MINUTES OF THE 7th MEETING OF THE NEPAL-INDIA JOINT TEAM OF EXPERTS (JTE) ON SAPTA KOŚI HIGH DAM MULTI PURPOSE PROJECT AND SUN KOŚI STORAGE-CUM-DIVERSION SCHEME HELD ON MARCH 23-25, 2006 AT KATHMANDU, NEPAL.

The seventh Meeting of the Nepal-India Joint Team of Experts (JTE) on Sapta Kośi High Dam Multipurpose Project and Sun Kośi Storage-cum-Diversion Scheme was held on March 23-25, 2006 at Kathmandu, Nepal. The Indian delegation was led by Shri S.K. Agrawal, Member(River Management), Central Water Commission (CWC) and ex-officio Additional Secretary to Government of India (GOI) and the Nepalese delegation was led by Dr U.N. Parajuli, Executive Director, Water and Energy Commission Secretariat (WECS), His Majesty's Govt. of Nepal. The composition of the Indian and Nepalese delegation is at Annexure-A.

Dr U.N. Parajuli, the leader of the Nepalese delegation extended a warm welcome to the Indian delegation and wished that their stay in Kathmandu would be pleasant and comfortable. He stressed the importance of Sapta Kośi High Dam Multi Purpose Project (SKHDMMP) and Sun Kośi Storage-cum-Diversion Scheme (SSDS) both for Nepal and India in terms of irrigation, power generation, navigation and flood control benefits.

Shri S.K. Agrawal, the leader of the Indian Team thanked the Nepalese side for their warm hospitality and nice arrangement made for their stay. He stressed that Nepal and India, apart from having the common heritage and culture, also have transboundary rivers whose water resources could be tapped for the benefits of the peoples of both the countries. He expressed the view that the progress of JPO-SKSKI has been far behind the schedule for reasons beyond its control. He was also of the opinion that since this is resulting in time & cost overruns. The ways and means have to be found out to minimize the slippages and complete the job at the earliest & at least cost.

The two delegations held detailed discussion on the various items of the agenda, a copy of which is at Annexure-B. The details of the discussions are as follows:

1. **Follow up action on decisions of 6th JTE Meeting:**
   JTE took note of the follow-up actions taken by JPO-SKSKI on various decisions of 6th JTE meeting.

2. **Progress of Works:**
   A presentation on progress made on various activities was made by JPO-SKSKI. JTE noted that JPO-SKSKI has made significant progress in desktop studies but observed that activities involving field investigations were lagging far behind the schedule. JTE noted that insurgency activities in the project area and procedural delays in the process of decision making had resulted in slippage of various field activities. The detailed discussions were held on these matters and the Indian side
3. **Mid-term Review of Work Plan:**

JPO-SKSKI presented to JTE a Mid Term Review of the Work Plan to reflect the progress achieved, shortfalls and their reasons and likely slippages in major activities. JTE noted that activities of Topographical Survey, Geotechnical Investigation including Drilling & Drifting, Environmental Impact Assessment, Irrigation Studies and Command Area Studies had become critical and special efforts are required to complete these activities. JTE emphasized that time was the essence of this important bilateral project and necessary steps are to be taken for minimizing the time and cost overruns.

JTE noted that topographical survey is one of the major activities for the preparation of the DPR. Since this activity is getting delayed, JTE deliberated extensively on the importance of examining the possibility of utilizing new technologies such as the Airborne Laser Terrain Mapping (ALTM) to carry out this task in an efficient and cost-effective manner.

4. **Topographical Survey Work:**

JTE noted that it had decided in its 6th Meeting held in June, 2005 that the Survey Department of HMG/N should commence the topographical survey work at the earliest to avoid further delay and payment for the work would be as per the approved norms of HMG/N.

The Project Managers, JPO-SKSKI intimated the JTE that topographical survey was yet to start and informed that Survey Department, HMG/N has submitted their revised estimate and proposal in the 1st Week of March, 2006 and the same was under discussion. It was brought to the notice of the JTE that a completion period of 20 months has been proposed by Survey Department and this work would go beyond prescribed period of 30 months for JPO-SKSKI.

During the meeting, it was proposed that JPO-SKSKI would work on the matter and they intimated the JTE that the total duration of work would be reduced to 17 months.

In principle, JTE agreed with the proposal submitted by the Survey Department. However, JTE instructed JPO to review the time and cost methodology for the work.

Considering that the topographical survey is one of the most important field activities for the preparation of Detailed Project Report, JTE observed that immediate corrective measures are warranted to make-up the significant time lost. JTE felt that use of higher end technologies such as ALTM might provide more efficient and cost effective options, and commended that this matter may be further developed. This would also
hopefully take care of some of the operational difficulties on the ground currently hampering the project works.

After detailed discussion, JTE decided that JPO-SKSKI should enter into MOU with Survey Department, HMG/N in two parts. The first part should comprise of large scale maps for dam/barrage site area and appurtenant structures and this work is required to be taken up immediately so as to be completed before the onset of the ensuing monsoon season. Survey Department, HMG/N shall also bifurcate the estimate in two parts, the first part being for large scale maps of dam site etc. which should be submitted immediately to enable the Project Managers, JPO-SKSKI to process the case to facilitate the release of necessary funds. Regarding the second part comprising the survey of reservoir area, the Survey department, HMG/N would explore the possibility of using advance technologies such as ALTM as an alternative to the existing proposal. JTE also directed that the matter of using Laser Mapping technology for generating small scale maps on requisite scales should be discussed with NRSA, Hyderabad by a joint team of officials from Survey Department and Ministry of Water Resources of HMG/N, Member Secretary, JTE(I) and both the Project Managers. For this purpose a visit to NRSA, Hyderabad may be organized by mid April 2006.

5.0 Geotechnical Investigation:

5.1 Diamond Core Drilling:

5.1.1 Work of Diamond Core Drilling at Spillway Site of Sapta Kosi High Dam Project (Package-E): JPO-SKSKI informed to the JTE that the tenders for the work of Diamond Core Drilling at Spillway Site of Sapta Kosi High Dam (Package-E) was awarded to M/s RITES at a price of NRs.107.86 Lakh after obtaining concurrence of Team Leaders. While ratifying the decision of team leaders for awarding the above work, JTE advised JPO-SKSKI to adhere to the overall expenditure ceiling for drilling as provided in the CPIB Memorandum pending approval of the revised memorandum.

(b) Work of Diamond Core Drilling at Underground Power House Complex of Sapta Kosi High Dam Project (Package-F): JPO-SKSKI informed to the JTE that the tender for the work of Diamond Core Drilling at Underground Power House Complex of Sapta Kosi High Dam Project (Package-F) was awarded to M/s Mining Associates, Asansol on 6th March, 2006 after obtaining the concurrence of Team Leaders. JTE ratified the decision of Team Leaders. However, the direction as
given in Para 5.1.1 (a) is required to be followed by JPO-SKSKI.

(c) Work of Additional Diamond Core Drilling at Sapta Kosi High Dam Site (Package-G): The Project Managers, JPO-SKSKI briefed the JTE that Central Water Commission (CWC) designers had provided a tentative Investigation Stage Layout of Rock-fill Dam alternative for Sapta Kosi High Dam indicating the tentative location of drill holes with the advice to finalize the drilling programme in consultation with Geological Survey of India. Accordingly, JPO-SKSKI provided to GSI the Investigation Stage Layout drawing for review and finalization of drilling programme.

Geological Survey of India (GSI) after studying the aforesaid layout drawing and reports of earlier geological investigations carried out during 40s and 50s recommended a total 17 nos. of drill holes aggregating to 1920m for geological investigation of Rock Fill Dam alternative. JTE was apprised that out of these 17 nos. of drill holes, work for 5 nos. of drill has already been awarded under Package-A as per the recommendations of Expert Team that visited the project sites in 1st week of November, 2004. For additional drilling of about 1200m, a departmental estimate amounting to NRs.185.01 Lakh has been prepared and its technical sanction is required to be accorded by JTE before undertaking this work.

On the query of JTE on additional requirement of drilling, the Director, GSI made a brief presentation to JTE highlighting the quantum of drilling and drifting carried out during 1940’s and 1950’s and the reasons for additional drilling now required at Dam site. Attention was also invited to the fact that the data generated during earlier investigations was more than 55 years old and lacked important engineering geological information that has evolved since the sixties. RQD and the grade of weathering are two specific areas in this context. The water percolation tests, wherever performed, also do not conform to the current practice of cyclic water percolation tests. Director, GSI emphasized that drilling programme recommended by GSI was minimum as per present day norms for correct assessment of geological conditions of dam site.

JTE considered and accepted the technical necessity of exploratory diamond core drilling programme recommended by GSI. However, the direction as given in Para 5.1.1 (a) is required to be followed by JPO-SKSKI.
(d) Deviation in Quantities & Amount under Tender for the Work of Diamond Core Drilling for Geological Investigation of Sapta Kosi High Dam (Package-A): The Project Managers, JPO-SKSKI apprised JTE about the requirement of increase in quantum of drilling under Package-A from 400 m to 720 m and contract value from NRs. 65.05 Lakh to NRs. 113.35 Lakh on account of the increase in depth of drill holes proposed by GSI subsequent to award of work.

After detailed discussions, JTE agreed for the above variation in quantity and contract value under Package-A in view of technical requirements. However, the direction as given in Para 5.1.1 (a) is required to be followed by JPO-SKSKI.

5.1.2 Field Activities:

(a) Completed Works: The Project Managers, JPO-SKSKI intimated to the JTE that exploratory diamond core drilling work comprising of 403m at Kamala Dam Site, 185m at Chisapani Barrage Site and 217m at Chatra Barrage Site have been completed. He further intimated to JTE that CWC’s Designers from Barrage & Canal Directorate visited the barrage sites in the 1st Week of January, 2006 and found that the barrage axis on river Kamala at Chisapani identified by earlier expert team in November, 2004 was not found to be suitable based on inferences derived from present investigations and required to be shifted upstream by about 1.0 km.

JTE noted the progress made by JPO-SKSKI in exploratory drilling work and advised that any additional drilling at new axis must be taken up keeping in view the overall provisions available in the CPIB Memorandum.

(b) Works in Progress: JTE noted that the works at Sapta Kosi High Dam Site have come to a halt w.e.f. 29th November, 2005 due to local insurgency problems. The Team Leader from Indian side urged the Nepalese side to sort out the matter at the earliest so that the work could be resumed. The Project Managers apprised the JTE about the efforts being made by JPO-SKSKI and assured that matter would be resolved soon.

(c) Drilling at Sun Kosi Dam Site: JTE noted the progress made by JPO-SKSKI towards drilling work at Sun Kosi Diversion Dam site.
5.1.3 Inadequacy of Provision for the Work of Diamond Core Drilling in the approved C-PIB Memorandum:

JTE noted that there is a substantial increase in the quantum of diamond core drilling work in comparison to provisions available in C-PIB Memorandum. JTE also noted that the increase in quantity was due to change in type of Sapta Kosi Dam from Concrete to Rock-fill and changes in other features such as Surface to underground Powerhouse, central spillway to chute spillway and addition of new works relating to Feasibility study of Kamala Multi Purpose Project and Preliminary study of Bagmati Multipurpose project as per decision of Joint Committee on Water Resources. JTE, after detailed discussions, accepted the technical requirement of additional quantum of drilling work required for investigation and advised JPO-SKSKI to incorporate the same in the revised C-PIB Memorandum.

5.2 Exploratory Drifts:

5.2.1 Underground Powerhouse Complex of Sapta Kosi High Dam: JTE discussed the recommendations of TEC for awarding the work of construction of exploratory drift for Under Ground Power House of Sapta Kosi High Dam. JTE noted that in view of present uncertainties in storage, transportation and handling of explosives as explained in agenda, the award of work may be kept in abeyance till these issues are sorted out by HMG/N. The JTE also recommended to GSI to explore if there could be alternative methods for the collection of necessary geological data in place of Drift.

5.2.2 Requirement of Explosives: JTE was apprised that the handling of explosive without having appropriate security arrangement may not be advisable in the present prevailing conditions in Nepal. The Nepalese side has pursued the matter of making available required quantity of explosives and providing necessary security during transportation and handling with the concerned authorities of HMG/N. JTE discussed and took note of the issues explained in the agenda related to storage, transportation and handling of the explosives. The Nepalese side assured that the matter would be taken up with concerned authorities of HMG/N.

6.0 Seismological Studies:

6.1 Procurement of Seismological Instruments: JTE discussed and accepted the recommendations of TEC for re-inviting the tender in view of abnormally high rate compared to Departmental estimate.
6.2 JTE noted the progress in studies being undertaken by CWPRS for evaluation of Site Specific Design Seismic Parameters.

7.0 EIA Study:

JTE ratified the decision of Team Leaders for inviting fresh Request for Proposal (RFP) for the work of EIA study. Simultaneously, JTE advised JPO-SKSKI to examine whether similar EIA study is also required for the project components in Indian territory.

JTE discussed the eligibility conditions prescribed in the fresh proposals invited by JPO-SKSKI and noted that EIA study for the Nepalese territory has to be carried out as per Environmental Protection Act, 1991 and Environmental Protection Rules, 1997 of HMG/N. JTE directed the JPO-SKSKI to follow and maintain the sanctity of bidding process and accordingly, complete the actions as per the conditions stipulated while inviting the proposal.

For evaluation of technical proposals, JTE decided that two experts one each from Ministry of Environment, Science & Technology (MOEST) / Ministry of Water Resources of HMG/N and Environmental Management Organization of Central Water Commission should be included as special invitee.

8.0 Irrigation Studies and Command Area Survey:

8.1 JTE noted information provided in the agenda. JTE noted that the Desktop Studies for estimation of Command Area in Nepalese and Indian territories have been completed by JPO-SKSKI.

8.2 JTE discussed and approved that the extent of topographical survey of command area be 10% of the Culturable Command Area (CCA). JTE also agreed to carry out the canal alignment survey in detail for the complete length of main and branch canals and major distributaries.

8.3 Command Area in Indian Territory:

JTE noted that the technical and financial proposals have been received by JPO-SKSKI from M/s RITES and M/s WAPCOS for carrying out the Irrigation Studies and Command Area Survey in Indian Territory and proposal from Survey of India for topographical survey of command area and canal alignment is awaited. The Project Managers, JPO-SKSKI intimated that proposals had been invited in two parts, one for Irrigation Planning and other for Topographical and canal alignment Surveys. Considering the time constraints and improved operations, JTE directed JPO-SKSKI to explore the possibility of using ALTM technology through NRSA,
Hyderabad. The evaluation of received technical proposals may be kept in abeyance for the time being.

8.4 Command Area in Nepalese Territory:

(a) JTE noted that the technical proposals received from four Local Nepalese Consultants for Irrigation Studies and Command Area Survey in Nepalese Territory were evaluated by TEC but the evaluation could not be completed as the envelopes containing the clarifications/confirmations received from the Bidders on their technical bids were not opened. The Project Managers intimated JTE that out of the four consultants one has proposed fresh aerial photography for topographical survey of the command area as well as canal alignment survey, whereas other three consultants have proposed the use of satellite imageries for horizontal control and actual ground surveys using total station/theodolite for vertical control. The matter was discussed by JTE in detail and following directions were given to JPO-SKSKI.

- A team consisting of both the Project Managers, a representative each from Survey Department and Ministry of Water Resources of HMG/N and Member Secretary, JTE (I) should undertake a visit to NRSA, Hyderabad in Mid April, 2006 to evaluate the methodology proposed by the three consultants for topographical survey of the command area by utilizing satellite imageries. Thereafter, the TEC would meet and take further action.

9.0 Communication Surveys

JTE noted that the proposal for communication survey have been received by JPO-SKSKI from M/s RITES and M/s WAPCOS and these proposals are under evaluation. After detailed discussions, the JTE approved the proposal of JPO-SKSKI for getting the communication studies carried out for the following alternative unit sizes for Sapta Kosi and Sun Kosi Projects.

(A) For Sapta Kosi High Dam Multipurpose Project:
(i) Unit size of 500 MW;
(ii) Unit Size of 350 MW;
(iii) Unit Size of 250 MW.

(B) For Sun Kosi Storage-cum-Diversion Scheme
(i) Unit Size of 30 MW;
(ii) Unit Size of 30 MW.
10.0 Power System and Power Evacuation Studies

JTE was informed by the Project Managers that Power System and Power Evacuation studies for Indian system are required to be carried out by Central Electricity Authority (CEA) and by Nepal Electricity Authority (NEA) for Nepalese system. However, these studies can be taken up only after power potential studies and installed capacities of Powerhouses are tentatively finalized. JTE discussed and agreed that consolidated studies should be carried out jointly by CEA and NEA.

11.0 Flood Control Data

JTE was informed that flood damage data for five years of Kosi basin has been received from Government of Bihar and data for balance five years is being obtained. The Engineer-in-Chief, Government of Bihar informed that the remaining flood damage data would be made available within 15 days. Nepalese side informed that only district wise data is available which is required to be compiled basin wise to match the format required for the study. JTE decided that the district wise flood damage data in Nepalese territory would be obtained from the concerned HMG/N agencies and compiled by JPO-SKSKI.

12.0 Public Interaction Program

12.1 JTE noted that adverse publicity in respect of the activities of JPO-SKSKI as well as Sapta Kosi High Dam had been generated in certain quarters, which also had security implications for JPO and its personnel. JTE directed JPO-SKSKI to put the information in the right perspective. In this context, JTE appreciated the initiatives taken by JPO-SKSKI in successfully organizing Public Interaction programme at Chatra in February 2006 in association with local social groups of the area. JTE advised that more such programmes should be organized at other places in the project area in the similar manner under the mandate available within the CPIB Memorandum.

12.2 JTE took note of two documents prepared by JPO-SKSKI as per the directions of 6th JTE illustrating the technical facts and benefits likely to be accrued from these projects to both the countries and informing about the works being carried out by JPO-SKSKI. Project Managers informed the JTE that the documents have been prepared based on Inception Report, Feasibility Report of Sapta Kosi High Dam Project (1981) prepared by Government of India and Kosi Basin Master Plan Report prepared by JICA in 1985 and studies carried out by JPO. While approving the above
documents prepared for dissemination of information about the projects among stakeholders and general public, JTE directed JPO-SKSKf to further refine them by elimination of data of uncertain nature.

12.3 Outsourcing the Public Awareness Programme: JTE considered the proposal of outsourcing the work of organizing Public Awareness Programme to reputed NGO's, environmental/social groups active in the project area and having experience of organizing such programmes in detail. JTE directed that a detailed proposal in this regard should be submitted to JTE by JPO-SKSKf. JTE authorized the Project Managers to issue press and media releases on factual information regarding the progress of the project works as and when required. JTE also directed JPO-SKSKf to develop and launch a web site as part of public outreach activities, suitably linked to the web sites of Ministries of Water Resources of the two countries.

13.0 Proposal & Cost Estimate of Geological Survey of India (GSI) for undertaking Geotechnical Investigation & Geological Mapping:

JTE discussed the Agenda item. The estimate amounting to IRS 73.08 Lakh received from GSI for geological traverse, mapping, photogeological and geomorphological studies, logging of drill cores etc. was circulated among the JTE members. JPO-SKSKf intimated that aforesaid estimate is exclusive of TA/DA expenses towards visiting experts of GSI to project sites in Nepal for which a detailed proposal indicating the man-days involved has been received. JTE discussed and directed JPO-SKSKf to scrutinize the proposal of GSI and submit the same to JTE for acceptance. In the mean time JTE directed that work may continue subject to the directions contained in Para 5.1.1.(a).

14.0 Ex-post Facto Approval for hiring of Chartered Helicopter services for the visit of Inter-Disciplinary Expert Team to the Sun Kosi Project Sites:

JTE accorded ex-post facto approval to the actual expenditure of US $ 9,258.33 on hiring the helicopter from M/s Shree Airlines Pvt. Ltd., Kathmandu on 14th December, 2005 for the visit of Expert Team.

15.0 Procedure for Evaluation of Tenders beyond delegated Financial Powers of Project Managers:

JTE discussed the proposal in the agenda and directed that the procedure followed in tender evaluation can not be relaxed. However, steps would be taken to reduce the time
taken in evaluation and finalization of the tenders. In order to expedite the tender evaluation process, JTE directed JPO to hold the TEC meeting at appropriate places in Nepal and India.

16.0 Revision of CPIB Memorandum:

Based on above discussions, JTE directed to JPO-SKSKI to seek necessary approval for revision in scope, cost and time of the projects.

17.0 Estimates for Arrangement of 7th JTE Meeting:

JTE approved an estimate of Rs. 4.93 Lakh towards arrangement of 7th Meeting of Joint Team of Experts excluding a provision of Rs. 3.82 Lakh towards hiring of helicopter for visit to the Project sites by the members of 7th JTE which could not take place due to security reasons.

18.0 Visits by Nepalese Experts:

JTE approved the visit to the Project area by the following Nepalese experts:

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<tr>
<th>Sl. No.</th>
<th>Name &amp; Designation</th>
<th>Period of Visit</th>
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<tbody>
<tr>
<td>1.</td>
<td>Shri S. Lallou, DDG, DOED,</td>
<td>13-12-2005</td>
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<td></td>
<td>HMG/N</td>
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<td>2.</td>
<td>Shri A. K. Pokharel,</td>
<td>13-12-2005 to</td>
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<td></td>
<td>Project Manager, SMIP,</td>
<td>17-12-2005</td>
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<td></td>
<td>HMG/N</td>
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<td>3.</td>
<td>Shri S.P. Pradhan, Senior</td>
<td>13-12-2005 to</td>
</tr>
<tr>
<td></td>
<td>Divisional Engineering</td>
<td>19-12-2005</td>
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<tr>
<td></td>
<td>Geologist, DOED, HMG/N</td>
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JTE noted that at present the approval process for the visit of the project area by Nepalese experts for project related works is a lengthy one. Since such visits need to be organized from time to time in order to monitor the technical and administrative works and to provide expert opinions, the above approval process needs to be simplified. JTE directed JPO-SKSKI to work out a proposal on the lines of provisions of JPO-PI and submit the same to Team Leaders of both the countries.

19.0 Any other item:

JTE was informed that the tenure of the field sub-divisions and divisions is due to expire in July, 2006 and September, 2006 respectively. Accordingly, the proposal was discussed
and JTE decided that tenure of field offices for the period for which field investigation works will be required is functionally essential. JTE advised that such a proposal for extending the period of sub divisions and divisions can be considered after revision of CPIB Memorandum.

It was decided by JTE that a field visit of both the Team Leaders and some of the JTE members should be arranged during April/May 2006.

20.0 Next JTE Meeting

It was agreed to hold the next meeting of the JTE at mutually agreed date in early June, 2006.

The meeting was conducted in a cordial and friendly atmosphere.


(S.K. Agrawal)
Member (River Management),
Central Water Commission and
ex-officio Additional Secretary
to Government of India

(Dr. U.N. Parajuli)
Executive Director,
Water and Energy Commission
Secretariat, His Majesty's
Government of Nepal
LIST OF PARTICIPANTS FROM INDIAN SIDES

Members

1. Shri S.K. Agrawal, Member (RM), Team Leader
   Central Water Commission & Ex-Officio
   Additional Secretary to Government of India

2. Shri N. Pant, Member
   Joint Secretary & Financial Advisor,
   Ministry of Water Resources

3. Shri M.L. Goyal, Member
   Commissioner (Ganga),
   Ministry of Water Resources

4. Shri M. Subramanian, Member
   Chief Engineer, HP & I,
   Central Electricity Authority

5. Shri Vikas Swarup, Member
   Director (North),
   Ministry of External Affairs

6. Shri A.B. Pal, Member
   Chief Engineer (LGBO),
   Secretary, Central Water Commission

Special Invitee

1. Shri Devi Razak, Special Invitee
   Engineer-in-Chief,
   Water Resources Department, Govt. of Bihar

2. Shri Jawed Ashraf, Special Invitee
   Counsellor (Commerce),
   Embassy of India, Kathmandu

3. Shri Y. Deva, Special Invitee
   Director, Engineering Geology Division,
   Geological Survey of India

4. Shri Kailash Nath, Special Invitee
   Director, Nepal & Bhutan Co-ordination
   Directorate, Central Water Commission

5. Shri A.K. Jain, Special Invitee
   Project Manager (I), JPO-SKSKI
# LIST OF PARTICIPANTS FROM NEPALESE SIDES

## Members

1. **Dr. U. N. Parajuli**, Team Leader  
   Executive Director,  
   Water and Energy Commission Secretariat

2. **Shri S. Lacoul**, Member  
   Deputy Director General,  
   Department of Electricity Development

3. **Shri A. K. Pokharel**, Member  
   Project Manager,  
   Sunsari Morang Irrigation Project

4. **Shri S. K. Sharma**, Member  
   Deputy Director General,  
   Department of Water Induced Disaster Prevention

5. **Shri K.D. Adhikari**, Member  
   Senior Divisional Engineer,  
   Ministry of Water Resources

6. **Dr. K.P. Sharma**, Member  
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7. **Shri U.R. Sapkota**, Member  
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   Ministry of Water Resources

8. **Shri B.R. Paudyal**, Member  
   Under Secretary,  
   Ministry of Foreign Affairs

9. **Shri S.M. Bajracharya**, Member  
   Secretary  
   Project Manager,  
   Sapta Kosi High Dam Multipurpose Project & Sun Kosi Storage Cum Diversion Scheme

## Special Invitee

1. **Shri S.P. Pradhan**,  
   Senior Divisional Engineering Geologist,  
   Department of Electricity Development
2. Shri S.K. Malla,
   Senior Divisional Engineer,
   Department of Electricity Development

3. Sh. Krishna Gopal Shrestha,
   Chief Survey Officer,
   Survey Department

4. Dr. Sanjay Sharma,
   Senior Divisional Engineer,
   Sapta Kosi High Dam Multipurpose Project & Sun
   Kosi Storage Cum Diversion Scheme

5. Shri Dinesh Ghimire,
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   Ministry of Water Resources