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GOVERNMENT OF NAGALAND

**A QUICK CONCURRENT EVALUATION STUDY
REPORT ON LIKIMRO
HYDRO ELECTRIC PROJECT
(REF. YEARS 1991-92 TO JULY/95)**

BY

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GOVERNMENT OF NAGALAND
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PREFACE

As desired by the Govt. of Nagaland, the department of Evaluation has taken up a concurrent Evaluation study on LIKIMRO Hydro Electric Project which is an on going project located at Likimro River in Tuensang District in the State of Nagaland.

Initially the department of power has started this project during 1991-92 annual plan after approval of the New Delhi Planning Commission in 1989. This project was targeted to commission during 1995-96 with a benefit of 24 MW by discharging normal power of 137.35 MU, (million units). But again re-scheduled to be commission in 1997, if the require fund is provided by the state government during the execution of the project works.

This is an ongoing project study which can focus the performance and the improvements of project during the execution/implementing stage. Hence this is neither EX-ANTE or POSTFACTO but a concurrent project study. As desired by the State Govt, the department has taken up this study from July/95 and could be completed in October/95.

The department gratefully acknowledge for rendering all possible assistance extended by the official of the power department to enable us to bring out this small report conveniently and it is hope that this report would be useful for the Planner/Administrators and the implementing department for future guidance.

Last but not the least that Shri P.B. Wati Deputy Director of Evaluation who was overall incharge for the conduct of this study and drafted this report has deserved much appreciate. I am also thankful to all supporting staff for their best contribution in completing this report in time.

Sd/-
(N. G. LALOO)
Development Commissioner
& Director of Evaluation
Government of Nagaland.

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CHAPTER-I

INTRODUCTION

GENERAL BACKGROUND:

1. The LIKIMRO HYDRO Electric project with an installed capacity of 24 MW (3x8 MW) is located at LIKIMRO River in Tuensang (Kiphire) District bordering Myanmar (Burma). The project is situated at a distance of 183 KM from District Headquarter and about 320 KM away from the State Headquarter Kohima, and 394 KM from the State's only railhead at Dimapur. The catchments area of the project is about 148.25 Sq. KM. (Cross) with WEIR Site. The main sources of the Water for the project is the IKIMRO River and its main tributary is TIZU River. Originally the project was meant to be started in 1989-90 and completed in 1993-94. But for a variety of reasons namely delay in approval by CEA & Planning Commission & lack of budgetary provision, the work could only be taken in 1991-92 and scheduled for completion by 1994-95. The Project report was prepared by the Power Department of the Government of Nagaland during 1988 based on 1988 price level and approved in October 1989 by the Planning Commission, New Delhi. The Original estimated approved cost of the project was Rs. 4648.28 lakhs as per following details: -

a) Civil works	Rs. 1591.04 lakhs
b) Electrical Generation	Rs. 1793.24 lakhs
c) Transmission works	<u>Rs. 1264.00 lakhs</u>
Total: - Rs. 4648.28 lakhs	

Since then there has been steep increase in the price level from the original price level of 1988. Besides change of design the new items of works were also included for execution. As a result, the Department revised the estimated cost to Rs. 12673 lakhs at the base price level of October 1992 and submitted to the Central Electricity Authority (CEA) New Delhi and the same was approved by the CEA in 1994. The break-up of this revised cost is given below: -

i) Civil works	Rs. 5146.27 lakhs
ii) Electrical generation	Rs. 5176.79 lakhs
iii) Transmission works	<u>Rs. 2350.00 lakhs</u>
Total: - Rs. 12673.06 lakhs	

Since then, the Department has further re-revised the estimated cost of the project from Rs. 126.73 Crores to Rs. 141.96 Crores at 1994 price level. The revised schedule of completion 1996-97, provided the required fund is made timely available to the Department. The project when completed and Commissioned will have a normal Power discharge of 137.35 MU (Million Units) and is expected to generate annual revenue of Rs. 17.68 Crores.

NEEDS OF THE STUDY:

1. 3. A project/scheme can be taken up for Evaluation study at any three stages viz: -
- (a) Ex-ante project study
 - (b) Concurrent project Evaluation study and
 - (c) Post facto project Evaluation study.

The present LIK.IMRO HYDRO Electric project is an ongoing project, so the study is taken up as concurrent project. Evaluation study to assess upto-date Development of the project and also to point out the problems and weak points of the project implementation. Hence, as desired by Government of Nagaland the Department of Evaluation has taken up this quick study to focus on the upto-date performance of this on - going project (1991-92 to 1995-96 up to July/95).

OBJECTIVES OF THE STUDY

- 1.4. These are: -
- a) To assess physical Progress made so far,
 - b) To assess remaining works of the Project.
 - c) To assess year - wise financial & Physical targets and actual achievements.
 - d) To note the problems and weak points, if any, and to suggest measures for Improvement.
 - e) Other miscellaneous inter-related issues.

METHODOLOGY OF THE STUDY:

1. 5. The study methodology followed in this is through collection of data by both secondary and primary schedules which are prepared for the purpose. Beside the above study tools, the necessary information has also been collected by personal contacts through interview and discussion with the concerned Department's Official.

OBJECTIVES OF THE PROJECT :

I. 6. The generation of Power is not only for providing lighting services to the people but also for all round Development of the State, the people and their social life. Primarily however, the immediate visible objectives are: -

- a) Generation of Power.
- b) Development of Industries.
- c) Generation of Employment avenues.
- d) And, all other related socio - Economic Developments; 4

TIME SCHEDULE:

1. 7. As far as possible the Department has attempted to complete this study within the shortest time possible. But field data could not be collected within the stipulated time by the field team due to heavy summer rainfall and communication problem because the project is located at a remote corner of the state connected by only a fine weather road. As a result the report could not be completed within the schedule time.

COVERAGE:

1. 8. As this is an on-going project study report, the study report covered up to date performances of the project, since its inception and actual implementation during 1991-92 to 1995-96, upto July/95.

CHAPTER –II.

EXECUTING AGENCY OF THE PROJECT.

2.1. The overall project Development works are implemented by contractors and Suppliers appointed by the Power Department. Excepting Civil works which are being done through the Border Roads all the other items of works like erection. Commissioning of TO sets. Penstock, Switchyard etc are carried out by the Supplier and all Civil related works are carried out through Contractors Supervised by the Department.

INFRASTRUCTURAL FACILITIES PROVIDED SO FAR & THAT NEED TO BE PROVIDED:

2. 2. The Department of Power has constructed to be project site one 57 K.M. fair weather road and a few staff accommodation quarters. All the project materials are transported through this link road. To enable transportation of material all through the year this Fair weather road should be made as all weather road. Power Supply should also be made fully available to the project side for speed up the project work. The other requirement that requires to be provided are: -

- a) Hospital/PHC for regular health checking and treatment of the project workers;
- b) Banking facility.
- c) Post Office
- d) Good drinking water
- e) Security should be posted to guard the project.

2. 3. The above mentioned facilities should be provided in the project and the Department should be put in the next Department programme, if any of above is left out in the Programme.

REQUIREMENT OF MACHINERY / EQUIPMENTS/ TOOLA ETC.:

2.4. The total requirement of Machinery/ tools Equipments etc. In the on-going project have been showing in the following enclosed ANNEXURE in details: -

- (1) Total requirement of T.G. sets and associated accessories, ANNEXURIES-1
- (2) Power House Auxiliary Equipment ANNEXURE-II.
- (3) Power House Auxiliary services ANNEXURE-III.
- (4) Switchyard main Equipment ANNEXURE- VI.
- (5) Switchyard Auxiliary Equipment ANNEXURE- V.
- (6) Switchyard Auxiliary services ANNEXURE- VI.
- (7) Special tools and Plant of the project ANNEXURE- VII.

**MACHINERY AND EQUIPMENTS ALREADY PURCHASED/PROCURED/
SUPPLIED.**

2.5. Some package of the above mentioned T.G. Sets have been received by the Department from the M/S eastern overseas corporation of Bombay. The packages comprises of seven (7) consignments out of which six (6) are already delivered and still one (1) consignment is due from the supplier for delivery during the month of August/95. The items under 2.4. SL. NO.2 to SL.NO.6 are already placed for order to the supplier/Firm during March/95 and expected to be delivered within the year.

INSTALLATION OF MACHINERY:

2.6.As clearly indicated in 2.4. the project Machinery and tools/Equipments are yet to be fully supplied by the supplied/firm. Since the activities of the project, Like construction of Power house and other related project works are not yet completed, the Machinery/Tools already delivered by the Department are just kept idle. The T.G. Sets which has already been delivered to the Department is stored at Electrical Central Store, Dimapur due to Non-Construction of Power House at project site. It was informed that special arrangement and precaution have been taken care of for storage of the delivered items under supervision of one Executive Engineer (Elect) Store Dimapur Division. Order for Machinery items under SL. NO. 2 have been placed in March/95 and expected to be delivered within a reasonable period.

**THE CIVIL WORKS STATUS REPORTS AS ON DECEMBER 1994 ARE AS
UNDER:**

2.7. The Civil works Status reports given by the Power Department are furnished below :-

1. LAND COMPENSATION :

2. 8. Rs. 15.24 lakhs have been paid towards land compensation to the Landowners for 146 Hactres of land. Balance 40.72 Hactres of land are being acquired shortly by the Department.

2. DIVERSION WEIR:

2. 9. The 18229 M³ of excavation is completed along with 120 M³ of concreting Gates and tourist has already been procured. So far the Department has paid Rs. 62.00 lakhs to the contractors.

3. POWER CHANNEL BALANCE RESERVOIR FOREBAY ETC.

2. 10. The Excavation of Earth Works' to the tune of 117299 M³, 1389³ M of concreting, 7019 M³ RR Masonary is completed. In the balance reservoir also 47405 M³ of excavation is completed. Against the estimated cost of Rs. 1033.00 lakhs only Rs. 400 lakhs is paid to Border Road Organisation (BRO)

4. PENSTOCK AND CONNECTED CIVIL WORKS:

2. 11. (a) Out of 617 MT SAILMA 350 HI grade steel plates 537MT of steel is received by the Department from M/S SAIL. The balance quantity is likely to be received with in a short time. Again 691.00 MT of STM 537 ACL. 1 grade steel plate is received in the month of Nov./94. So far, 469 MT is fabricated as straight ferrule and bends. Rs. 400.CO lakhs approx has been paid for steel plate done by the Department. About Rs. 67.00 lakhs has been paid to the fabricator M/s. P. Das & company during the year.

(b) Under Civil works 10450 M* of excavation is completed for the anchor blocks and saddle blocks, out of 47100M³ total excavation Ms roads for reinforcement etc received only in the month of December/94.

5. POWER HOUSE TAIL RACE:

2. 12. The construction of Power House except Machine foundation the work has been awarded to the Border Road Organisation (BRO). The work has not been started by the BRO as the amount required for the construction of (PH) Power House is yet to be deposited with them. The construction is likely to be started by the BRO as soon as the fund is given to them.

6. COMMUNICATION :

2. 13. The 57.5 KM approach Road, formation cutting for 52 KM is completed. The two (2) Bailey bridges, except two numbers has already reached Dimapur from M/S GARDN REACH & SHIP BUILDER'S Calcutta. These will be erected shortly with the help of the BRO. Though it was decided that the approach road from Longmatra to LIKIMRO Power Project to be handover to the Border Road Organisation for widening and soiling but yet this could not be done for want of fund. 9

7. BUILDING :

2.14. About 10 buildings near diversion weir are almost complete in addition to the (5) five one-room barracks and one rest House. Which are awarded to the Landowners. 2. 15. Against the Plan outlay of Rs. 1800.00 lakhs during the financial year 1994-95 only Rs. 500.00 lakhs was released till December/94. All works have been hampered due to the non release of fund in time. If the fund is made available to the Department in time, the progress of works will not be hampered and the project will be completed in a reasonable time.

BALANCE WORKS UNDER MACHINERY/ TOOLS/EQUIPMENTS:

2. 16. The following are the balance works under Machinery/Tools, which are yet to be procured/installed;

- a) The T.G; Sets presently stored at Electrical store at Dimapur are to be installed when the Power House is completed in the projects.
- b) Power House auxiliary services are to be procured. Details are showing in the ANNEXURE-III.
- c) Power House auxiliary Equipments are to be procured. Details items are given in the ANNEXURE-II.
- d) Switchyard Auxiliary Equipments to be procured. Details items are shown in the ANNEXURE-V;
- e) Switchyard main equipments are to be procured; Details are shown in the ANNEXURE-IV;
- f) Switchyard Auxiliary services to be procured. Details are shown in the ANNEXURE-VI.

Order for the above mentioned items from (b) to (f) have been placed with the Contractor / Supplier in March/95; These have not receive i. e. till July / 95 but likely to be delivered within the year as per information given by the Department.

BALANCE UNDER CIVIL WORKS:

2. 17. The following items of works under civil execution are still under ongoing stage/Processes due to funding problem faced by the Power Department.

- a) Construction of Power House.
- b) Desilting Tank, Balance Reservoir and Fore bay construction.
- c) Diversion weir Anchor Block and saddles.
- d) Construction of Power House and Tail Race Channel.
- e) Construction of all weather roads to the Project site.
- f) Construction of Machine foundation.
- g) Fabrication and Erection of Penstock;

2. 18 All civil works details plus execution schedule etc have been projected in the Department works Programme. In this connection work orders for some major activities as stated above have been issued to the Contractors only in July/95. To complete the balance works fund should be made available by the state Government to the concern Department.

PROJECT STAFF BOTH TECHNICAL AND NON-TECHNICAL CATEGORIES
WISE:

a) TECHNICAL STAFF

2. 19. Under this category so far 28 different categories of posts are already sanctioned out of which 27 posts have been filled up as follow: -

1.	SE	Sanctioned one post filled					1 (one)
2.	EE	Elect.	„	„	„	„	1 (one)
3	EE	Civil	„	„	„	„	1 (one)
4.	SDO	Civil	„	4	„	„	4 (four)
5.	SDO	Elect.	„	3	„	„	3 (three)
6.	SO	Civil	„	10	„	„	10 (ten)
7.	SO	Elect.	„	6	„	„	5 (five)
8.	Comp.	Civil	„	1	„	„	1 (one)
9.	Comp.	Elect.	„	1	„	„	1 (one)
				Total: -28			Total:- 27

One post of overseer Grade I under Elect; yet to be filled up.

b) NON-TECHNICAL POSTS:

2 20. So far posts already sanctioned under non-technical is 52 posts and all the post have been filled: -

- a) Under Civil Division 17 post filled up.
 - b) Under Elect. Division 35 posts filled up.
- Total: - 52.

(APPOINTMENT MADE 100%):

2. 21. It is indicated in the above that the posts sanctioned and appointment made so far under technical is 96% whereas 100% under non-technical posts. The appointment of personnel to man in project when the project 7) is yet to be completed is an unnecessary and avoidable drain on the state exchequer. The post could have been created later and/or even if already created filled up when the project is an out to be commissioned.

POWER RECEIVES PRIORITY:

2.22. The generation of Power for self sufficiency is likely to be enhanced in the state to a considerable level during the 8th Plan period with the Government of Nagaland giving utmost priority to Power sector. According to an Official source the work on 24MW LIKIMRO Hydro Electric Project is also going on in full swing and is expected to be completed during 1997, on completion of this project, Power Supply position in the state will be significantly improved.

Annexure-I

T. G; UNITS & ACCESSORIES

SL.NO.	PARTICULARS	QUANTITY
1.	Hydro Generating unit consisting of 12300 HP single runner-two jet pelton wheel turbine in steel housing including MIV, Governor, bearings, lubricating oil system etc; and synchronous 6 pole generator of rated capacity of 9000 KVA at 0.9). F-1 1 K.V. complete with excitation system and AVR, cooling system etc: complete unit capable of rated output of 8000 KV with UCB and NGC:	3
2.	Spares for T; G. Units @ 5% of Item No. I	
3.	Miscellaneous requirement for completion @ 1% of Item No, I	
4.	Lubricating oil and Governor oil for first filling	L; S; Lumpsum

Annexure-11**P. H. AUXILLIARY EQUIPMENT.**

Sl. No.	Particulars	Quantity
1.	Station 11/04 KV transformers 500 KVA. Complete with all accessories	1
2.	11 KV switching and metering board consisting of three generator line terminal panels, two transformer outgoing panels and three auxiliary outgoing panels.	1
3.	L.T. Switching board with one incoming and two outgoing panels	1
4.	L. T. distribution board for auxiliary and Station services	2
5.	220 V, 200 AH, Ni-Cd battery bank, complete with D. C. charger and D. C. D; E.	1
6.	Measuring and recording equipment	L.S.
7.	Miscellaneous equipment and devices required for complete @ 1% on item I to 5. 15	

Annexure-III**POWER HOUSE AUXILLIARY SERVICES.**

Sl. No.	Particulars	Quantity
1	E.O.T. Crane of capacity 25/3 tone Capacity with rails and controls	1
2	Portable air compressor capacities 100 OMF at 7 KG/Cm.	1
3	Hatch covers, protective railing etc.	Lumpsum
4	Centralised lubrication system	L.S.
5	Water cooling & drainage and dewatering system complete with pumps	L.S.
6	Station grounding & lighting Arrester system	L.S.
7	Bus, ducts, cable trench and cable racks etc.	L.S.
8	Power & Control cables	L.S.
9	Fire fighting equipment	L.S.
10	Power House, illumination, Sanitation & Water Supply cable racks etc.	L.S.
11	Miscellaneous equipment and devices required for completion @ 1% item 1. to. To 9.	L.S.

SWITCHYARD AUXILLIARY EQUIPMENT.

SI. No.	Particulars	Quantity
1.	Bus bar material, insulators,	Lumpsum
	Hardwares	L.S.
2.	Power & Control cables	L.S.
3.	Grounding mat & Shielding	L.S.
	Materials	L.S.
4.	Behydration plant	L.S.
5.	Oil handling & Storage	L.S.
6.	Air conditioning and ventilation equipment	L.S.
7:	Transformer oil testing kit	L.S.
8:	Rail track for transformers	L.S.
9;	Rocks and cable trays	L.S.
10;	Fire fighting equipment including mortifier protection for Transformers.	L.S.
11:	Forck lift Truck	1
12;	Hydraulic telescopic crane mounted on Tata truck chassis capacity 2.0. Tonne	1
13;	Jeep with tailor.	2
14.	Tata Truck	1
15.	Misc. Equipment and devices required for completion @ 1% of item 1 to 14.	1

Annexure-IV**SWITCHYARD MAIN EQUIPMENT.**

Sl. No.	Particulars	Quality
1.	11/66 KV. 5.5 MVA 1 step up transformer Complete with all accessories 8	8
2.	66 KV circuit breakers S F	6
3.	66 KV Isolators with earth blade	2
4.	66 KV Isolator without earth blade”	12
5.	66 KV Multicore current transformer	4set
6.	66 KV potential transformer	2set
7.	66 KV station type lightning arrestor	4
8.	66 KV CVT	2
9.	Relay & control panels for transformer and two line feeders	1
10.	Carrier equipment including coupling capacities and wage traps etc.	2
11.	Spears for switchyard equipment @ 3% of item 1 to 2	
12.	Steel structure for five "b<ys including equipment mounting structures	160
13.	Misc. Equipment and devices required for completion @ 1% Item 1 to 2	

Annexure-VI.**SWITCHYARD AUXILLIARY SERVICES.**

Sl. No.	Particulars	Quantity
1	Preliminary work including surveys, layout, and development etc.	Lumpsum
2	Fencing & security	L.S.
3	Switchyard of illumination	L.S.
4	Foundation of columns equipment structures and transformer plinth seeking pit etc.	L.S.
5	Drainage & sanitation	L.S
6	Cable ducts	L.S.
7	Control room building and diesel power house including electrical I & power supply works	L.S.
8	Internal development including traveling etc	L.S.
9	Misc. Equipment and devices required for completion ® \% item 1 to 8	

SPECIAL TOOLS AND PLANTS.

SL. No.	Particulars	Quantity
A.	Excavation Machinery	
1.	Track shovel (1.3m)	1
2.	Crawler Trader (180 BHP)	1
3.	Crawler Trader (90 BHP)	2
4.	Tipper (3 75m)	5
5.	Diesel Air/Compressor (330 CEM)	1
6.	Rock drill CP 32A	6
B.	Concrete Machinery	
1.	Concrete mixer (10/7 CFT)	6
2.	Needle Vibrator	6
3.	Shutter Vibrator	1
C.	Misc. Equipment	
1.	Material Truck	5
2.	Diesel Welding Generator	1
3.	Be watering Pump (10 HP)	4
D.	Workshop Equipment	L.S.
E.	Personal Carries	
2.	Staff Bus (50 Seater)	1
3.	Petrol Jeep	15
4.	Ambulance Van	1

NOTE: -

1. One hydraulic excavator from Telco ordered and received in July '94. The same is Deployed for the power channel excavation.
2. All the above items SI. 1 to 3 are procured and in use.

CHAPTER - III

FUNDING AGENCY

3. I. The project is entirely shouldered by the State Govt, of Nagaland for execution as well as funding of the project expenditure. The State Govt, is getting some amount of money from the power Finance Corporation (PFC) New Delhi in the form of loan.

3. 2. It is clearly indicated in the earlier statement that the 1992 revised cost of the project is much ahead of the original estimated cost, which is 73% increased to that of the original cost. Though more items of works have been added when the execution of works has been started, this is not the only reason for the revised cost of the project. The other reasons is the secretion of market prices due to late execution of the project works from schedule time of 1989-90, to 1991-92 that is after a span of 2 (two) years late. The project has now been revised again for third time. To avoid further escalation in cost the Government should provide required fund and the Department should accelerate the execution of works so that the late revised commission schedule of 1997 can be adhered to.

YEAR WISE FUND ALLOCATION AND EXPENDITURE

3. 3. The year wise allocation of fund and expenditure incurred during the years from 1991-92 to 1995-96 has been clearly indicated in TABLET. Initially during 1991-92 the Department has allocated Rs. 663.00 lakhs and the same amount could be released and utilised by the Department. During 1992-93 the allocation was Rs. 1700.00 lakhs but actual release was only Rs. 1319.00 lakhs, that is only 77.59%. During 1993-91 the allocation was Rs. 2000 lakhs and the actual release was only Rs. 1439.00 lakhs that is only 12% could be released and utilised. In the same year PFC has sanctioned Rs. 1561.00 lakhs on loan and that has been utilised in the project. During 1974-95 the allocation was Rs. 1800.00 lakhs by the State Govt, but the release was only Rs. 600.00 lakhs that is only 33%. Lastly during 1995-96 the total allocation of fund is Rs. 1600.00 lakhs out of which Rs. 18.00 lakhs has been released, till June/95.

TABLE-I**YEAR-WISE FUND ALLOCATIONS & EXPENDITURES**

SI. No.	Particulars	1991-92 (Rs. in lakh)	1992-93 (Rs. in lakh)	1993-94 (Rs. in lakh)	1994-95 (Rs. in lakh)	1 995-96 (Rs.in lakh)
1;	(a) Sanctioned/ Allocated	-	1700.00	2000.00	1800.00	1600.00
2.	(b) Released	663.00	1319.00	1439.00		
				a) 1561.00 (PFC)	600.00	600.00 (Till June1995)
2.	Expenditure under					
	i) Civil works;	462.48	478.04	1262.00	60.00	9.00
	ii) Electrical works.	200.00	816.96	1702.00	500.00	6.00
	iii) Salaries	-	24.00	36.00	40.00	3.00

663.00 1319.00 3000.00

Total Expenditure, till June/95 = 5600.00 lakhs.

(Source: - Field investigation)

3.7. It is observed that the State Govt, could be released the annual projected amount to the Department due to overroll fund constraint problem of the State Govt. This has effected the progress of works and delayed the commissioning of the project, Hence-forth the allocated fund should be made available to the Department to accelerate the project works. The progress of implementation in 1994-95 is very poor where only 33% of the total fund could be released to the Department.

EXPENDITURE ON VARIOUS HEADS 1991-92 to 1995, JULY:

3. 8. Expenditure under; -

- | | | |
|---------------------|-------------|--------|
| 1) Civil works | Rs. 2271.52 | lakhs |
| 2) Electrical works | Rs. 3225.41 | la.khs |
| 3) Salaries | Rs. 103.00 | lakhs |

Total: - Rs. 5600.00 lakhs

REQUIREMENT'S OF FUND DURING 1995-96:

3. 9. The requirement of fund during 1995-96 is Rs. 2000.00 lakhs. The details break up of Expenditures are shown in the ANNEXURE-A for completion of the project as per PERT net work. (ENCLOSED)

ANTICIPATED EXPENDITURE OF THE PROJECT WHEN IT IS COMPLETED:

3. 10. The anticipated expenditure of the project will be Rs. 12673.06 crores, that is including Rs. 23.50 crores for associated Transmission lines.

Annexure - A
(Rs. in lakhs)

LIKIMRO H. E. PROJECT BREAK UP OF EXPENDITURE FOR 1995-96:

SL.No.	Item of works	Amount	Remarks
1.	New building Residential - 467 m ²	25.81	
2.	Diversion weir and intake		
	Excavation - 1200 m ³	10.20	Cost increased Due to increased In quantity during execution
	Cone - 1960 m	97.41	
	Hume pipe	4.00	
	Reinforcement	18.92	
	Form work	19.00	
		149.53	
3.	Desalting tank/power channel balancing reservoir fore bay etc. (Payment to BRO)	300.00	
4.	Penstock		
	i) Fabrication		
	ST — 323 MT		
	MH — 33 MT		
	EH — 70 MT		Increased due to Increased id the Cost of steel plates
	Bifu — 74 MT		
	Total: -480 MT		
		231.35	
	ii) Civil works		
	Excavation 25300m ³ —	80.96	
	Cone 1050m ³ —	54.33	
5.	Power house and tail race (Ironiting flooring/Equipment Foundation)	448.64	
6.	TG sets (Balance Payment)		
7.	Switchyard (Adv. To contractor. Balance payment of transformer)		
8.	Communication balance payment of bailey		
	Bridge - 60.00		
	Side drains - 50.00		
	Metalling - 135		
	Total: - 245		
9.	Plantation	5.04	
10.	Establishing (Pay & allowance/TA bills office expenses/Wages etc)	50.00	
11.	General T&P	20.00	
12.	(Includes excise duty for transformers, TG sets transportation, R & M of inspection, installation of TG set etc.		
	TOTAL	2000.00	

CHAPTER — IV

A BRIEF SUMMARY OF THE PROJECT.

4. 1. The project report for Likimro Hydro Electric project with an installed capacity of 24 M.W (3x8MW) was prepared in 1988 by the department at an estimated cost of Rs. 4648.28 Crores based on 1988 price level. The techno-economic clearance by CEA and Planning Commission approval was given in October 1989. The project was schedule for starting from the year 1989-90, but because of lack of plan allocation it could be started only from the year 1991-92. Meanwhile there has been steep increase in price from the base level of 1988. Besides there has been considerable increased in the quantity of works to be executed over and above the estimated quantity when the project was actually started in the year 1991-92 Annual plan period.

4. 2. The project report was revised at the price level of October 1992 and submitted to CEA for techno-economic clearance in December 1992. The revised cost estimates of Rs. 12673.05 Crores was finally approved by CEA in 1994.

4. 3. The power shortage being faced by the state can not be cased unless this project is completed. The project is scheduled for completion during 1997 subject to the required financial support being given to the project. Some critical activities like construction of Power House, delivery of schedule T. G. sets, Electrical switchyard, procurement of steel plates, for penstock construction of Power channel, and procurement of Bailey bridge have slipped up due to non-availability of fund, for which work orders have been issued to the suppliers during 1995. 28

4. 4. The department is making sincere effort to complete the project as schedule, if the require fund is provided without delay to the Department. Hence the State Govt, should make a sincere effort to make available the required fund. On commissioning of this project, the State Govt, will be much relieved on account of power purchases from the neighboring states which at present is costing the state as much as Rs. 1. 27 crores per month; Not only will this project enhance the States revenues but it will give a filled to the Promotion of Industrial activities in the state, Power is the Pre-requisite for industrialisation of any State.

CHAPTER – V

FINDING AND SUGGESTIONS

1. STAFF QUARTER / ACCOMODATION:

5. 1. Presently the project is provided few staff accommodation quarters in the project area, but when the project is completed and fully run all the workers/staff should be provided accommodation, so this is also one of the important necessity for the project staff. It is suggested that the staff quarters should be constructed simultaneously along with the project construction works to avoid the present and the future problems.

(2) BANKING FACILITY.

5.2. Since there is no banking facility in the project area at present, banking facility should be given in the project for the project workers/staff convenience. Hence this should be taken as priority and included in the future project programme, if not.

(3) POWER SUPPLY/ELECTRICITY.

5. 3. The power supply is one of the essential items of facility in such a project during the execution of works. It is been learnt through discussion with the official of the department that the present power supply line given in the project site is not at all sufficient at the same time. The power supply is also irregular in the project which hampered the smooth running of project works many a time, due to shortage of power. It is suggested that the power supply should be given regularly and require power energy should be provided till the project is completed and feed by the own generation of power. 30

(4) SECURITY GUARD.

5.4. It was stated by the department, presently there is no security guard posted in the project site for the workers/ Staff of the ongoing project. It is suggested that for security of the project special project security guard should be posted in the project site immediately by the State Govt.

(5) GOOD DRINKING WATER.

5. 5. It was informed that the present ongoing project did not provide any good drinking water supply to the project site and workers are collecting drinking water from the stream through out the year specially during summer season they are getting only muddy spoil water to drink. Since water is one of the basic requirement for human life good drinking water should be provided to the workers to maintain their good health.

(6) POST OFFICE FACILITY.

5. 6. Post office activity is one of the basic important conveyance facility which is require now and then for all officials and personal correspondences. Since this is an ongoing project such facility has not been provided yet. It is therefore suggested that in future project programme this proposal should be included by the concerned department and initiate with the postal department.

3 PURCHASE of MICHINERY AND EQUIPMENTS ETC.

5.7. The total requirements of machinery and Equipment are already shown in the Annexure-I to VII in details out of which the department has received some package of T. G. sets. The package comprises of seven (7) Consignment six (6) already delivered and one (1) consignment is due for delivery during the month of August/95. The item under31

2. 6. SI. 2 to SI. No. 6 are already placed for order to the supplier during the month March/95 and the department is expected to delivery within the year. Since all the machinery and Tools are to be received within the year the department should try to complete the construction of power house and other related works in the project so that machinery would be kept idle in the store.

4. INSTALLATION.

5.8. As mentioned earlier machinery and Tools already purchased/received from the supplier are been kept in the Dimapur central store since a year back due to non-construction of power House in the project site. It was also informed that the other consignments are also likely to be delivered very soon within this year from the supplier. It is therefore suggested that the construction of power House should be given top priority by the department and the State Govt, should provide sufficient fund to the Power Department to accelerate the project works.

5. CONSTRUCTION OF POWER MOUSE TAIL RACE

5. 9. For the construction of Power House except machine foundation, the construction work has been awarded to the order Road organisation (BRO). But till July/95 the construction work was not started by the BRO as the amount required for the construction was not deposited with BRO by the department due to paucity of fund. It is Suggested that the department should deposit the require amount to BRO to enable them to start the construction work as early as possible.

6. BALANCE WORKS UNDER MACHINERY/ TOOLS EQUIPMENT

5. 10. The balance works under Machinery/Tools' Equipments have been shown in Chapter-II 2. 17. The department already issued supply order to the supplier in March/ 95 and it was informed that till July/95 materials are³² not received by the department, but likely to be received within the year. The department should arrange to made available the required fund for payment to the supplier otherwise the supplier may not allow the department to install/utilise the machinery/Tools Equipments till payment is made to them, even though the Power House may be completed.

7. BALANCE UNDER CIVIL WORKS.

5. II. The details of balance works under civil works shown in Chapter-II 2. 17- It is clearly shown here that the execution of works under Civil is about 60% and this is due to want of fund so the Government of Nagaland should look into the matter seriously and made available the required fund to the department so that the project can be commissioned in the scheduled time. (i.e. during 1997-98). In this connection, the department of Power have issued work orders for some major activities to the Contractors only in July/95. To complete those balance works fund should be made available by the State Govt, to the concerned department.

8. COMMUNICATION.

5. 12: A decision has been taken to hand over the approach road of 52 Km from the Kongmatra to Likimro Power project to BRO for widening and soiling. But so far no construction work could be taken by the BRO due to want of fund. Since an all weather road is a very basic need of an ongoing project for carrying all heavy materials and Machinery through out the year till the project is completed. It is essential that the require fund is made available to the Border Road organisation (BRO) as early as possible by the department.

9. CONSTRUCTION OF BUILDINGS.

5.13. About ten (10) buildings near weir diversion in addition to five (5) one room barracks and one rest house are almost complete which are awarded to the wandowner, but due to shortage of fund the execution of works is very slow and the work could not progress in accordance with the stipulated time agreed upon between the department and the contractors. During 1994-95 out of Rs. 18000. 00 lakhs the department could release only Rs. 500. 00 lakhs for which reasons all the project activities are hampered. State Govt, should therefore release required fund to the department on priority basis.

11. REQUIREMENTS OF FUND DURING 1995-96.

5. 14. The details break up of expenditure during 1995-96 have been shown in the ANNEXURE 'A' So far the department could released Rs. 18. 00 lakhs out of Rs. 2000. 00 lakhs during this financial year. The above mentioned expenditure is only up to July/95. The State Govt, should made available of this amount to the concerned department which is already indicated in works programme.

