

CHAPTER - III

Integrated Audit



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3.1 Sikkim Public Works Department (Roads & Bridges)

Road network is the only means of communication in Sikkim and is therefore the backbone of all economic and social activities. Keeping in perspective the role of road infrastructure in stirring economic and social development in the State and the State Government's commitment to transform Sikkim into an ideal State comparable to the best in the country, Audit undertook an integrated audit of the Sikkim Public Works (Roads & Bridges) Department (RBD) in May-July 2010. The functioning of the Department was evaluated against the backdrop of the Government's Mission and the SPW(R&B) Department's mandate. It was seen in audit that the Department had so far created 2,053 kilometres length of road network and constructed 198 bridges of various sizes besides ensuring smooth flow of traffic round the year by keeping the roads clear of blockades resulting from landslides and other natural calamities in the State's mountainous terrain, which was appreciable. Several areas of deficiencies were, however, noticed in the functioning of the Department, such as, non-incorporation of the Government's Mission into the functioning of the Department, non-formulation of State Road Policy, absence of master plan of communication conforming to the Government's Mission, absence of perspective planning, unrestrained sanction of projects without availability of funds leading to huge pending liabilities, lax project management and quality control, violation of codal provision and terms and conditions of contract leading to loss to Government. Major findings are highlighted below:

Although the State Government envisaged developing Sikkim economically at par with the best in the country by 2015, the RBD had neither incorporated the Government's mission into its functioning nor formulated any Road Policy till date. Non-existence of policy on road and grant of right of way to private companies led to loss of ₹ 5.49 crore to the State.

(Paragraph 3.1.7)

Due to indiscriminate sanction of projects without any master plan of communication, the Department had a huge committed liability of ₹ 341.77 crore for which there was no financial resource to make payments to the contractors.

(Paragraph 3.1.8.1)

There were delay in completion of projects ranging from 1 to 10 years due to defective DPRs, non-availability of funds, failure to obtain timely clearances and award of works to incompetent contractors.

(Paragraph 3.1.8.2)

Despite registration of a large number of contractors under the Department (one contractor for every 26 citizens), the level of competition in the bidding process was very poor indicating cartelization by contractors.

(Paragraph 3.1.10.1)

Quality control was not accorded due priority as the mandatory tests prescribed in MORTH and PWD (manual) was not carried out.

(Paragraph 3.1.11)

3.1.1 Introduction

The Sikkim Public Works Department (SPWD) is the oldest Department of the State. The SPWD is in existence since the merger of Sikkim with India in April 1975 and has been entrusted with creation and maintenance of all Government infrastructures - roads & bridges, buildings, water supply systems, etc. Later, new departments like Buildings & Housing, Water Security and PHED, Irrigation and Flood Control, etc. were carved out of the SPWD to cater to the increased workload and specialised nature of work while the functions relating to creation, maintenance and operation of roads and bridges were retained by the SPWD. The SPWD has since been re-christened as the Sikkim Public Works (Roads and Bridges) Department.

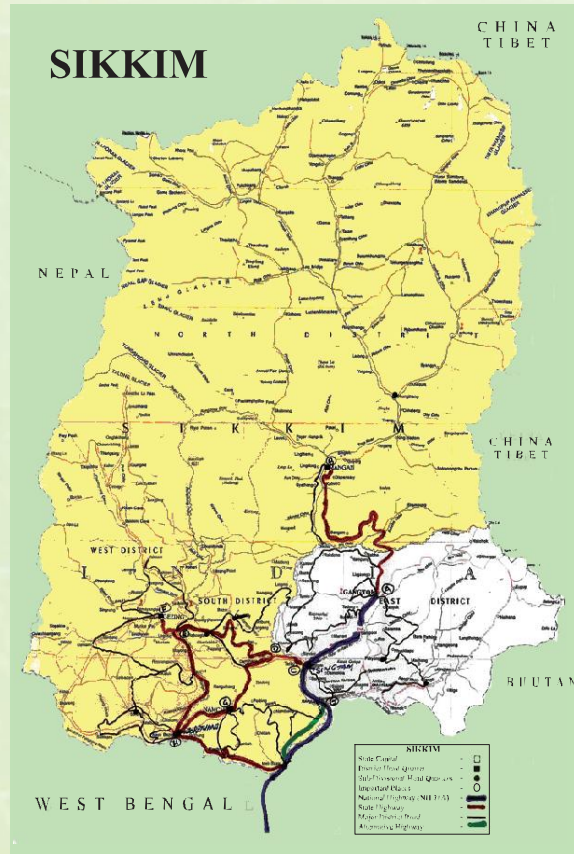
The main function of the Roads and Bridges Department (RBD) were, *inter alia*, to (i) plan and develop road network throughout the State; (ii) maintain the existing road network for smooth flow of both passengers and goods traffic; (iii) upgrade the existing road network and bridges through modification of bridges, replacement of old and weak bridges, widening / improving the grade as well as strengthening the surface of different roads.

Mandate of the RBD

- To conduct business in respect of all items relating to Roads and Bridges;
- Control of road reserves, right of roadway;
- Preparation, control and implementation of Master Plan of communication;
- Highway road regulation;
- Land use control for areas affecting public road;
- Procurement and maintenance of construction material and stores for Government and public supplies;
- Control of rest houses and their compounds pertaining to the Roads and Bridges only;
- Departmental Manual, Accounting Code and Public Services - Statutory Rules of the services with which the Department is concerned.

Sikkim had a road network of 2,053.55 Kms (black topped – 1,400.86 kms WBM/Earthen – 652.69 kms) and 198 bridges (RCC-95, Steel-74, Suspension-26 and Pre-stressed – 3) at the end of March 2010. During the five year period 2005-10, the Department had added a net length of 147.55 kms of road network to its inventory of assets and converted 395.86 Kms of existing WBM / earthen roads into black topped category. Since the Department had not maintained year-wise statistics of creation of bridges, the number of bridges created during the period 2005-10 could not be ascertained in audit. The year-wise position of creation of road network by the Department during the years 2004-05 to 2009-10 is given in **Appendix-3.1**.

Road network possessed by the Department is shown in the map below:

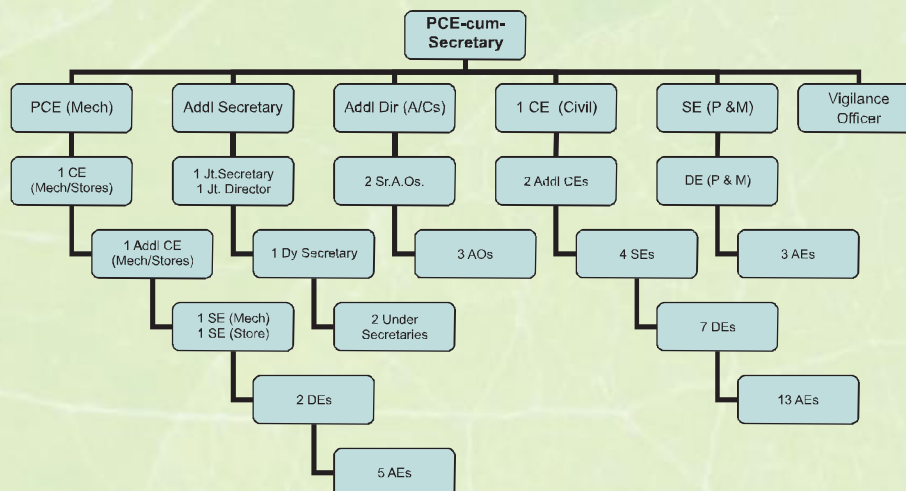


Source : Website of the Department

3.1.2 Organisational Structure

The RBD is headed by a Principal Chief Engineer-cum-Secretary and assisted by a number of engineers and other officers as depicted in the organisational chart below.

Chart - 3.1



3.1.3 Audit Methodology and Coverage

The functioning of the RBD during the period from 2005-06 to 2009-10 was examined in audit. Audit commenced (May 2010) with an entry conference with the Secretary of the Department. Records maintained at the Departmental headquarters at Gangtok were examined followed by test check of records in all the Circle offices – North-East circle at Gangtok, South circle at Namchi and West circle at Gyalshing. Sixty works (out of 182¹) were selected for scrutiny by simple random sampling without replacement duly following stratified sampling based on probability proportionate to size². Joint physical inspection of 10 projects (out of 60 selected projects) was also conducted in the presence of the departmental officers and the findings and photographs obtained from the physical inspection suitably incorporated in the report. Audit concluded with an exit conference (August 2010) with the Secretary of the Department.

3.1.4 Audit Objectives

Audit was taken up with the objective of examining and assessing:

- The adequacy and efficacy of the planning process;
- Efficiency, economy and effectiveness of execution of the Department's mandated activities;
- Adequacy and effectiveness of quality control practices;
- Efficacy of asset and human resources management; and
- Adequacy and effectiveness of monitoring mechanism.

3.1.5 Audit Criteria

The audit observations were benchmarked against the following criteria:

- National best practices.
- Norms stipulated by the Ministry of Road Transport and Highways (MORTH).
- Indian Road Congress (IRC) specifications.
- Sikkim Public Works Manual & Code.
- Sikkim Financial Rules.

Audit findings

Audit findings are enumerated in the succeeding paragraphs:

¹Out of total of 253 (231 sanctioned during 2004-10 + 32 sanctioned prior to 2004-05), records relating to 182 were produced to Audit for examination.

²The entire population of 182 works was divided into 4 strata on the basis of value. Stratum 1 – Works upto ₹ 1 crore, Stratum 2 – Works above ₹ 1 crore upto ₹ 3 crore, Stratum 3 – Works above ₹ 3 crore upto ₹ 5 crore and Stratum 4 – Works above ₹ 5 crore. 60 works were finally selected from the 4 strata in the ratio 6:7:8:9 (12 works from the 1st stratum, 14 from 2nd stratum, 16 from 3rd stratum and 18 from the 4th stratum).

3.1.6 Budgetary control and management

The budget size and the corresponding expenditure during the five year period 2005-10 in respect of the RBD were as under:

Table – 3.1

(₹ in Crore)

Year	Original provision	Supplementary provision	Final grant	Actual expenditure	Savings	Surrender
2005-06	122.95	5.99	128.94	80.76	48.18 (37)	30.06
2006-07	170.45	6.03	176.48	81.99	94.49 (54)	86.62
2007-08	187.12	4.43	191.55	94.26	97.29 (51)	97.31
2008-09	197.04	44.97	242.01	185.07	56.94 (24)	50.09
2009-10	174.54	6.46	181.00	115.18	65.82 (36)	2.21

Source: Detailed Appropriation Accounts.

Figures in brackets represent percentage

The above table indicates that the year-wise expenditure was always substantially lower than the budget provision leading to huge savings ranging between 24 (2008-09) and 54 (2006-07) *per cent* of the final grant. The saving was not anticipated by the Department in time and instead was surrendered at the fag end of the respective years. As a result, the allocated funds were neither utilised by the Department nor could be transferred to other Departments of the State Government for being effectively used.

3.1.6.1 Unnecessary supplementary provision

As would be noticed from the above table, the Department obtained supplementary provision ranging between ₹ 4.43 crore (2007-08) and ₹ 44.97 crore (2008-09) during the period 2005-10 but could not utilise the same in full. In fact, the actual expenditure in all the five years (2005-10) was less than even the original provision indicating that the supplementary provision was obtained unnecessarily without ensuring its utilisation. This was indicative of unsound budgetary management in the Department.

3.1.6.2 Large savings in Capital sector

A segregation of expenditure between revenue and capital sectors revealed that major portion of savings occurred in capital sector primarily owing to non-completion of works in time by the contractors denoting weak contract management. While the percentage of savings in the Revenue sector was in the range of 5 to 28 *per cent* of the budget provision, the savings in the capital sector was large and hovered between 39 and 64 *per cent*. Details are shown below:

Table – 3.2

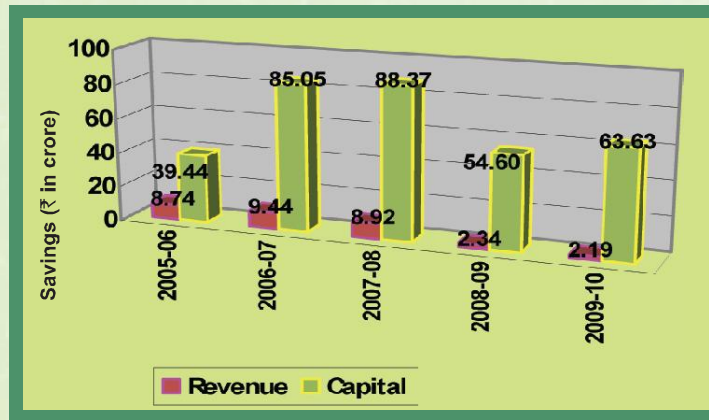
(₹ in crore)

Year	Budget Provision		Expenditure		Savings	
	Revenue	Capital	Revenue	Capital	Revenue	Capital
2005-06	30.83	98.11	22.09	58.67	8.74 (28)	39.44 (40)
2006-07	39.88	136.61	30.43	51.55	9.44 (24)	85.05 (62)
2007-08	40.11	151.45	31.19	63.08	8.92 (22)	88.37 (58)
2008-09	36.92	205.09	34.58	150.49	2.34 (06)	54.60 (27)
2009-10	42.29	138.71	40.10	75.08	2.19 (05)	63.63 (46)
Total	190.03	729.97	158.39	398.87		

Source: Detailed Appropriation Accounts. Figures in brackets represent percentage

A graphical representation of the savings in revenue and capital sector is given below:

Chart - 3.2



While the savings on revenue sector were comparatively lower and declined progressively with time indicating improvement in budgetary management in this area, the savings in the capital sector were substantially high and there was no sign of improvement in the trend over the five year period (2005-10).

3.1.7 Policy and Planning

Road transport, being the only means of communication³ in the State, is an important infrastructure for economic and social development of the State. It was therefore imperative for the Department to have a well laid down policy for providing equitable, adequate and high quality roads within the State. This was more so keeping in view the Government's mission to transform Sikkim into an ideal State comparable to the best in the country by 2015. Scrutiny of records, however, revealed the following:

3.1.7.1 State Road Policy not framed

The Department had not formulated a State Road Policy till date even after 35 years of

³ Although there is one helicopter service which plies off and on between Gangtok and Bagdogra, its service is generally availed by the VVIPs and patients in critical condition referred outside the State for medical treatment who can afford the cost. Hence its benefit cannot be derived by the people in general.

its existence. Even the policies and practices followed in other States of the country were not studied to examine their suitability for adoption. The activities undertaken by the Department were thus devoid of long term policy perspective. Absence of policy also led to loss of ₹ 5.49 crore on grant of right of way (ROW) to Telecom Operators as the Department granted permission to lay optical fibre cables (OFC) over a stretch of 219.422 Kms along the State roads without levying ROW charges although the telecom operators were willing to pay such charges in addition to the cost of laying of OFC.

3.1.7.2 *Perspective Plan and Master Plan*

The Department had not prepared any perspective plans / master plan relating to road connectivity for long term sustainability of the economic and social upliftment of the State and its people. Absence of long-term planning led to defective implementation of projects as detailed below:

➤ *Wasteful expenditure on abandonment of road*

The Department undertook (January 2005) the project 'Upgradation of Ranka-Burtuk-Gangtok Road (Km 14th to 21st)' at a cost of ₹ 6.42 crore (revised) under the Non-lapsable Central Pool of Resources (NLCPR) with stipulation to complete the project by March 2009. After expenditure of ₹ 4.95 crore on the project, the work was stopped (November 2008) on the ground that a new alternate double lane highway (Construction of two-lane Gangtok Bypass under SARDP-NE Phase 'A' in the State of Sikkim) was being constructed along the same alignment which would render the present project redundant. The alternate double lane highway was being undertaken since 2009 at a cost of ₹ 116 crore with stipulation to complete by March 2012 in all respects. Thus, absence of long-term perspective planning led to wasteful expenditure of ₹ 4.95 crore on abandonment of the earlier project. A photograph of the abandoned incomplete road is given below.

Image - 3.1

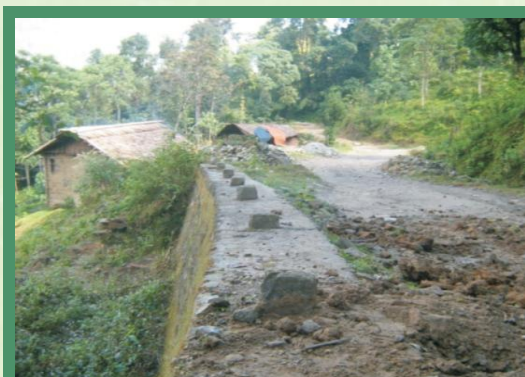


➤ *Unplanned execution of State Transport Infrastructure Development Fund*

The State Government introduced (2008-09) the Scheme 'State Transport Infrastructure Development Fund' under the State Plan with a project outlay of ₹ 35.89 crore without

any clear cut objective and plan. Seven works were sanctioned under the scheme for which ₹ 5.22 crore was initially provided in the budget for the year 2008-09. While none of the works were completed (the progress ranged between 0 and 30 per cent), no further funds were provided in the budgets of the subsequent years indicating lack of planning. A few photographs of the roads under construction under the STIDF scheme are given below:

Image – 3.2



Darap-Nambu Road

Image – 3.3



Road to Upper / Lower Chuchen

➤ ***Absence of plan for EAP and ACA funded projects***

Out of the plan allocation (2009-10) of ₹ 38.36 crore for the Department, funds of ₹ 5.51 crore was earmarked by the State Government to be spent on externally aided projects (₹ 3 crore) and on special programmes (₹ 2.51 crore) earmarked by the Planning Commission as additional central assistance (ACA) to the State. Test check of records, however, revealed that there were no such specific plans or works projects with the Department against which the earmarked funds could be utilised. The entire amount of ₹ 5.51 crore was therefore surrendered at the end of the financial year.

Similarly, for the financial year 2010-11, out of the plan allocation of ₹ 87.08 crore for the Department, funds of ₹ 39.30 crore were earmarked for externally aided projects (₹ 5 crore), ACA (₹ 3.30 crore) and one time ACA (₹ 31 crore). As of August 2010, the Department had no specific plan or programme to apply the earmarked funds. In all likelihood, the entire allocation would have to be surrendered by the close of the financial year.

Considering the huge committed liabilities of the Department and the stressed resources of the State, absence of specific plans for utilising the allocated ACA of ₹ 44.81 (₹ 5.51 + ₹ 39.30) crore was indicative of absence of proper planning and management of resources in the Department.

➤ ***Demarcation of area of operation***

Clear demarcation of area of operation of the Roads and Bridges Department was fundamental to planning of road construction. This was even more pertinent considering

the fact that three other Organisations in addition to the Roads and Bridges Department were involved in construction of roads / bridges in the State – the Rural Management and Development Department (RMDD) which deals with construction of roads under the PMGSY, the Urban Development and Housing Department which has been entrusted with construction and maintenance of roads in the urban areas and the Border Roads Organisation which deals with construction and maintenance of National Highways and roads of strategic importance used by the defence forces exclusively in the border areas of the State. It was however, seen in audit that there was no clear demarcation of area of operation of the RBD and as a result, none of the departments could frame rules for imposition of levies in respect of use of roads and road reserves by various agencies for laying of cables, ducts, and for advertisement hoardings.

3.1.8 Project management

Appropriate project management is one of the important areas for ensuring equitable, adequate and high quality roads within the State. To achieve this, the Department was required to observe proper procedure of project planning, prepare shelf of schemes, prioritise implementation and ensure timeliness of execution for expeditious completion and utilisation of assets for public use. The status of sanction and execution of projects by the Department as analysed in audit is enumerated below.

3.1.8.1 Sanction of projects

The position of year-wise sanction of projects by the Department during 2005-10 under capital outlay was as under:

Table – 3.3

(₹ in crore)

Year	Const. of Roads & Bridges	Const. of guest houses	Repair/ maintenance /restoration	Addl. Sanction for higher tender premium / change in scope of work	Compensation		Total Sanction
					Land	Damage	
I	II	III	IV	V	VI	VII	VIII
2005-06	55.18	0	2.73	4.09	1.36	0.08	63.44
2006-07	89.69	0.11	1.41	13.36	2.71	0.08	107.36
2007-08	96.82	2.17	0.38	4.29	7.39	0.16	111.21
2008-09	213.15	3.25	4.63	12.95	11.09	0.34	245.41
2009-10	21.64	0	0.97	0.62	0.08	0.05	23.36
Total	476.48	5.53	10.12	35.31	22.63	0.71	550.78

Projects were sanctioned from the Capital outlay of the Department without any plan or prioritisation and without considering the huge financial liabilities of projects ongoing from earlier periods. The sanction of projects under the capital outlay was increased from ₹ 63.44 crore in 2005-06 to ₹ 245.41 crore in 2008-09 – a fourfold enhancement resulting in huge committed liabilities which increased from ₹ 72.17 crore in 2006-07 to ₹ 341.77 crore in 2009-10. The spiralling committed liabilities compelled the

Department to drastically curtail projects to an all time low of ₹ 23.36 crore in 2009-10. Thus, the earlier indiscriminate sanction of projects severely constrained future creation of new assets by the Department.

➤ **Additional burden to State exchequer due to cost enhancement:** The additional expenditure sanction of ₹ 35.31 crore (mentioned under column V of Table-3.3) over and above the original sanction under the capital outlay was due to (i) change in the scope of works and (ii) higher tender premium resulting in cost escalation. The change in scope of work was due to defective DPRs prepared without adequate field survey and investigation while the additional cost on tender premium was due to failure to incorporate likely cost escalation over and above the cost included in the DPRs (which were based on SOR 2002 / 2006 and hence outdated) and lack of competition in the tender process leading to high tender premiums. As additional cost over and above the approved DPRs was not borne by the central agencies which funded the maximum number of projects in the State, this cost further burdened the State exchequer which was already tottering under huge committed liabilities.

➤ **Irregular utilisation of capital outlay:** Sanction of ₹ 10.12 crore on repair and maintenance works of temporary nature from the capital outlay earmarked for creation of long lasting assets constituted irregular utilisation of resources. Similarly, sanction of ₹ 71 lakh for damage compensation[†] from the capital outlay for road / bridge construction was unnecessary and irregular leading to erosion of capital funds as compensation for any damage to land or property contiguous to the site of work was to be borne by the contractors and not the Government, in terms of the standard terms and conditions of contract.

➤ **Staggering committed liabilities**

The unplanned and indiscriminate sanction of projects led to huge committed liabilities over the period 2005-10 as depicted in the graph below:

Chart – 3.3



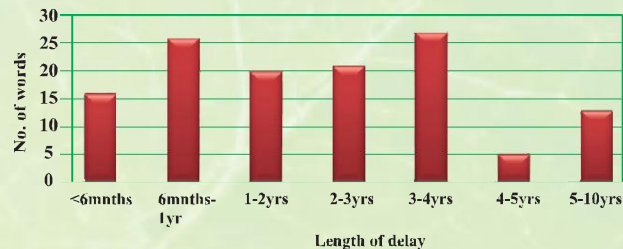
[†]The Department had paid (June'07/March'08) damage compensation of ₹ 24.13 lakh in case of two works as of August 2010. Construction of Road from Zingla to Martam 2.36 km (₹ 11.16 lakh - out of total assessed damage of ₹ 20.51 lakh); and Construction of Road from Rongli to Talkharka, Phase - II (₹ 12.97 lakh - out of total assessed damage of ₹ 18.61 lakh).

The liabilities increased by 374 per cent from ₹ 72.17 crore to ₹ 341.77 crore over a period of four years (2006-10), which was very high. The liability of ₹ 341.77 crore⁵ at the end of 2009-10 for ongoing and completed works had to be defrayed by 2012-13 in terms of the schedule of completion of the works. This required a provision of ₹ 115 crore per year, not taking into account any new works that would be sanctioned during the intervening years (2010-13). Against this requirement, the plan allocation for works under the capital sector for the Department for 2009-10 and 2010-11 was only ₹ 13 crore (average), which was appallingly low compared to the existing liabilities. Thus, the Department tottered under the weight of huge outstanding liabilities arising out of indiscriminate sanction of projects without availability of equivalent resources in the budget. Unless the Government takes urgent and drastic steps to arrest the crisis, the situation would soon become unmanageable.

3.1.8.2 Timeliness of execution of projects

A total of 128 projects stipulated to be completed within March 2010 were examined in audit. Out of 128 projects, 32 had commenced prior to the review period (during 2000-05) of which 25 works were still incomplete recording a delay of 5 to 10 years. Similarly, 70 works (out of 96) commenced between 2005-10 and scheduled for completion within March 2010 were still ongoing recording a delay ranging between one month and five years. A pictorial representation of the delay in completion of projects is given below:

Chart – 3.4



A few photographs alongwith details of the incomplete works as analysed in audit are given below:

Image - 3.4



Name of work: Bridge over Teesta at Gor, North Sikkim

Sanctioned cost: ₹ 4.95 crore

Expenditure: ₹ 4.12 crore

Date of commencement: January 2006

Scheduled date of completion: January 2007

Contractor: Samdup Lepcha

Reasons for delay: Delayed by more than 3 years due to delay in obtaining forest clearance; change of site of bridge construction; change of scope of work not factored in the original DPR; delay in supply of steel parts and consequent delay in launching of the bridge; lax contract management and inexperienced contractor.

⁵This includes state plan schemes and state's share of centrally sponsored schemes also.

Image - 3.5



Name of Work: Pakyong – Karthok Road Km 1 to 4

Sanctioned Cost: ₹ 2.87 crore

Expenditure: ₹ 0.93 crore

Date of Commencement: March 2005

Scheduled Date of Completion: July 2006

Contractor: P.N.Kazi

Reasons for delay: Work delayed by over 4 years due to non-availability of funds in the State plan; non-availability of bitumen in the stores, lax contract management

Image - 3.6



Name of Work: Strengthening, drainage & carpeting & construction of 30m span bridge along Assam-Pakyong Road Km 7th to 15th

Sanctioned Cost: ₹ 7.51 crore

Expenditure: ₹ 5.14 crore

Date of Commencement: November 2006

Scheduled Date of Completion: May 2008

Contractor: S.K. Agarwal

Reasons for delay: Delayed by more than 2 years due to revision of original scope of work (defective DPR); lack of funds to meet revised cost; lax contract management.

Image - 3.7



Name of Work: Construction of steel bridge over Takchamchu River

Sanctioned cost: ₹ 4.77 crore

Expenditure: ₹ 4.11 crore

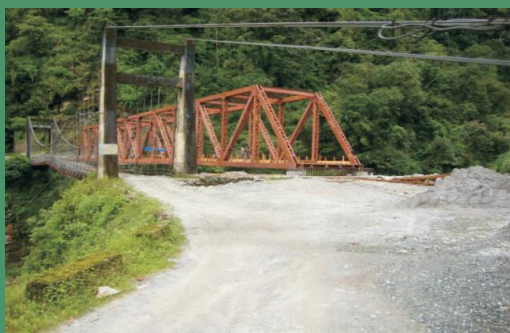
Date of Commencement: January 2006

Scheduled Date of Completion: October 2006

Contractor: Mrs. Meera Rai

Reasons for delay: Delayed by more than 3 years due to change of scope of work, delay in preparation of design by the contractor's consultant, difficulty of transportation of materials to worksite; heavy rainfall causing flash floods in the river resulting in slow progress, inexperienced contractor.

Image - 3.8



Name of Work: Strengthening, drainage and carpeting of Ralang Phantam Road km 14th to 26th and replacement of two existing bridges over Bermelli and Chill Khola

Sanctioned Cost: ₹ 12.83 crore

Expenditure: ₹ 3.04 crore

Date of Commencement: November 2006

Scheduled Date of Completion: May 2008

Contractor: N.T.Bhutia

Reasons for delay: Delayed by over 2 years due to scope revision, difficulty to supply material at site, landslides, lax contract management, etc.

Image - 3.9



Name of Work: Truckable Road from 10th mile to Tingmoo village
Sanctioned cost: ₹ 4.68 crore
Expenditure: ₹ 2.07 crore
Date of Commencement: April 2006
Scheduled Date of Completion: April 2007
Contractors: Nim Sherpa, Sonam Bhutia, Lhendup Kaleon, Bala Limboo.
Reasons for delay: Work delayed by over 3 years due to scope revision not factored in the original DPR, delay in obtaining forest clearance/land acquisition, inexperienced contractors, lax contract management.

Image - 3.10



Name of Work: Bridge over Kaw Khola, South Sikkim
Sanctioned cost: ₹ 1.64 crore
Expenditure: ₹ 0.75 crore
Date of Commencement: November 2006
Scheduled Date of Completion: November 2008
Contractor: S.S.Dhakal
Reasons for delay: Work delayed by over 1 year 8 months. Although the bridge portion is complete, the approach road on either end of the bridge is still incomplete due to which the bridge could not be put to use indicating lax contract management.

Image - 3.11



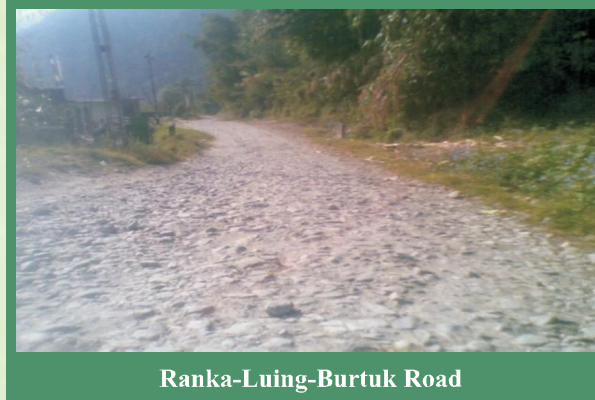
Name of work: Goshkhan Dara Bridge over River Teesta at Singtam, East Sikkim
Sanctioned cost: ₹ 13.37 crore
Expenditure: ₹ 9 crore
Date of commencement: January 2007
Scheduled date of completion: June 2008
Contractor: M.P.Agarwal
Reasons for delay: Delayed by more than 3 years due to change of bridge design; change in scope of work not factored in the original DPR; delay in supply of steel parts and consequent delay in launching of the bridge; lax contract management; lack of adequate experience/technical knowledge in handling large bridge projects by the contractor/Department.

Besides the above, the following further points were also noticed:

- The Department had assessed requirement of 760 drums of bitumen for the work 'Upgradation of Ranka-Luing-Burtuk Road' sanctioned (2004-05) under the NLCPR scheme. Against this requirement, 576 drums bitumen had been purchased in October 2005 for ₹ 18.36 lakh from the STCS, of which only 130 drums had been issued to the work while the balance 446 drums (₹ 14.22 lakh) were diverted for another work executed in and around Gangtok under the State Plan. As of June 2010, even after more than four years of the diversion, the bitumen had not been returned to the work. Due to non-availability of bitumen, the work although originally scheduled to be completed by

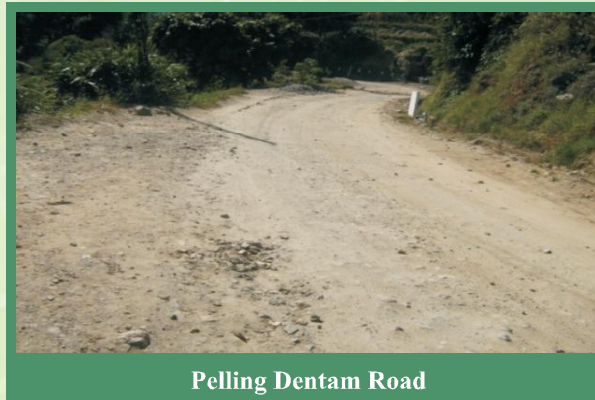
July 2006 remained incomplete as shown in the photograph below:

Image - 3.12



➤ The work 'Surface improvement/carpeting including drainage works on Pelling Dentam Road Km 1st to 17th valued at ₹ 13.56 crore had commenced in March 2005 and was scheduled to be completed in August 2006 but was still incomplete (June 2010) even after more than three years of the scheduled completion date due to failure of the Department to supply bitumen from the stores. Photograph of the incomplete road is given below:

Image - 3.13

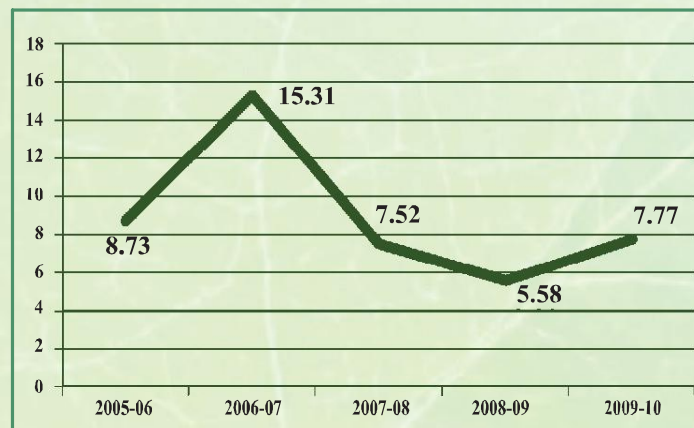


Thus, it would be seen that the works remained incomplete owing to a combination of factors. The most pervasive reasons for the delay were defective DPRs resulting in change in scope of work during execution, failure to obtain timely forest/land clearances, participation of inexperienced individuals as contractors indicative of poor contract management and non-availability of resources in the State plan to meet the revised cost. Failure to provide timely supply of bitumen and steel parts from the stores were other reasons which caused delay in completion of almost all projects. Absence of a system in the Department to monitor the progress of works with the help of project management tools like PERT and CPM with a view to ensure timely completion also affected the projects.

3.1.9 Maintenance of existing assets

While the Department had a large number of new projects under construction relating to creation of assets, regular maintenance of the existing assets was not concomitant with the increase in the size of infrastructure created over time. Maintenance and upkeep of the created assets remained largely neglected as would be noticed from the meager and erratic funds provided for actual repair and maintenance of road network (minor works) under the maintenance head. The year-wise funds provided under minor works for actual maintenance was ₹ 8.73 crore, ₹ 15.31 crore, ₹ 7.52 crore, ₹ 5.58 crore and ₹ 7.77 crore respectively during 2005-06, 2006-07, 2007-08, 2008-09 and 2009-10 as shown in the graph below:

Chart – 3.5



As would be noticed the expenditure on maintenance of road works during 2005-10 was erratic – it was maximum at ₹ 15.31 crore in 2006-07 and minimum at ₹ 5.58 crore two years after in 2008-09. With the increase of road network every year, the maintenance expenditure on road works could only be expected to increase. This was, however, not the case in the Department. This indicated that maintenance of the existing road works was not a priority for the Government as no concerted effort was made to preserve the created infrastructure.

3.1.10 Contract Management

The Department engaged contractors for execution of all works relating to construction of roads and bridges. Only the regular maintenance works were taken up departmentally. In order to manage the road and bridges projects economically and efficiently, it was imperative that due diligence was exercised in selection of the contractors, transparency was maintained in award of works, rates and estimates were diligently framed, time and cost overrun avoided and the project execution monitored closely to ensure timely and quality finish. Shortcomings in contract management led to a number of projects remaining incomplete beyond the scheduled date of completion as highlighted in previous paragraph (3.1.8.2). Besides, following were also noticed:

3.1.10.1 Low participation in bidding despite large number of contractors

In terms of SPW Manual 1983 (revised in September 2009), contractors were registered in six categories (Class IAA, IA, IB, IIA, IIB and Class III) in the Departmental headquarters at Gangtok and class IV category (lowest category) in the respective divisional offices. As on date of audit, in all, there were 21,387 contractors belonging to various categories *i.e.* IAA (74), IA (483), IB (379), IIA (308), IIB (792), III (760) and IV (18,591) which translated to one contractor for every 26 citizens. In spite of having such a huge number of registered contractors, the level of participation in almost all the bids (90 per cent) floated during 2005-10 was only three in each case (the minimum required for making a tender valid). This indicated that majority of the registered contractors were non-serious / unqualified players who used their registration for cartelization of the tenders and not for actual participation in the bids. The following facts further elucidate the audit observation:

- Out of 20 Class IAA contractors whose credentials were checked in audit, seven did not possess requisite tools and plants⁶ to make them eligible for registration in Class IAA; six had double registration – as individual contractors and also as partners/directors in different companies in contravention to Rule 6 (d) of the SPW Manual; five had not executed the mandatory three works valuing over ₹ one crore in the last five years; and three did not possess mandatory three years experience in the Class IA category.
- Similarly, out of 85 class IA contractors test checked by audit, 72 had no requisite work experience of having executed three works of value ₹ 50 lakh each in the last five years; none of the 85 class IA contractors possessed tools and plants⁷ required to be qualified for Class IA; 14 class IA contractors had been upgraded from Class IB within 14 days to 2 years without having served the mandatory three years in Class IB; 30 class IA contractors had been directly upgraded from Class III / Class IIA categories without having undergone experience in the intervening stages, on the recommendation of the MLAs/Ministers/CM. Even the application fees for registration /upgradation of contractors were not realised appropriately. In 11 cases of renewals in Class IIA to IA categories, old rates of renewal fees were applied leading to short realisation of ₹ 0.81 lakh. In 46 cases of upgradation, there was short-realisation of ₹ 2.40 lakh due to application of old rates of upgradation fees.
- No qualifying criteria, whatsoever, relating to experience, basic knowledge of works execution and financial strength was prescribed for registration to Class IV category. This gave rise to entry of a huge number of individuals in the profession of

⁶Minimum ownership required for T&P – 3 trucks / tippers, 1 vibratory roller 8/10 ton capacity, 3 concrete mixers of full bag capacity.

⁷Minimum ownership – 3 trucks / tipper, 3 concrete mixers, 3 vibrators (two needle), 2 road rollers, 2 bull dozers, etc.

works contracting right from the entry grade, without possessing any professional knowledge. As on date of audit, there were 18,591 contractors registered in Class IV category.

The Department had not taken any steps till date to evaluate the situation and restrict registration of contractors with a view to register only the serious players thereby enhancing competition in the bidding process for obtaining more economical rates. The Department also, till date, had not devised any measures to eliminate the unqualified non-serious players and thereby reduce the unseen and hidden costs loaded in the works.

3.1.10.2 Transparency in invitation of tenders

Advertisements of tenders for all works were published through the Information and Public Relations Department only in local newspapers. No publicity for any work was done through national newspapers – even for works like bridge design and construction which required technical know-how of a higher order. Even the official news bulletin 'Sikkim Herald' was mostly by-passed and the Notices Inviting Tenders (NITs) were published in little known local papers. This restricted wide circulation and dissemination of information about the works among the potential serious bidders. Hence, competitiveness in the tenders and equality of opportunity were denied. Although the Roads and Bridges Department has a dedicated site in the World Wide Web within the State Government website (www.sikkim.gov.in), NITs were never published in the website. The concept of e-tender was therefore a distant dream in the State.

3.1.10.3 Irregularities in cost analysis, estimation, award and execution of works

In order that the rates worked out for different items of works are reasonable, the Department is required to do a detailed analysis of the quantities of labour, material and other overheads required for execution of a unit quantity of each item of work. After the rates are worked out, the same are compiled in the schedule of rates of the Department which is used for preparation of the estimates. Once the work estimates are prepared, other related expenditure on the works such as contingency charges, charges for quality control and departmental charges (in case of works executed on behalf of other agencies) are included in the estimate at fixed percentages of the estimated cost to arrive at the actual cost of work. The works are thereafter taken up after obtaining administrative approval and financial sanction and completing the tender formalities. Audit of the Department revealed that there was lack of due diligence in determining rates of items of works, framing of estimates and award of works leading to excess costing and loss as depicted in the paragraphs below:

➤ Inflation of volume and consequent cost inflation of masonry works:

One of the important items of work executed by the Department in road and bridge construction is protective works in stone masonry and cement concrete i.e. plum concrete or coursed rubble stone masonry (CRSM). Test check of records revealed that

for execution of one cubic metre of CRSM in 1:4:8 cement concrete mix, the Department projected use of 0.84 cum of stones, 0.30 cum of cement concrete mix and 0.071 cum bond stones⁸ making the total volume 1.211 cum (instead of restricting it to 1 cum) and accordingly reckoned the rate of the item in the Schedule of Rates. Reckoning of 1.211 cum as 1 cum led to cost inflation of the item of work by ₹ 216⁹ per cum in SOR 2002 and ₹ 276¹⁰ per cum in SOR 2006. Thus, failure to exercise due diligence in working out the analysis of rates of the item of work 1:4:8 CRSM resulted in inflation of the quantities of basic inputs by as much as 21.1 per cent leading to cost inflation and consequent excess expenditure of ₹ 3.40 crore in the execution of 1,27,952.1 cum CRSM works.

➤ **Non-realisation of departmental charges**

SPWD Manual (Paragraph – 35.1 to 35.7) states that departmental charges¹¹ at nine per cent of the estimated cost of works should be levied to meet the establishment cost, pension contribution, T&P charges, etc. for all works executed by the Department on behalf of other organisations, private agencies, Central Government Departments, etc. Test check of records revealed that in all the 13 deposit works (₹ 21.56 crore) taken up during 2008-10 on behalf of various private agencies like the Vodafone Essar South Ltd., Tata Tele Services Ltd., Himgiri Hydro Energy Pvt. Ltd., etc.; the Department had not levied the departmental charges leading to loss of ₹ 3.01 crore to the Government. The Departmental officers had no authority to override the Government rules and regulations notified for executing works and exempt the private agencies and other organisations from paying the mandatory departmental charges.

➤ **Loss on supply of bitumen from stores**

The Department purchased bitumen (through the STCS) and issued the same to the works. The purchase rate of bitumen from the STCS was almost always higher than the rate of issue of bitumen agreed with the contractors due to time overrun in execution of the works which led to loss of ₹ 67.91 lakh during 2005-10 due to cost escalation resulting from the time overrun. With a view to avoid the cost escalation and the delay in completion of works, the Department may consider awarding all works on turn-key basis where it is the sole responsibility of the contractors to arrange all the material for the works.

⁸ 7 bond stones of size 45cmx15cmx15cm was specified for use in 1 cum CRSM (= 0.071 cum).

⁹ ₹ 1,244 instead of ₹1,028 in SOR 2002, difference = ₹ 216 per cum

¹⁰ ₹ 1,584.73 instead of ₹ 1,308.73 in SOR 2006, difference = ₹ 276 per cum

¹¹ Upto 10 September 2009, the rate of departmental charges was 13.75 per cent of the estimated cost of work in terms of the SPW Code 1983. With effect from 11 September 2009, the SPW Manual 2009 prescribed establishment cost at 9 per cent of the value of work (No rates of T&P, Pension Contribution and Audit & accounts charges were prescribed in SPW Manual 2009).

➤ **Irregular utilisation of contingency provision of works**

The provision for contingency expenses (three *per cent* of estimated cost) is incorporated within the cost of the work with a view to meet any unforeseen/incidental expenditure arising during the course of execution of work which is generally not covered under the main estimate of the work. The contingency charges provided for a work is meant to be spent only on items which are incidental to the work.

Test check of records revealed that the Department irregularly utilised ₹ 38.03 lakh of contingency charges in respect of various centrally funded schemes and projects funded by other organisations on items not related or incidental to execution of the particular works. The details are shown below:

Table – 3.4

(₹ in lakh)

Name of work	Contingency diverted	Items on which used
1. Upgradation, Carpetting, extension & providing drainage & protective works on Marchak Tumlabong Road Km 1 st to 13 th in East District.	17.52	Foreign travel of departmental officers
2. Improvement of SBS Road Km 1 st to 11 th & Construction of 2 bridges at Upper Dzongu.		
3. Strengthening, carpetting, protective works, drainage on approach road to Ringthem Gumpa Km 1 st to 3 rd , Mangan.		
4. Upgradation, Protective works, drainage & carpetting on Gor Santok Road Km 1 st to 8 th , Lower Dzongu.		
5. Improvement of SBS Road Km 1 st to 11 th & Construction of 2 bridges at Upper Dzongu.	16.37	Purchase of vehicles
6. Surface strengthening upgradation & carpetting of Pakyong, Karthok, Duga Busty Road	4.14	Meeting hotel charges, helicopter fare and photography
7. Upgradation, Carpetting, extension & providing drainage & protective works on Marchak Tumlabong Road Km 1 st to 13 th in East District.		
Total fund diverted	38.03	

This indicates that the contingency provision incorporated in the works estimate were either not required or much in excess of actual requirement giving scope to the departmental officers for misutilisation of funds on various unauthorised activities. This statement was corroborated by the fact that (i) Department kept no contingency provision in the deposit works executed on behalf of private organisations like the Vodafone, Tata, etc. and still managed to execute the works successfully; (ii) entire contingency charges of ₹ 48.20 lakh was irregularly included within the contract value of the work 'Goshkhan Dara Bridge over River Teesta at Singtam' and paid to the contractor.

3.1.11 Quality control

Existence of an effective Quality control mechanism in the Department is of paramount

importance with a view to ensure quality of inputs used in the works and to achieve high degree of quality. An efficient quality control mechanism would not only ensure durability of the created assets but also enable such assets withstand expected distress and the usual vagaries of nature to survive the designed life period. It was however, seen in audit that Quality control was a neglected area in the functioning of the Department as highlighted in the paragraphs below:

3.1.11.1 National best practices on Quality control

The Ministry of Road Transport and Highways (MORTH) envisaged that the contractor shall set up a field laboratory with adequate equipment and personnel in order to carry out all requisite quality tests at his own cost. Various important quality control tests have been prescribed by MORTH for road construction to be carried out at regular intervals and at the required frequency (**Appendix – 3.2**). Audit examination revealed that quality tests as stipulated by the MORTH were not carried out by the Department. This was despite the fact that majority of the projects executed by the Department were central funded which prescribed adherence to Quality Specifications issued by the MORTH.

3.1.11.2 Stipulation of Public Works manual not complied

The Department had no prescribed mechanism to ensure regular and effective quality control checks till September 2009. In September 2009 the revised Sikkim Public Works Manual 2009 was notified which incorporated some broad guidelines relating to quality control checks and quality assurance in works execution, which however was not adhered by the Department as of March 2010 as indicated below:

Table – 3.5

Stipulation in the PW Manual	Status of Compliance as of March 2010
<i>Detailed procedure to be laid down for ensuring quality control by the construction staff (Divisional Engineer, Assistant and Junior Engineers and the Contractors)</i>	No such detailed procedures had been laid down by the R&B Department for observance by the construction team.
<i>The engineer-in-charge should ensure that only materials conforming to IS standards and approved by the competent authority were used in the works. All test on materials as far as practicable were to be carried out at the construction site in a field laboratory set up under the control of the DE. At least one lab should be established in each Division.</i>	No detailed quality control tests were done on different aspects of works execution as prescribed by MORTH. No action initiated so far to establish quality control labs in the worksites or the executing divisions.
<i>No payment for works to be made unless bills were supported by quality control report.</i>	Bills were released to the contractors without mandatory quality control report.
<i>Guard file with copies of all quality inspection reports were to be maintained at all worksites. The SE (QA), SE (Circle), ACE, CE and PCE-cum-Secretary should invariably review and sign the Guard file of earlier inspections, inspection registers, Site Order Books, Registers of tests carried out, etc.</i>	No such Guard files were maintained in any of the work sites and hence the review of the quality inspections by the higher authorities could not be assured.

<p><i>At least ten mandatory visits were to be conducted by the head of Quality Assurance Team (SE, Quality Assurance) to different work sites every month for quality checks with portable equipment procured for the purpose.</i></p>	<p>No notification had been issued so far for constitution of the QA team. Details of quality tests carried out at the worksites by any QA team were not available. No portable equipment had been purchased for quality checks to be carried out in the work sites by the QA team.</p>
<p><i>The Public Works Department Specifications delineating detailed specifications of each item of work to be referred while carrying out quality control checks.</i></p>	<p>The R&B Department had not so far brought out any State specific specifications giving detailed specifications of the various items of works to be carried out in the field. Even the rudimentary specifications incorporated in the Analysis of Rates and the Schedule of Rates for various items of works were yet to be properly followed.</p>
<p><i>Establishment of Central Quality Testing Laboratory at the Departmental Headquarters with appropriate and qualified manpower to be engaged to run the lab.</i></p>	<p>Although a Quality testing laboratory was established at Tadong, Gangtok with some basic testing facilities, the lab was neither fully equipped nor made fully functional.</p>

3.1.11.3 Partially functional laboratory

It was further seen in audit that the Department had established (2003-04) a Quality Control laboratory at Tadong, Gangtok at a cost of ₹ 7.32 lakh with the objective of carrying out quality tests on materials. The laboratory had equipment and facility for carrying out tests such as (i) tests to determine CBR of soils, (ii) Aggregate impact value test, (iii) Los Angeles Abrasion test, (iv) Cube test to determine compressive strength of cement concrete, (v) Swell test to determine the soil index / expansion ratio, (vi) test to determine quality of cement, (vii) test to determine quality of bitumen, etc. Audit noticed that the Department had not attached due importance to management of the laboratory despite the fact that the laboratory played key role in ensuring quality control aspects as evidenced from the following:

- The Assistant Engineer in-charge of the Departmental stores at Gangtok was assigned additional responsibility of looking after the activities of the laboratory. He was basically a mechanical engineer with no training for undertaking quality tests relating to civil works. The lab was actually manned by three staff appointed on Muster Roll basis. Two of the three staff had attended a rudimentary ten day course at the Jalpaiguri Engineering College, in relation to carrying out some tests in the laboratory while the third staff was untrained.
- Barring a few tests carried out perfunctorily in the lab, the facility remained largely idle for want of enthusiasm on the part of the Department to make it fully functional. Out of 231 works which were sanctioned and in progress during 2005-10, tests were done in respect of only 20 works during 2008-10 in the laboratory. Even for these 20 works, neither all the specified tests were carried out nor the prescribed frequency adhered to. Cube test to determine compressive strength of concrete had been done in respect of only seven works, aggregate impact test in respect of 12 works only, Los Angeles abrasion test in respect of nine works and sieve analysis of sand in respect of

seven works only. Audit scrutiny of test results of cube test to determine compressive strength of concrete revealed that the samples tested in the lab had failed to meet the prescribed quality specification. No action was evident on records to rectify the work on the basis of failure of the samples to meet the quality requirement.

- Mandatory tests like test to determine CBR of soil, swell test to determine swell index / expansion ratio, tests to determine quality of cement and bitumen were never carried out although facilities for carrying out such tests were available in the lab. This indicated that the orientation of the Department was more towards expenditure intensive works in the field than on carrying out quality checks to ensure quality execution of works.

3.1.12 Human Resources Management

Proper management of the human capital employed by the Department was essential to ensure optimum work output, quality finish of works and efficiency in implementation of the projects. Human Resource management was, however, a neglected area in the Department as evidenced by the following:

- The Department had not taken up any systematic and scientific management of its human resources. The requirement of manpower with different skills required for running the various activities of the Department was never analysed. The staffing requirement under the various wings of the Department was never assessed. The deployment of manpower under various sections was not in conformity to the work load under each Section. No formal allocation of duties and responsibilities was fixed for the officers and staff under the Department. This fact led to difficulty in fixing responsibility and accountability in case of any default or dereliction of duty by any officer / staff. The principle of right man for the right job in the right place was never given prominence.
- The State Government has been laying considerable stress on capacity building and skill development of the people of the State with a view to make them capable and skillful for effectively handling various professional responsibilities and for providing useful service and value addition to the service sector. The Roads and Bridges Department had tremendous responsibility of planning, constructing and maintaining the road networks and bridges and also for overseeing the entire road communication system in the State. For this purpose, it was necessary to have a team of well equipped, trained, skillful, technically qualified and capable manpower. Audit of the Department revealed the following facts:
 - Although the Department was primarily concerned with planning, designing, construction and maintenance of roads and bridges, there was not a single officer in the Department who had done specialisation in road pavement design / construction or specialisation on structural designing of bridges.
 - There was no incentive, whatsoever, for the engineers of the Department either in

the avenues of career advancement or otherwise for specialisation in any area of civil engineering. Due to this fact, no individual evinced interest on their own in attaining a higher level of qualification / specialisation which was essential for the State which aspired to be the best in the country in all areas of development.

- Little emphasis was laid by the Department to enhance the capacity and skill level of its engineers by regularly sending them for specialised training in different aspects of road and bridges design and construction in renowned institutes of the country. Training of personnel in prominent training institutes like CRRI (Central Road Research Institute) and NITHE (National Institute for Training of Highway Engineers) to introduce and acquaint engineers with the latest technology in highway planning, design, construction and maintenance was never done. Even when renowned Institutes in the country invited working professionals for attending training courses to update their knowledge, the Department's approach was discouraging. Two Institutes¹² invited (September 2006 / October 2007) engineers from the Department to attend training course in (i) Seismic Design of Bridges and (ii) Construction and Quality Management of Roads & Bridges, dispute resolution in construction contracts and green and intelligent building construction technology. Although the subject matter concerned the Department, no officer was nominated for attending the training courses on the plea that the Department could not provide the course fee. In another case, the Department nominated two officers¹³ to attend (June 2007) an International study tour to Australia on the theme – 'ADB's Technical Assistance for development of road agencies in North Eastern States'. The training programme covered the subjects of road network planning & management, road and bridge maintenance management, management & maintenance of hill roads, etc. Soon after the completion of training course, both these officers were transferred away from the Department. Thus, the training programme attended by these officers did not yield any benefit to the State as the knowledge gained could not be applied.
- As the Department had no officers with specialisation in bridge designing, all the designing and DPRs of construction / rehabilitation of large Bridges were done by the contractors through consultants arranged from the market for the construction / rehabilitation projects. The Department had no technical expertise to verify the appropriateness of the designs prepared by the consultants and therefore to effectively supervise and monitor the execution of bridge works which called for technical knowledge of a high order.

3.1.13 Monitoring, supervision and internal controls

A Planning and Monitoring (P&M) Circle was put in place in the Departmental

¹²(i) IIT, Kanpur; (ii) Construction Industry Development Council set up under Planning Commission, Government of India.

¹³Sh. C.P.Tongden (S.E./South) & Sh. Shital Pradhan (S.E./North/East)

headquarters under a Superintending Engineer. However, terms of reference of the monitoring activities to be undertaken by the P&M circle was not defined. Due to this reason, the aspect of monitoring various activities of the Department remained poor and virtually non-existent, as indicated below:

- No monitoring mechanism was laid down to prevent unlawful utilisation / occupation of the road reserves and landed property of the Department.
- The Department prepared a Monthly Progress Report (MPR) of works which was periodically submitted to the Chief Minister's office and also furnished to other authorities desirous of knowing the status of progress of various works and projects in the Department. The MPR was however, found to be incomplete and inaccurate as it did not indicate original cost vis-à-vis revised cost while the status of physical and financial progress reflected in the report was often inaccurate.
- No system had been laid down for monitoring usage of appropriate quality and quantity of labour in road works. Consumption statement of labour was never prepared. Labour details were never submitted with bills, hence actual usage of the skilled and unskilled labours could not be ascertained.
- In terms of clause 19 D of the General Directions and Conditions of Contract, every contractor is required to submit by the 4th and 19th of every month, to the Engineer-in-Charge a true statement showing, in respect of the second half of the preceding month and first half of the current month, respectively (1) the number of labourers employed by him on the work, (2) their working hours, (3) the wages paid by them, (4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, (5) the number of female workers who were allowed maternity benefits like grant of leave, leave pay, etc. Despite this requirement, the contractors never submitted the details of labourers employed by them. Due to non-compliance to the terms of contract mentioned above, there was no control by the Department over the use of appropriate number of skilled / unskilled labourers, engagement of minors, payment of fair wages, etc. by the contractors.
- No system for monitoring usage of road rollers was laid down for road works. Statement of consumption of road roller was neither prescribed nor followed. Hence, the appropriate usage of road rollers for obtaining the right degree of compaction in road works could not be ascertained.
- Quality control checks and supervision was virtually non-existent.
- Although the GOI time and again instructed the Department to monitor the project execution with management tools like PERT (Programme Evaluation Review Technique) and CPM (Critical Path Method), this was not followed in the State.
- Physical access control was very poor in the Department. Anybody and everybody

could enter the departmental premises, loiter around, enter any room without any check or verification of credentials. There was no surveillance or monitoring mechanism to restrict entry of unwanted elements within the office premises. The safety and security of the office was thus at stake due to this free movement of unverified elements.

- The Department failed to safeguard land belonging to it and the unauthorised construction, digging, etc. along the highways by other agencies and individuals. No legal framework in the form of Act and Rules had been laid down to regulate usage of land belonging to the Department and the road reserves for various purposes by other agencies and no monitoring and supervisory mechanism had been prescribed to prevent unlawful use of the Department's assets.
- The Department did not possess in proper and complete shape ownership documents of the land over which the roads were laid and buildings, rest houses and workshops constructed. Transferring the title deeds and ownership of the land in the name of the Department was a neglected activity as no rules had been framed for the purpose till date. The Department also in one case handed over land (located at Lumsey, Tadong) belonging to it to the Urban Development & Housing Department which ended up being allotted to private individuals for their personal use. The parting of land by the Department was short-sighted as it constrained expansion of the Department's activities in future in conformity to the mission of the Government for building world class infrastructure.
- The Department was not maintaining any systematic Assets or Inventory register of the Road network and the Bridges created by it upto the year 2007-08. Register was being maintained for assets created since the year 2008-09. The history of any road or bridge under the Department created before 2008-09 was therefore not known. The date of creation, cost of construction, date of subsequent repairs undertaken, cost of such repairs, details of subsequent up-gradation / improvement undertaken was not recorded. In the absence of proper Inventory of complete Assets under the Department, regular repair and maintenance and subsequent upgradation / improvement could not be monitored.

3.1.14 Impact Assessment

The Department had not conducted any study to assess the impact of construction of roads and bridges over the years on the socio-economic condition of the people of the State. Construction of roads in the mountainous terrain of the State also entailed considerable degradation of the fragile land mass – the State being located in the young Himalayan belt with high rainfall (3,800 mm per annum), fragile landscape and high seismicity (being located in Zone IV in terms of the seismic zoning map of India). No study had been conducted so far to assess the damage caused to the environment and to arrest the distress caused to the fragile land mass due to the substantial construction activities undertaken by the Department.

3.1.15 Acknowledgement

The Office of the Accountant General, Sikkim expresses its gratefulness to the officers and staff of the Roads and Bridges Department for their cooperation in the successful conclusion of the audit.

3.1.16 Conclusion

The Department was yet to orient its functioning in accordance to the mission of the State Government to transform Sikkim into one of the best in the country. It had neither formulated the State Road Policy till date nor demarcated the area of its operations for overall planning and future expansion. The Department also failed to guard its assets as it did not even possess title deeds of the land acquired by it at substantial public expenditure. There was no perspective planning which led to unplanned growth and wasteful expenditure. Works were sanctioned and awarded to contractors despite non-availability of funds in the State plan sector. Contractors were empanelled without fulfilling qualifying criteria. Competitiveness in the bidding process was rare despite existence of a huge contingent of contractors. Transparency in award of works was scarce as advertisement for tenders were not published in national papers and in the net although the Department had a dedicated site in the State Government's website. Quality control was virtually non-existent.

Unless the Department woke up to its responsibilities of engendering an efficient and effective transportation and communication system in the State by streamlining its activities and improving its functioning, the fulfillment of the mission of the Government towards transforming Sikkim into a well governed and economically developed State comparable to the best in the country appeared grim.

3.1.17 Recommendation

- The State road policy and a master plan of communication for the entire State as envisaged in the mandate of the Department may be formulated at the earliest;
- More time and resources may be applied for conducting timely survey, investigation and preparation of DPRs to avoid change of scope of work and delay in completion of projects;
- The Department may sensitise the Government about the ill-effects of unrestrained sanction of projects and the consequent huge committed liabilities owing to inability of the Department to make payments to the contractors in time;
- The empanelment of contractors may be strictly monitored to register only the serious and *bona fide* contractors;
- Quality control and regular quality checks may be strengthened to ensure quality finish of works;
- Executing authorities may be trained on latest construction technology, project management tools and strategies, national and international best practices.