepal because of the shortcomings in the draft agreements where nothing specific is mentioned of the costs and benefits accrued in these projects. Lack of precise information relating to the

sharing of the benefits and costs of the project during the time of signing the agreements can be considered to be one of the important factors responsible for the subsequent misunderstandings created on both sides. Had greater wisdom bear displayed by both the sides at the very outset, those projects would not only have been completed on time to the mutual satisfaction of both, but would have also paved the way for the development of more water resource projects bringing in greater prosperity to the people of both countries.

It is mandatory for both India and Nepal to have a thorough survey on the sites of the mega projects. Another problem which is often encountered is the cost and environmental degradation. The Karnali (10,800 MW) project would cost a whooping 5 billion $, and is estimated to carry 260 million tonnes of sediment for year. If the cost is not negotiated well it would go wasteful just as the 239 m Baraksheta Dam, where the project is so huge that it found difficulty in finding a good market. The Karnali project can also inundate streambed, create hazards, displace the population and be a threat to the flora and fauna if proper and careful precaution is not taken. The Pancheshwar project (6,480 MW) and the Tanakpur Barrage had the discontentment of the Nepalese because it took a more political turn than anything else. Few political groups wanted to get mileage

from these issues. India, on the other hand, resorted the controversies on a goodwill and cooperative spirit. It needed the demand by Nepal. It enhances the water flow from the barrage and brought more land in Nepal under irrigation from these projects. The stalemate was finally resolved in 1991 when the Mahakali Treaty was signed. Pending issued were sought out and the most remarkable result is the ratification of the parliament by a two-thirds majority. This proved that there is less difference of opinion among the Nepalese, and India will not find it hard to fully cooperate and have good neighbourliness with Nepal.

This cooperation is an important instrument for these developing countries to alleviate the current situation by working together for collective reliance and economic sustainable development. The two countries which have a common heritage can exploit the untapped water resources so as to have a common advantage on it.

If the present study proves correct the hypotheses stated in the beginning then this can also be applicable to the countries of the world having a boundary river or an international river. The Rio Grande and Colorado rivers between United States and Mexico can be significant in the geopolitics of both countries. Parallel can be drawn from the 1961 Columbia River Treaty, 1968 Brasilia Treaty, 1973 Haipu Treaty between Brazil and Paraguay, the Amazon Pact,

1978, Niger Basin, the Mekong and Indus. The geopolitical importance of these river treaties is the maximum utilisation of it in harnessing the hydro power potential which can be shared between two or more countries and henceforth build a strong regional cooperation for development between them.

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APPENDIX-I

Treaty of Peace And Friendship, Kathmandu, July 31, 1950

The Government of India and the Government of Nepal, recognising the ancient ties which have happily existed between the countries for centuries;

Desiring still further to strengthen and develop these ties and to perpetuate peace between the two countries;

Have resolved therefore to enter into a Treaty of Peace and Friendship with each other and have, for this purpose appointed as their plenipotentiaries the following persons, namely,

The Government of India:

His Excellency Shri Chandreshwar Prasad Narain Singh,

Ambassador of India in Nepal.

The Government of Nepal:

Maharaja Mohun Shamsher Jang Bahadur Rana, Prime Minister and Supreme Commander-in-Chief of Nepal.

Who, having examined each other's credentials and found them good and in due form have agreed as follows:

Article-I

There shall be everlasting peace and friendship between the Government of India and the Government of Nepal. The two Government agree mutually to acknowledge and respect the complete sovereignty, territorial integrity and independence of each other.

Article-II

The two Government hereby undertake to inform each other of any serious friction or understanding with any neighbouring state

likely to cause any breach in the friendly relations subsisting between the two Government.

Article-III

In order to establish and maintain the relations referred to in Article-I the two Government agree to continue diplomatic relations with each other by means of representatives with such staff as in necessary for the due performance of their functions.

The representatives and such of their staff as may be agreed upon shall enjoy such diplomatic privileges and immunities as are customarily granted by international law on a reciprocal basis:

Provided that in no case shall these be less than those granted to persons of a similar status of any other State having diplomatic relations with either government.

Article-IV

The two Government agree to appoint Consuls General, Consuls, vice-consuls and other consular agents, who shall reside in towns, ports and other places in each other's territory as may be agreed to.

Consuls-General, Consuls, vice-consuls and secular agents shall be provided with exequaturs or other valid authorisation of their appointment. Such exequatur or authorisation is liable to be withdrawn by the country which issued it, if considered necessary. The reasons for the withdrawal shall be indicated wherever possible.

The persons mentioned above shall enjoy on a reciprocal basis all the rights, privileges, exemptions and immunities that are accorded to persons of corresponding status of any other State.

Article-V

The Government of Nepal shall be free to import, from or through the territory of India, ammunition or warlike material and equipment necessary for the security of Nepal. The procedure for giving effect to this arrangement shall be worked out by the two Government acting in consultation.

Article-VI

Each Government undertakes, in token of the neighbourly friendship between India and Nepal, to give to the nationals of the other, in its territory, national treatment with regard to participation in industrial and economic development of such territory and to the grant of concessions and contracts relating to such development.

Article-VII

The Government of India and Nepal agree to grant, on a reciprocal basis, to the nationals of one country in the territories of the other the same privileges in the matter of residence, ownership of property, participation in trade and commerce, movement and other privileges of a similar nature.

Article-VIII

So far as matters deal with herein are concerned, this Treaty cancels all previous treaties, agreements and arrangements entered into on behalf of India between the British Government and the Government of Nepal.

Article-IX

This Treaty shall come into force from the date of signature by both Governments.

Article-X

This Treaty shall remain in force until it is terminated by either party by giving one year's notice.

Done in duplicate at Kathmandu this 31st day of July 1950

SD/-	SD/-
Chandreshwar Prasad	Mohun Shamsher Jang
Narain Singh	Bahadur Rana
For the Government	For the Government
of India	of Nepal.

Letter Exchanged with the Treaty.

Kathmandu

Dated: the 31st July, 1950

Excellency,

In the course of our discussion of the Treaties of Peace and Friendship and of Trade and Commerce which have been happily concluded between the Government of India and the Government of Nepal, we agreed that certain matters of details be regulated by an exchange of letters. In pursuance of this understanding, it is hereby agreed between the two Government:

1. Neither Government shall tolerate any threat to the security of the other by a foreign aggressor. To deal with any such threat, the two Governments shall consult with each other and devise effective counter-measures.
2. Any arms, ammunition or warlike material and equipment necessary for the security of Nepal that the Government of Nepal may import through the territory of India shall be so imported with the assistance and agreement of the Government of India. The Government of India will take steps for the smooth and expeditious transport of such arms and ammunition through India.
3. In regard to Article 6 of the Treaty of Peace and Friendship which provides for national treatment the Government of India recognise that it may be necessary for some time to come to afford the

Nepalese nationals in Nepal protection from unrestricted competition. The nature and extent to this protection will be determined as and when required by mutual agreement between the two Governments.

4. If the Government of Nepal should decide to seek foreign assistance in regard to the development of the natural resources of, or of any industrial project in Nepal, the Government of nepal shall give first preference to the Government or the nationals of India, as the case may be, provided that the terms offered by the Government of India, or Indian nationals as the case may be, are not less favourable to Nepal than the terms offered by any other Foreign Government or by other foreign nationals.

Nothing in the foregoing provision shall apply to assistance that the Government of Nepal may seek from the United Nations Organisation or any of its specialised agencies.

5. Both Government agree not to employ any foreigner whose activity may be prejudicial to the security of the other. Either government may make representations to the other in this behalf, as and when requires.

Please accept Excellency, the assurances of my highest consideration.

(Sd.) Mohun Bahadur Rana
Maharaja, Prime Minister and
Supreme Commander-in-Chief of
Nepal.

To,
Excellency

Shri Chandreshwar Prasad Narain Sing,
Ambassador Extraordinary and Plenipotentiary
of India at the Court of Nepal,
India Embassy,
Kathmandu.

HIS MAJESTY'S GOVERNMENT OF NEPAL AND
THE GOVERNMENT OF INDA
(hereinafter referred to as the "Parties")

Reaffirming the determination to promote and strengthen their relations of friendship and close neighbourliness for the co-operation in the development of water resources:
Recognising the desirability to enter into a treaty on the basis of equal partnership to define their obligations and corresponding rights and duties thereto in regard to the waters of the Mahakali River and its utilisation:

Nothing the Exchange of Letters of 1920 through which both the Parties had entered into an arrangement for the construction of the Sarada Barrage in the Mahakali River, whereby Nepal is to receive some waters from the said Barrage:

Recalling the decision taken in the Joint Commission dated 4-5 December, 1991, and the Joint Communique issued during the visit of the Prime Minister of India to Nepal on 21st October, 1992 regarding the Tanakpur Barrage which India has constructed in a course of the Mahakali River with a part of the eastern afflux bund at Jimuwa and

the adjoining pondage area of the adjoining pondage area of the said Barrage lying in the Nepalese territory:

Nothing that both the parties are jointly preparing a Detailed Project Report of the Pancheshwar Multipurpose Project to be implemented in the Mahakali River.

Now, therefore, the Parties hereto hereby have agreed as follows :-

Article-1

1. Nepal shall have the right to supply of 28.35m/s (1000 cusecs) of water from the Sarada Barrage in the wet season (i.e. From 15 May to 15 October) and 4,25m/s (150 cusecs) in the dry season (ie. from 16 October to 14 May).
2. India shall maintain a flow of not less than 10m/s (350 cusecs) down stream of the Sarada Barrage in the Mahakali River to maintain and preserve the river eco-system.
3. In case the Sarada Barrage becomes non-functional due to any cause :-

(a) Nepal shall have the right to a supply of water as mentioned in Paragraph 1 Article = by using the head regulator(s) mentioned in Paragraph 2 of Article 2 herein. Such a supply of water shall be in addition to the water to be supplied to Nepal pursuant to Paragraph 2 of Article 2.

(b) India shall maintain the river flow pursuant to Paragraph 2 of this Article from the tailrace of the Tanakpur Power Station downstream of the Sarada Barrage.

Article-2

In continuation of the decisions taken in the Joint Commission dated 4-5 December, 1991, and the Joint Communique issued during the visit of the Prime Minister of India to Nepal on 21st October, 1992, both the Parties agree as follows :-

1. For the construction of the eastern afflux bund of the Tanakpur Barrage, at Jimuwa and tying it up to the high ground in the Nepalese territory at EL-250 M, Nepal gives its consent to use a piece of land of about 577 metres in length (an area of about 2.9 hectares) of the Nepalese territory at the Jimuwa Village in Mahendranagar Municipal area and a certain portion of the No-Man's Land on either side of the border. The Nepalese land consented to be so used and the land lying on the west of the said land (about 9 hectares) unto the Nepal-India border which forms a part of the pondage area, including the natural resources endowment lying within that area, remains under the continued sovereignty and control of Nepal and Nepal is free to exercise all attendant rights thereto.
2. In lieu of the eastern afflux bund of the Tanakpur Barrage, at Jimuwa thus constructed. Nepal shall have the right to :

(a) a supply of 28.35 m/s (1000 cusecs) of water in the wet season (i.e. From 15 May to 15 October) and 8.50 m/s (300 cusecs) in the dry season (i.e. From 16 October to 14 May) from the date of the entry into force of this Treaty. For this purpose and for the purposes of Article 1 herein, India shall construct the head regulator(s) near the left undersluice of the Tanakpur Barrage and also the waterways of the required capacity unto the Nepal - India border. Such head regulator(s) and waterways shall be operated jointly.

(b) a supply of 70 millions kilowatt-hour (unit) of energy on a continuous basis annually, free of cost, from the date of the entry into force of this Treaty. For this purpose, India shall construct a 132 kV transmission line unto the Nepal-India border from the Tanakpur Power Station (which has, at present, an installed capacity of 120,000 kilowatt generating 448.4 millions kilowatt-hour of energy annually on 90 percent dependable year flow)

3. Following arrangement shall be made at the Tanakpur Barrage at the time of development of storage project(s) including Pancheshwar Multipurpose Project upstream of the Tanakpur Barrage:

(a) Additional head regulator and the necessary waterways, as require, unto the Nepal-India border shall be constructed to supply additional water to Nepal. Such head regulator and waterways shall be operated jointly.

(b) Nepal shall have additional energy equal to half of the incremental energy generated from the Tanakpur Power Station, on a continuous basis from the date of augmentation of the flow of the Mahakali River and shall bear half of the additional operation cost and, if required, half of the additional capital cost at the Tanakpur Power Station for the generation of such incremental energy.

Article-3

Pancheshwar Multipurpose Project (hereinafter 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 utilisation of the waters of the Mahakali River without prejudice to their respective existing consumptive uses of the waters of the Mahakali River. Therefore, both Parties agree to implement the

Project in the Mahakali River in accordance with the Detailed Project Report (DPR) being jointly prepared by them. The project shall be designed and implemented on the basis of the following principles:

1. The Project shall, as would be agreed between the Parties, be designed to produce the maximum total net benefit. All benefits accruing to both the Parties with the development of the Project in the forms of power irrigation, flood control etc. shall be assessed.
2. The Project shall be implemented or caused to be implemented as an integrated project including power stations of equal capacity on each side of the Mahakali River. The Two power stations shall be operated in an integrated manner and the total energy generated shall be shared equally between the Parties.
3. The cost of the Project shall be borne by the Parties in proportion to the benefits accruing to them. Both the Parties shall jointly endeavour to mobilise the finance required for the implementation of the Project.
4. A portion of Nepal's share of energy of energy and its price shall be mutually agreed upon between the Parties.

Article-4

India shall supply 10m/s (350 cusecs) of water for the irrigation of Dodhara-Chandani area of Nepalese Territory. The technical and other details will be mutually worked out.

Article-5

1. Water requirements of Nepal shall be given prime consideration in the utilisation of the waters of the Mahakali River.
2. Both the Parties shall be entitled to draw their share of waters of the Mahakali River from the Tanakpur Barrage and/or other

mutually agreed points as provided for in this Treaty and any subsequent agreement between the Parties.

Article-6

Any project, other than those mentioned herein, to developed in the Mahakali River, where it is boundary river, shall be designed and implemented by an agreement between the Parties on the principles established by the Treaty.

Article-7

In order to maintain the flow and level of the waters of the Mahakali River, each Party undertakes not to use or obstruct or divert the waters of the Mahakali River adversely affecting its natural flow and level except by an agreement between the Parties. Provided, however, this shall not preclude the use of the waters of the Mahakali River by the local communities living along both sides of the Mahakali River, not exceeding five (5) percent of the average annual flow at Pancheshwar.

Article-8

This Treaty shall not preclude planning, survey, development and operation of any work on the tributaries of the Mahakali River, to be carried out independently by each Party in its own territory without adversely affecting the provision of Article-7 of this Treaty.

Article-9

1. There shall be a Mahakali River Commission (hereinafter referred to as the 'Commission'.) The commission shall be guided by the principles of equality, mutual benefit and no harm to either Party.

2. The Commission shall be composed of equal number of representatives from both the Parties.
3. The function of the Commission shall, inter alia, include the following :-

(a) To seek information and, if necessary, inspect all structures included in the Treaty and make recommendation to both the Parties to take steps which shall be necessary to implement the provisions of this Treaty.

(b) To make recommendations to both the Parties for the conservation and utilisation of the Mahakali River as envisaged and provided for in this Treaty.

(c) To provide expert evaluation of projects and recommendations thereto.

(d) To co-ordinate and monitor plans of actions arising out of the implementation of this Treaty, and

(e) To examine any differences arising between the Parties concerning the interpretation and application of this Treaty.

4. The expenses of the Commission shall be borne equally by both the Parties.
5. As soon as the Commission has been constituted pursuant to Paragraphs 1 and 2 of this Article, it shall draft its rules of procedure which shall be submitted to both the Parties for their concurrence.
6. Both the Parties shall reserve their rights to deal directly with each other on matters which may be in the competence of the Commission.

Article-10

Both the Parties may form project specific join entities for the development, execution and operation of new projects including

Pancheshwar Multipurpose Project in the Mahakali River for their mutual benefit.

Article-11

1. If the Commission fails under Article 9 of this Treaty to recommend its opinion after examining the differences of the Parties within three(3) months of such reference to the Commission, then a dispute shall be deemed to have been arisen which shall then be submitted to arbitration for decision. In so doing either Party give three(3) months prior notice to the other Party.
2. Arbitration shall be conducted by a tribunal composed of three arbitrators. One arbitrator shall be nominated by Nepal, one by India, with neither country to nominate its own national and the third arbitrator shall be appointed jointly, who, as a member of the tribunal, shall preside over such tribunal. In the event that the Parties are unable to agree upon the third arbitrator within ninety (90) days after receipt of a proposal, either Party may request the Secretary General of the Permanent Court of Arbitration at The Hague to appoint such arbitrator who shall not be a national of either country.
3. The procedure of the arbitrator shall be determined by the arbitration tribunal and the decision of a majority of the arbitrators shall be the decision of the tribunal. The proceedings of the tribunal shall be conducted in English and the decision of such a tribunal shall be in writing. Both the Parties shall accept the decision as final, definitive and binding.
4. Provision for the venue of arbitration, the administrative support of the arbitration tribunal and the remuneration and expenses of its arbitrators shall be as agreed in an exchanges of notes between the

Parties. Both the Parties may also agreed by such exchange of notes on alternative procedures for settling differences arising under this Treaty.

Article-12

1. Following the conclusion of this Treaty, the earlier understanding reached between the Parties concerning the utilisation of the waters of the Mahakali River from the Sarada Barrage, which have been incorporated herein, shall be deemed to have been replaced by this Treaty.
2. This Treaty shall be subject to ratification and shall enter into force on the date of exchange of instruments of ratification. It shall remain valid for a period of seventy five (75) years from the date of its entry into force.
3. This Treaty shall be reviewed by both the Parties at ten (10) years interval or earlier as required by either Party and make amendments thereto, if necessary.
4. Agreements, as required, shall be entered into the Parties to give effect to the provisions of this Treaty.

IN WITNESS WHEREOF the undersigned being duly authorised thereto by their respective Government have hereto signed this Treaty and affixed thereto their seals in two originals each in Hindi, Nepali and English languages, all the texts being equally authentic. In case of doubt, the English text shall prevail.

Done at New Delhi, India, on the twelve day of February of the year one thousand nine hundred ninety six.

(P.V. Narasimha Rao)
Prime Minister of India.