

CHAPTER – III PERFORMANCE REVIEWS

DEVELOPMENT PLANNING, ECONOMIC REFORMS AND NORTH EASTERN COUNCIL AFFAIRS DEPARTMENT

3.1 Border Area Development Programme

The Border Area Development programme (BADP) is being implemented as a centrally sponsored programme from Seventh plan period with a view to achieve balanced development of border areas through adequate provision of infrastructural facilities. The Performance Audit of BADP revealed that the State Government had neither undertaken any study of the remote villages nor conducted any survey to ascertain the special needs of the people living in remote, inaccessible areas situated near the borders. Critical gaps in physical and social infrastructure were never assessed and long term perspective plan for each border block was not initiated for facilitating overall balanced development of the region.

Implementation of schemes under the programme was characterised by unauthorised expenditure as the schemes were implemented in the blocks which were neither along the international border nor approved by the Empowered Committee, execution of schemes in replacement of normal State Plan schemes in violation of programme guidelines, etc. Fund management was also inadequate as evidenced from accumulation of liabilities in excess of available fund, non-availing of central assistance, etc. Monitoring of the programme was lax and evaluation was never attempted during the period covered under audit.

Highlights

The State Government neither conducted any survey to identify the needs of the people and the critical gaps in physical and social infrastructure in the border blocks nor prepared any perspective plan for achieving overall balanced development of the region.

(Paragraph 3.1.8.1)

The State Government incurred Rs. 8.21 crore during 2002-07 on implementation of 46 schemes which did not qualify for implementation under the programme as the blocks were neither along the international border nor approved by the Empowered Committee

(Paragraph 3.1.10.2)

In contravention of the programme guidelines, the State Level Screening Committee approved four schemes amounting to Rs. 2.45 crore for implementation in replacement of normal State Plan schemes.

(Paragraph 3.1.10.3)

Schemes were implemented without any weightage to area or the population of the blocks. While 3 blocks received disproportionately higher share of funds, 9 blocks did not get their due share affecting the balanced development of the region.

(Paragraph 3.1.11)

Monitoring of the schemes by the State Government was inadequate resulting in delayed implementation of the schemes. Evaluation of the programme was never carried out by any agency.

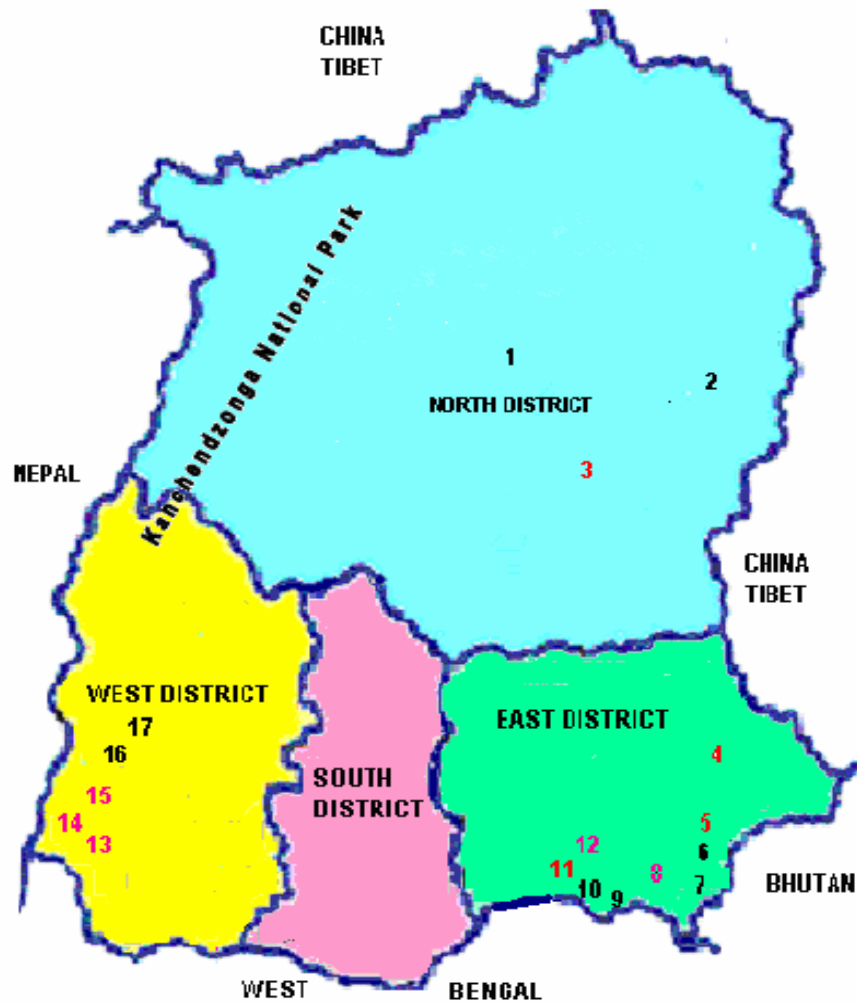
(Paragraph 3.1.12)

3.1.1 Introduction

The Border Area Development Programme (BADP) was introduced at the instance of the Prime Minister as a region specific special area programme during the Seventh Five Year Plan with the twin objectives of balanced development of sensitive border areas in the Western region through adequate provision of infrastructural facilities and promotion of a sense of security amongst the local population. The programme was revamped in the Eighth Plan period (1993-94) and extended to States which have an international border with Bangladesh. The nature of the programme was changed from a schematic programme with emphasis on education, to a State level programme with emphasis on balanced development of border areas. During the Ninth Plan, the programme was further extended to States having borders with Myanmar, China, Bhutan and Nepal and currently covers seventeen border States which have international land borders. The programme is continuing in the Tenth Plan also.

The programme was extended to the State of Sikkim with effect from 1998-99 with initial allocation of Rs. 4 crore. The programme covers 17 border blocks in three districts (East, West and North) having borders with Bhutan (8), China (4) and Nepal (5) as depicted in the map below:

Figure 3.1
Map not in Scale



Name of border blocks (Blocks test checked in italics):

1-Lachen, 2-Lachung 3-*Chunghang*, 4-*Gnathang* 5- *Phadamchen*, 6-Prem lakha, 7- Singaneybas, 8-*North Regu*, 9-South Regu, 10- Changeylakha, 11-*Dalapchen*, 12- *Subani Dara* 13- *Maneybong*,14- *Sopakha*,15 *Karmatar*, 16- Singrepong, and 17 - Topung

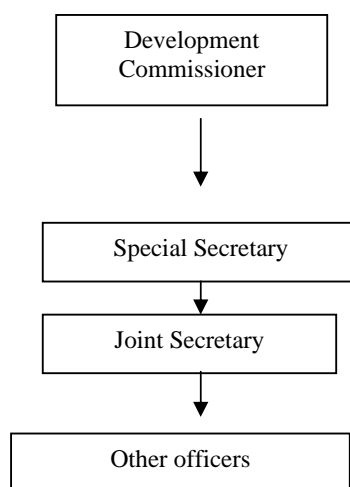
The total population of these blocks was 27,739 as per 2001 census while the total area was 133.76 sq. kms. The programme in Sikkim covered a length of 351 kms of international border with China (220 kms), Nepal (99 kms) and Bhutan (32 kms).

3.1.2 Organisational Structure

At the Central level, BADP was handled by the Planning Commission up to 2003-04 and thereafter by Union Ministry of Home Affairs, Department of Border Management MHA (BM)). The Empowered Committee (in the Planning Commission upto March 2004 and thereafter in MHA) lays down the policy stipulating the scope of the programme, prescribes the geographical limits of areas in the States within which schemes are to be implemented, allocation of funds to the States and similar other matters governing proper execution of the programme.

At the State level, Development Planning, Economic Reforms & NEC Affairs Department (DPNER) is designated as the nodal Department for implementation of BADP. The Department is headed by a Development Commissioner who is assisted by a Special Secretary, a Joint Secretary and other officers.

Chart 3.1.1

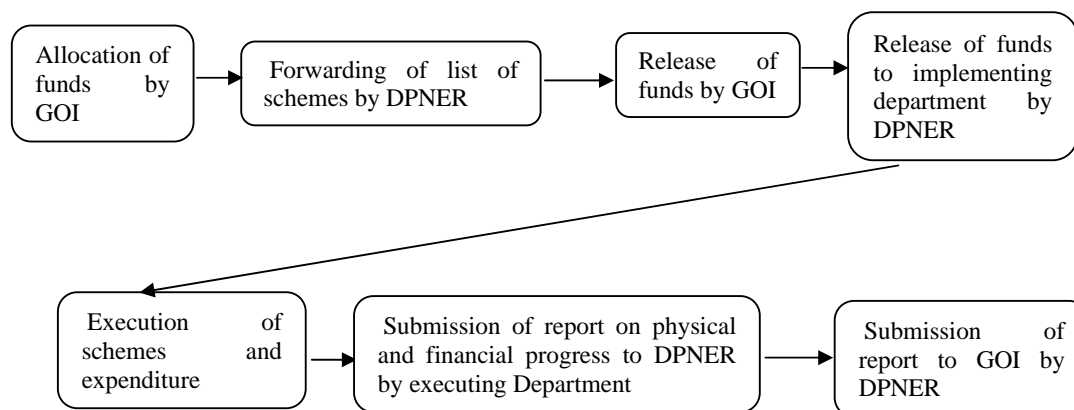


Individual schemes proposed to be executed in the State, subject to the fund ceiling specified by the Union Ministry of Home Affairs are approved by the State Level Screening Committee (SLSC) chaired by the Chief Secretary of the State and forwarded to the Ministry for acceptance and release of funds. After the receipt of funds by DPNER, these are released to various implementing departments for execution of the schemes in identified border blocks as per the approved list.

3.1.3 Programme process

The process chart of the Programme is given below:

Chart - 3.1.2



3.1.4 Scope of Audit

The performance audit was carried out during May 2007 to July 2007 and covered a period of five years from 2002-03 to 2006-07. The records in the office of the DPNER and implementing departments in respect of 9 out of 17 border blocks (50 *per cent*), selected on the basis of two stage sampling, were scrutinised. In the second stage, of the selected 9 border blocks, 50 *per cent* of the schemes in each of the border blocks aggregating to 31 schemes out of a total of 60 schemes were selected for audit scrutiny on the basis of allocation of funds to individual schemes.

3.1.5 Audit objective

The performance audit of BADP was conducted to ascertain the extent to which implementation of the programme was successful in meeting the special needs like strengthening of the social infrastructure, filling of the critical gaps in road network, minor irrigation, agricultural activities, animal husbandry & veterinary services, farm forestry etc. of the people living in remote and inaccessible areas situated near the borders. In the process, the following aspects were assessed:

- whether a long term perspective plan for each border block was prepared by the State Government keeping in view the overall balanced development of the region;
- whether allocation of funds was commensurate with the size of blocks and population therein of the blocks and extent of the critical gap mentioned above;

- whether adequate emphasis was laid by the Government in preparation of schemes for employment generation, production oriented activities, schemes providing critical inputs in social sectors;
- whether the schemes were implemented with due regard to economy, efficiency and effectiveness;
- whether the implementation of various schemes was properly monitored.

3.1.6 Audit criteria

For arriving at audit conclusions, the following criteria were adopted:

- Programme guidelines issued by GOI;
- Sikkim Financial Rules;
- Sikkim Public Works Code and Manual;
- Circulars/ Notifications issued by GOI and the State Government having bearing on programme implementation.

3.1.7 Audit methodology

The performance audit began with group discussion with various stake holders, followed by selection of sample based on a two stage sampling. Before commencement of the field audit, Audit engagement letter (April 2007) was sent to the Department followed by an entry conference (May 2007) wherein broad performance indicators and criteria for evaluation of the programme implementation were discussed and agreed to.

Questionnaires issued on various aspects and data provided by the Department were analysed with reference to original records in the office of the concerned implementing departments and the nodal office (DPNERC) and discussed with senior officers of the Department. At the end of the audit, exit conference was held (July 2007) and the report finalised after taking into consideration the views of the Department.

Audit findings

3.1.8 Planning

3.1.8.1 Perspective plan not formulated and Survey not conducted

Guidelines required the State Government to draw up the schemes based on the assessment of the needs of the people and after identifying the critical gaps in physical and social infrastructure by undertaking a study of the remote villages in the border blocks. A long-term perspective plan for each border block was then to be prepared keeping in view the objective of overall balanced development of the region.

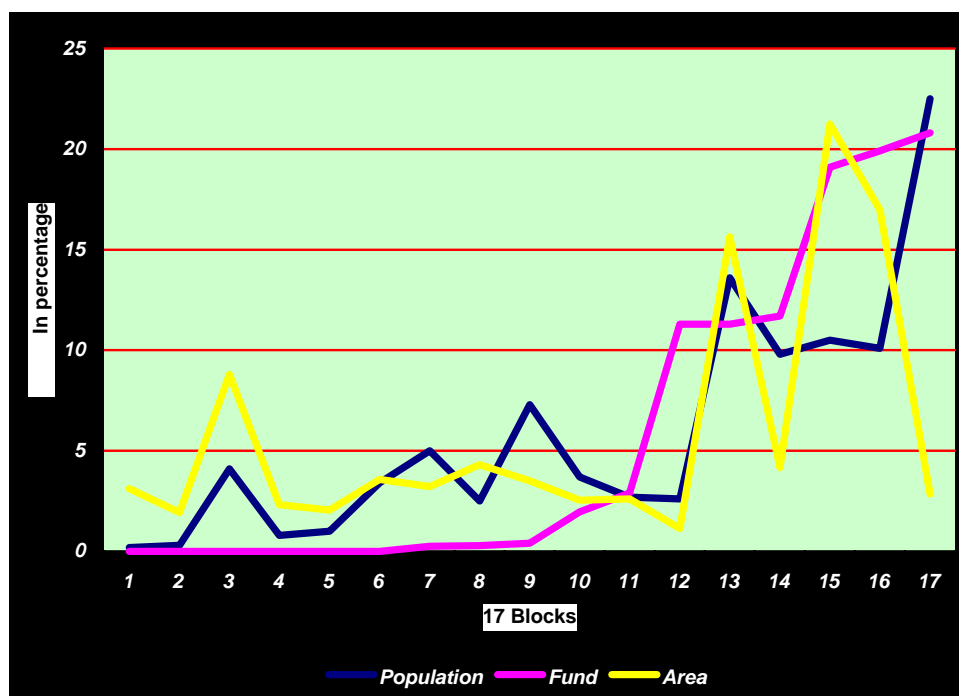
It was noticed that the State Government had neither conducted any survey nor prepared any perspective plan. As a result, all the schemes submitted by various departments to DPNER for approval under BADP were usually getting approved by the SLSC without any impact assessment on the overall development of the border blocks. This indicated casual approach on the part of the nodal department in implementing the programme.

The Development Commissioner (DC) stated (August 2008) that being a small State, gap in social and physical infrastructure is well established and known and that, five year plan and also the annual plans incorporating all important areas were prepared by the departments covering the border blocks as well and thus perspective plans specifically for BADP was not necessary. Fact is that BADP is a Centrally Sponsored Scheme and a focused perspective plan would have specifically addressed the concerns of the border areas and would have ensured effective overall development of these blocks and proper utilisation of funds and involvement of the local population.

3.1.8.2 Irrationality in implementation of schemes in border blocks

The border blocks are the spatial units for implementation of the programme and accordingly funds were to be allocated on the basis of (i) length of the border blocks, (ii) population of border blocks, and (iii) area of the border blocks with equal weightage, for achieving balanced development of the border areas. Guidelines envisaged that the State Government conduct proper survey and draw up schemes on the basis of assessment of the needs of the people and the critical gaps in physical and social infrastructure in the border blocks which was not done as mentioned in paragraph 3.1.8.1 above. The State Government neither carried out any survey to identify the needs of the people and the physical and social infrastructural gaps for implementation of the schemes under the programme nor followed the pattern of allocation of funds resorted to by the GOI for implementation of the schemes as stated above. Audit analysis revealed that schemes were implemented without any weightage to area or the population of the blocks as is evident from the graph below:

Chart 3.1.3



(Name of block:1- Singaneybas, 2- Prem lakha, 3- North Regu, 4- Singrepong, 5- Topung, 6- Sopakha, 7- Subani Dara, 8- South Regu, 9- Dalapchen, 10- Phadamchen, 11- Karmatar, 12-. Changeylakha, 13- Chungthang, 14- Maneybong, 15- Lachen, 16- Lachung and 17- Gnathang)

It would be seen from above that 3 blocks (Changeylakha, Maneybong and Lachen) received disproportionately higher share of funds thereby jeopardising the balanced development of the border blocks as envisaged in the Programme guidelines. This was mainly due to the failure of the State Government to conduct survey and identify the needs of the individual blocks combined with preparation of perspective plan.

3.1.8.3 Gram Panchayats not involved

The programme guidelines stipulated involvement of village level institutions like Gram Panchayats (GPs) in identification of priority areas and finalisation of schemes for implementation under BADP with a view to provide a platform for the people living in border areas to have a direct say in the selection of schemes. Audit analysis of 31 schemes revealed that the schemes had been selected by the departments themselves except in four cases where GPs were stated to have been involved. However, details of involvement of GPs in identification of these schemes could not be produced to Audit.

The DC stated (August 2007) that GPs were involved in the selection of schemes as evidenced from the fact that out of 65 schemes recommended by SLSC for the year 2007-08, 23 schemes were as per the demands of the

Dzumsas¹ of Lachen and Lachung². The reply is not tenable as no semblance of involvement of GPs, except in four schemes, was available in any of the 31 schemes selected in Audit for scrutiny.

3.1.9 Financial performance

The BADP is a Centrally funded area programme. Funds are provided to the States as special Central assistance for execution of approved schemes on a 100 per cent grant basis. Before the commencement of a financial year, MHA (BM) informs the State about funds available for the ensuing year, on receipt of which, list of schemes within the ceiling limit is to be sent to the MHA (BM) for release of funds. Funds would be released in two installments. The first installment equal to two-thirds of the annual allocation, would be released by April on receipt of the list of schemes duly approved by the SLSC along with expenditure incurred till the last quarter of the previous year. In case there is any shortfall in the UCs of previous years except the preceding year, the first installment would be released after adjusting the unspent balance of the previous years except the preceding year. Similarly, the second installment, one-third of the total fund allocation, would be released after October, depending on physical and financial progress achieved.

The allocation and release of funds by GOI and the expenditure by the State during the last five years was as below:

Table – 3.1.1

(Rupees in crore)

Year	Allocation	Released by GOI	Opening Balance	Budget provision		Expenditure		Savings (-) / excess (+)		Closing balance (3+4-7-8)
				Revenue	Capital	Revenue	Capital	Revenue (5-7)	Capital (6-8)	
1	2	3	4	5	6	7	8	9	10	11
2002-03	5.72	5.72	1.37	2.22	3.50	1.09	4.46	(-)1.13	0.96	1.54
2003-04	5.72	5.72	1.54	2.22	3.50	0.70	3.12	(-)1.52	(-)0.38	3.44
2004-05	12.72	12.56	3.44	2.62	4.50	1.61	3.07	(-)1.01	(-)1.43	11.32
2005-06	5.72	5.72	11.32	1.50	10.22	1.53	10.42	0.03	0.20	5.09
2006-07	15.66	15.66	5.09	1.50	8.22	2.18	9.04	0.68	0.82	9.53
	45.54	45.38		10.06	29.94	7.11	30.11			

Source: Finance Accounts and departmental figure

The fund for execution of schemes under BADP was sanctioned and released by MHA (BM) on the basis of recommendation of the SLSC and approval of the Empowered Committee at MHA level. The State Government was required to execute schemes within the sanctioned cost. A cross check of list of schemes sanctioned by MHA (BM) with release of funds, payment to contractors by the State Government and the pending liabilities revealed inadequacy of fund availability. As against the availability of Rs. 9.53 crore on 31 March 2007, unpaid liabilities on account of schemes implemented by various departments worked out to Rs.12.84 crore (as ascertained from list of schemes approved by the EC and Quarterly Progress reports submitted to MHA (BM)). Thus, unless

¹ Equivalent of panchayats as per established procedure.

² Two blocks in North district predominant with tribal population.

bailed out by MHA (BM), the Department was not in a position to pay Rs. 3.31 crore towards execution of works, as and when executed. The nodal Department could not furnish any tangible reason for the difference. Audit analysis, however, revealed that the difference was because of curtailment of Rs.1.25 crore by MHA (BM) from sanctioned fund. The curtailment was due to non-submission of utilisation certificates, after completion of works, by the State Government in respect of 8 schemes sanctioned during 1999-2000 and 2002-03. The difference of remaining Rs. 2.06 crore was not traceable from the records.

3.1.9.1 Budgetary and expenditure control

Budgetary and expenditure controls were found deficient as would be seen from the following:

- During 2002-03, there was excess of Rs. 96.05 lakh (27 per cent) under capital, reasons for same were not stated. Similarly, there was a saving of Rs.1.13 crore (51 per cent) under revenue of which only Rs.16 lakh was surrendered in March 2003.
- During 2003-04 there was a saving of Rs. 38.25 lakh (11 per cent) under capital but the DPNER surrendered only Rs. 2.04 lakh on the last day of financial year .The reason for saving was due to non completion of projects.
- Supplementary provision of Rs. 1 crore taken during February 2005 proved unnecessary in view of ultimate saving of Rs. 1.43 crore (32 per cent) in capital section during 2004-05.
- Excess of Rs. 0.20 crore and 0.82 crore were noticed during 2005-06 and 2006-07 respectively, reasons for which were not furnished.

The Development Commissioner stated (August 2007) that savings of Rs. 36 lakh could not be surrendered during 2003-04 due to failure of the implementing departments (as many as 12) to indicate the extent of fund utilisation and likely surrender. Supplementary provisions were sought on the basis of projections made by the implementing Departments. The reply indicated that the implementing departments were not displaying adequate seriousness in management and utilisation of BADP funds. Fact is that in the absence of perspective plan for BADP the funds could not be used optimally.

3.1.9.2 Unutilised provision

Out of the total available fund of Rs. 46.75 crore (*inclusive of opening balance of Rs. 1.37 crore*) received from MHA (BM) during 2002-2007, the Department could spend Rs. 37.22 crore (80 per cent) up to March 2007. The balance Rs. 9.53 crore remained un-utilised primarily due to delayed implementation of the schemes by the implementing departments as mentioned in paragraph 3.1.10.1 below.

3.1.9.3 Non-availing of central assistance

Funds for the programme were being released in two installments. The first installment equal to two thirds of the annual allocation was released in April after the receipt of the approved list of schemes from SLSC along with the utilisation certificate of the entire amount released to the State during the previous years, except the preceding year. The second installment of the remaining amount was released after the month of October, depending on the physical and financial progress achieved.

During 2004-05, Rs. 12.72 crore was approved and sanctioned for release by MHA (BM) which was later curtailed to Rs. 12.56 crore. This was due to the failure of the State Government to submit utilisation certificates for the five schemes implemented by the District Collectors (West and North) (Rs.0.13 crore), Science and Technology Departments (Rs. 0.01 crore), Art and Culture (Rs. 0.01 crore) and Rajya Sainik Board (Rs. 0.01 crore). Utilisation of funds could not be submitted within the stipulated time frame due to delay of two years in release of funds by DPNER.

The DC accepted the comment.

3.1.10 Execution of schemes

3.1.10.1 Time and cost over-run

Time is the essence of programme management. Audit however observed that time limit for completion of schemes was not adhered to by the executing departments. In 7 out of 31 schemes test checked in audit as detailed in *Appendix 3.1*, execution was delayed between eight and 36 months primarily due to non-availability of stock materials (3), delay in obtaining forest clearance (1), non-availability of land (1), change of scope (1) and delay in release of fund (1). Three schemes were delayed due to non availability of stock materials which was not a plausible reason as self procurement was being regularly allowed by the implementing departments. Time over-run in one case led to cost escalation of Rs.23.14 lakh (10 *per cent* of expenditure of Rs. 2.36 crore).

The DC stated (August 2007) that the responsibility of timely completion of schemes within the allocated fund was the responsibility of the implementing departments. But the fact remains that DPNER being the nodal department, failed to monitor the timely completion of the schemes.

3.1.10.2 Spending of BADP fund in non-border blocks

The programme guidelines categorically stipulated utilisation of programme funds within the border blocks approved by EC only. In violation of this stipulation, during 2002-03 to 2006-07, the State Government incurred Rs. 8.21 crore out of Rs. 9.44 crore approved by EC, on implementation of 46 schemes in non-border blocks. The blocks were neither along the international border nor approved by the EC. Thus, the special needs of the people in the approved

border blocks especially in relation to drinking water supply and construction of school buildings were compromised, while the non-border blocks received undue preference. Further scrutiny revealed that the Special Secretary, DPNER while forwarding the proposal to MHA (BM) had omitted the name of some border blocks in which these schemes were intended for implementation even though these schemes were approved by SLSC. The MHA (BM) on its part had also failed to detect this omission before acceptance of the proposal.

The DC, while accepting that some of the schemes were taken up in the past in the non-border blocks stated (August 2007) that schemes were implemented with the approval of MHA (BM) and thus it should not be construed as unauthorised. The reply is not tenable as the programme guidelines categorically forbid utilisation of programme funds outside the approved border blocks. Further, reply also indicated that MHA (BM), in the process, had transgressed its own guidelines by accepting the proposals of the State Government to implement schemes in non-border blocks.

3.1.10.3 Diversion by way of replacement of normal State plan funding

Programme guidelines forbid utilisation of programme funds for replacing normal State Plan flows. However, the SLSC approved four schemes viz., (i) stipend to students of Tashi Namgyal Academy (TNA) (Rs. 1.18 crore), (ii) State's matching contribution towards implementation of Integrated Development of Watershed Programme in North Sikkim (Rs. 13.5 lakh), (iii) State's matching contribution towards providing Non-Conventional Power Supply at Thangu (Rs.52 lakh) and (iv) Development and beautification of Tshangu lake (Rs. 61.05 lakh) in contravention of this stipulation. While the State's matching contribution towards centrally sponsored schemes as at sl. nos. (ii) and (iii) were clearly not payable from BADP funds, payment of stipend to TNA students and development and beautification of Tshangu lake which were State Plan schemes was resorted to from the programme funds in replacement of earlier funding source from the State plan. In effect, all these diversions led to curtailment of the programme implementation in the border blocks. Further analysis revealed that every year eight students were selected for stipend in TNA, two each from Kabi, Dzongu, Lachen and Lachung of which, Kabi and Dzongu on which Rs. 0.59 crore was spent did not even fall under the approved border blocks.

The contention (August 2007) of the DC that these works were sanctioned by MHA (BM) and thus should not be deemed as unauthorised is not tenable as programme guidelines forbid utilisation of BADP funds in replacement of normal State plan. In fact, works which were prohibited by the programme guidelines should not in the first place have been approved by SLSC.

3.1.10.4 Execution of works at higher rate in violation of Government directive

The State Finance, Revenue and Expenditure Department (FRED), vide circular (August 2005) prohibited acceptance of tenders at above the estimated cost (worked out on the basis of prevalent schedule of rates (SOR)) and instead advised for re-tendering of all works where tender rates are above estimated cost. It was noticed that out of 31 works test checked in Audit, nine schemes sanctioned for Rs 4.24 crore were tendered (September 2005 to January 2007) after the issue of the notification *ibid* of which, three³ schemes were accepted (December 2005 to January 2007) by the implementing departments at 21 *per cent* and 27 *per cent* above the estimated cost in violation of the above directions. The acceptance of higher tender rate resulted in extra liability of Rs. 45.34 lakh on execution of these schemes which could have been utilised for the benefit of the people of border blocks in some more schemes.

The DC stated (August 2007) that due to time lag between the SOR and actual execution of works, cost escalation was inevitable for which relaxation from FRED was accorded on a case to case basis. The reply is not tenable as out of nine works, six works were executed *at par* while for remaining three works executed above the estimated cost, neither the implementing departments nor the nodal Department (DPNER) could furnish the relaxations accorded by FRED.

3.1.10.5 Idling of assets

Out of 31 schemes selected for detailed scrutiny, two schemes viz., (i) construction of the Block Officer's office-cum quarters at Phadmchen sanctioned (September 2002) for Rs.6.59 lakh and (ii) Uttarey Water Supply Scheme sanctioned (September 2002) for Rs.1.27 crore were completed in May 2003 and December 2005 respectively but not been put to use as of March 2007.

- The Uttarey Water Supply Scheme taken up (January 2004) for completion by August 2004, was completed after a delay of 16 months (December 2005) at a cost of Rs. 1.27 crore. Audit verification revealed that although the scheme was complete, water connections to the public were not given as of March 2007 owing to non-availability of subordinate support staff such as mechanics, plumbers, linemen, etc thus depriving the people of the drinking water facilities, besides the risk of ruining the facility due to prolonged idling.
- Similarly, construction of the Block Officer's office - cum quarters at Phadmchen completed (May 2003) at a cost of Rs. 6.59 lakh remained

³ Const. of Kupup Primary. School (Human Resource Development Department), Const. of tourist guest House at Uttaray (Tourism Department) and Const. of Community centre at Regu (Building and Housing Department) .

un-utilised as of March 2007 primarily due to lack of takers indicating that the scheme was taken up without any need analysis of the people of the border blocks. The building was also not constructed as per the specifications laid out in the approved blue print.

The Principal Chief Conservator of Forest - cum - Secretary stated (August 2007) that the BO's quarter was being used by the Range Officer, Phadamchen for his office cum residence. Similarly, Superintending Engineers (S/W), Water Security and PHE Department stated (August 2007) that the water supply connections were provided to the consumers of Uttaray Bazar. The replies are not correct, as the assets were not put to any use as disclosed during a joint physical verification carried out during June-July 2007 by Departmental officers in the presence of Audit.

3.1.10.6 Non- commencements of works

One work (Construction of toilets for ladies and gents at Kyangnosla at Nathula) approved by EC (2005-06) had not commenced as of March 2007 even though funds amounting to Rs. 15 lakh were released to Defence organisation for implementation of schemes by DPNER and the amount shown as expended by the DPNER (March 2007). In case of another work amounting to Rs. 20 lakh pertaining to 'windmill project', approved by EC (2003-04) work executed by the contractor was found to be below standard by Defence organisation and the contract rescinded (July 2006) and later awarded to a new contractor (March 2007).

3.1.10.7 Undue benefit to contractor

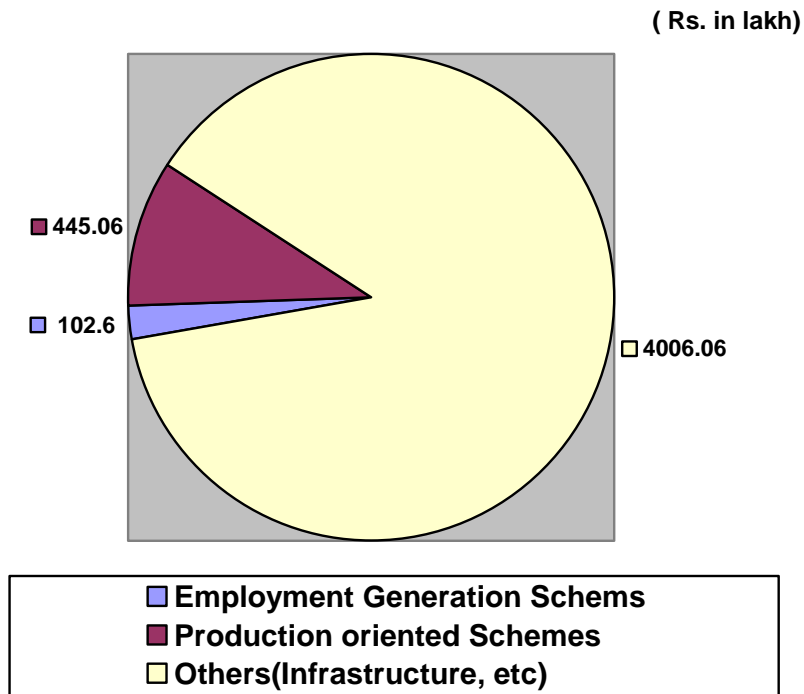
The Department (Building & Housing) put to tender (December 2005) "Construction of Community centre at Rongli" at an estimated cost of Rs. 2.80 crore based on SOR 2002 funded under BADP scheme (Civil cost put to tender: Rs. 2.20 crore). The work order was issued (February 2006) to the lowest tenderer who quoted 32 *per cent* above the SOR which was reduced to 21 *per cent* above SOR after negotiation. The work was to be completed within 15 months.

As of November 2007, an ad-hoc payment amounting to Rs. 41.50 lakh against the first RA bill had been paid. The justification for higher tender rate of 21 *per cent* was approved by implementing department (B&H) based on the fact that the cost of cement, steel rods and labour charges have considerably increased since the preparation of SOR 2002 based on which estimate was prepared. Audit noticed that justification for accepting higher tender rate was incorrect, as base rate for calculation of cost escalation was less than the rate used in SOR 2002 which led to undue benefit of Rs. 12.10 lakh to the contractor. Further, although the scheme was approved for implementation at Regu, it was actually implemented in the Changeylakha block without the approval of SLSC.

3.1.11 Less emphasis on employment generation and production oriented schemes

According to the Guidelines, adequate emphasis was to be laid on schemes for employment generation, production oriented activities and schemes which provide for critical inputs in the social sector. Audit noticed that due emphasis was not accorded by the State Government for the schemes which helped in generation of employment and production oriented activities as evidenced from the allocation pattern of the schemes for the period 2002-2007 as illustrated in the graph below:

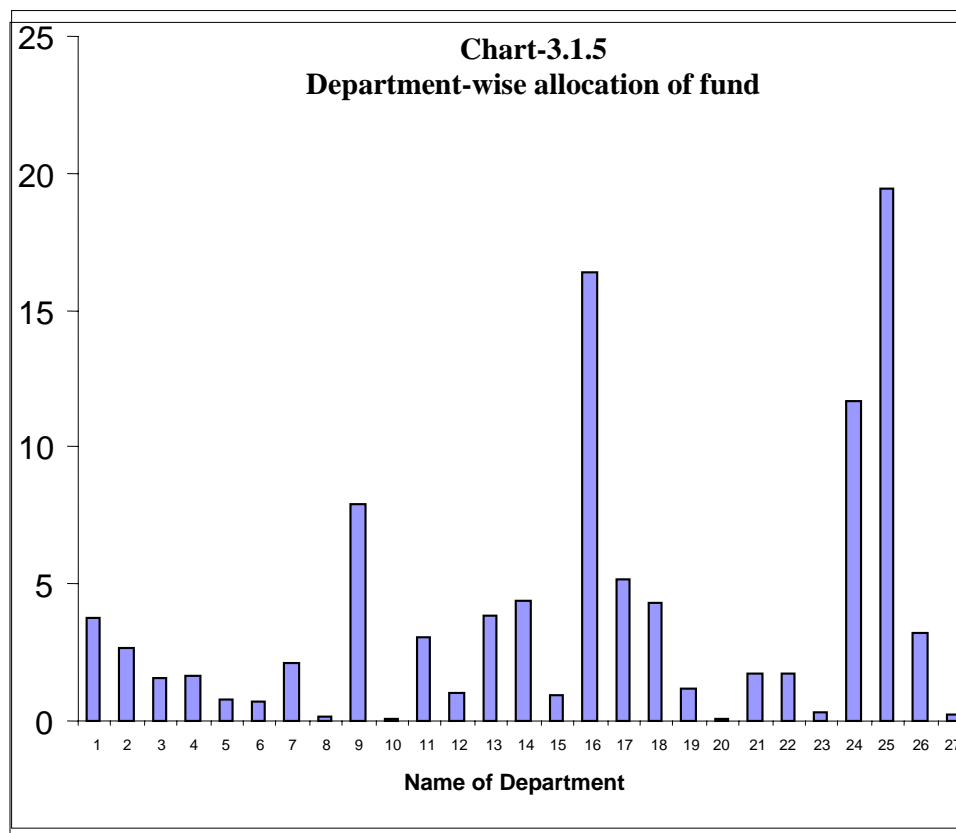
Chart-3.1.4
Schematic allocation of fund



Not only did the Department not lay adequate emphasis on employment generation and production oriented schemes but also failed to maintain the details of employment generated out of programme funds and also the increase in production of various goods and services. So much so that, the Department had not obtained any feedback from the trainees and the implementing departments nor initiated any follow up for assessing the impact of the training programmes imparted under the schemes. Out of the 31 schemes test checked, only in one scheme implemented by Defence organisation, 15 unemployed youths were provided with employment. Thus the people of border blocks were deprived of the employment generation facilities which could have been generated had the right kind of schemes been selected. This was mainly due to

selection of the schemes submitted by the implementing department without assessing its impact on the people of the border block by SLSC.

Further analysis revealed that more emphasis was laid on the schemes falling under power, water supply and tourism sectors and consequently less emphasis on agriculture, horticulture and animal husbandry sectors affecting employment generation and production oriented activities as can be seen from following graph:



(Name of Department & agencies: 1-Agriculture & Food Security, 2-Animal Husbandry & VS,3-Culture, 4- Building & Housing, 5-Co-operative, 6- District Collectors 7-Commerce & Industries, 8-Elastical, 9-Human Resources Dev. Department, 10-Food &CS 11-Forest E &WM 12-Human Care, HS &FW 13-Horticulture & Cash Crop, 14-Irrigation & FC, 15-NGOs , 16-Energy & Power, 17-Rural Management D, 18-Road & Bridges, 19- Science & Technology, 20-Rajya Sainik Board, 21-Social Welfare, 22-Sport & youth Affairs, 23- SSB, 24-Tourism, 25-Water Supply & PHE 26-Army and 27- BRO)

The DC stated (August 2007) that the employment generation and subsequent income from production oriented activities would flow only if physical infrastructure is in place and it is a well known concept that availability of basic infrastructure holds the key for future development. But the fact however remains that even though BADP was introduced in Sikkim from the year 1998-99 and more than seven years have elapsed the required infrastructure have still not been completed and therefore the objectives of the scheme have been neglected.

3.1.12 Monitoring and evaluation

3.1.12.1 Monitoring

The State Government was to closely monitor implementation of BADP and carry out inspection of works from time to time to ensure their quality and timely completion. The reports of such inspections and scheme wise quarterly progress reports in the prescribed proforma indicating physical and financial achievements were to be submitted to MHA (BM).

It was noticed that the monitoring over the progress of execution of the schemes by the State Government was inadequate resulting in delayed implementation of the schemes.

Inspection not carried out: In keeping with the programme guidelines, although the State Government constituted (April 2001) Inspection Committee for monitoring and evaluation of the schemes implemented under BADP, the DPNER could neither produce any inspection report, though called for time and again, detailing inspections carried out nor could furnish any records indicating even a semblance of any follow up action initiated on the recommendations of such inspection, if any.

No inspection by District collectors: The State Government through programme funds allotted (2001-02) one vehicle each to three District Collectors (DCs) by expending Rs. 19.5 lakh for facilitating inspections of the BADP schemes. However, no inspection reports were submitted by the DCs indicating that inspection of the BADP schemes were either not carried out at all by them or no follow up action was taken to obviate defects if any, noticed during the course of inspections.

Lack of adequate supervision: Lack of adequate supervision and monitoring on the part of DPNER led to curtailment of Rs. 1.25 crore by MHA (BM) from sanctioned fund due to non-submission of utilisation certificate by the State Government in respect of 8 schemes sanctioned during 1999-2000 and 2002-03 as stated in para 3.1.9.3.

The DC stated (August 2007) that field inspections were being carried out by departmental officers and as many as seven schemes were inspected by a senior officer of the Department during April-May 2007. However, Department could furnish only two inspection reports - one conducted by the Departmental Officers in November 2002 and another by Additional District Collector-II (West) in 25 August 2005.

3.1.12.2 Evaluation

MHA (BM) proposed to put in place a Management Information System (MIS) for creating an effective management system under BADP and facilitating appropriate policy for effective implementation of BADP. As a sequel to MHA (BM)'s direction (December 2005), the State Government entrusted (April 2006) the work of preparation of MIS for BADP to 'Human Institutional

Development Core Group', formed during November 2002, consisting of personnel from various departments of the State Government. The core group after spending Rs. 1.88 lakh submitted (November 2006) the MIS which however was found to be incomplete by the DPNER as more details on Village Level Officer centre, irrigation facilities, hostel facilities available for schools etc. were required to be incorporated. This was still awaited from the core group as of 31 March 2007. As a result, MIS for BADP could not be operationalised as yet and policy for comprehensive development of the blocks could not be framed.

No evaluation of the programme was ever carried out by any agency. Thus, the impact of the programme and its bottlenecks were not ascertained by the State Government.

Lack of control: DPNER on approval of schemes by MHA (BM) and receipt of funds intimates FRED for release of equivalent fund for each scheme to the implementing departments with a copy endorsed to implementing departments. FRED in turn issues the resource allocation order allowing the implementing departments to withdraw money on the basis of resource allocation from respective Pay and Accounts Offices. As soon as the DPNER issued letter indicating release of resource, entire expenditure so released was shown as final expenditure by the DPNER without ascertaining actual fund utilisation towards scheme implementation. DPNER had so far not developed any mechanism to ascertain as to whether the implementing departments have actually incurred the expenditure or not. During 2005-06 DPNER released Rs. 11.72 crore but the actual expenditure incurred was Rs. 11.95 crore. This not only indicated lack of financial control but also failed to depict the true picture of fund utilisation in the Quarterly Progress Reports submitted to MHA (BM).

3.1.13 Conclusion

The implementation of the BADP in the State failed to create the desired impact in so far as ensuring balanced development of border areas was concerned, despite availability of adequate funds. Survey for identification of needs of the people and critical gaps in social and physical infrastructure was not conducted and funds spent without giving due emphasis to area or the population of the blocks. Effectiveness of the schemes was reduced due to execution of schemes in unauthorised blocks, execution of impermissible works as a result of non-survey and non-preparation of perspective plan. Absence of adequate monitoring of the schemes by the DPNER resulted in delayed implementation of schemes.

3.1.14 Recommendations

- The Department should undertake the survey of border blocks in order to assess the needs of the people and identify the critical gaps in physical and social infrastructure.

- A long term perspective plan should be prepared.
- Meaningful participation of the Gram Panchayats should be ensured in selection/recommendation of schemes by making written recommendation of GPs mandatory.
- Execution of unauthorised works and in unauthorised blocks should be avoided.
- Monitoring mechanism should be made more effective by convening regular meetings and field visits/inspections by the officers of the implementing department and the DCs.

LAND REVENUE AND DISASTER MANAGEMENT DEPARTMENT

3.2 Disaster Management

Performance audit of Disaster Management revealed State Government's lackadaisical approach in implementation of the important aspects of disaster prevention, mitigation and preparedness as envisaged in the National Disaster Management Framework and the State Disaster Management Act. The State Disaster Management Authority (SDMA) constituted (October 2004) under the Chairmanship of the Chief Minister for overseeing activities relating to disaster prevention, mitigation and preparedness had met only once in July 2005 since its formation and was virtually non-functional as the concerned departments had not acted upon the resolution in right earnest. The Land Revenue and Disaster Management Department (LRDMD), although being the nodal Department for coordinating activities relating to disaster management, was acutely lagging in its functions as it was mainly engaged in relief related activities from the Calamity Relief Fund (CRF)/National Calamity Contingency Fund (NCCF) scheme instead of pursuing a holistic approach to disaster management including disaster prevention, mitigation and preparedness. The CRF/NCCF scheme was implemented in total disregard of the objectives for which it was constituted as funds from the scheme were utilised on inadmissible items of works. Monitoring and supervision of the activities under CRF / NCCF scheme was virtually non-existent as the monthly and quarterly returns prescribed by the Government of India were never sent by the LRDMD. Similarly, periodical reporting by the district level functionaries to the State level functionaries relating to delivery of the relief measures was not done.

Highlights

The State Disaster Management Authority (SDMA) met only once (July 2005) since inception (October 2004).

(Paragraph 3.2.7.2)

The State Government had not yet ensured incorporation of disaster mitigation and prevention plans into the development process. The State policy on disaster management had also not been finalised as of July 2007.

(Paragraph 3.2.8.1)

Rs. 4.38 crore was incurred from CRF on the recommendation of public representatives in violation of norms of the scheme as the proposals for post-disaster relief were not routed through DLRC.

(Paragraph 3.2.10.3)

Restoration works undertaken under the CRF scheme were delayed by 1 to 24 months since the occurrence of disaster, rendering the authenticity of such occurrence doubtful.

(Paragraph 3.2.10.3)

The Energy and Power Department was irregularly granted Rs. 1.30 crore from the CRF for repair and renovation of water conduits and power houses, which despite repairs, were still non-functional.

(Paragraph 3.2.10.3)

Monitoring of the administration of relief measures by the MHA, Relief Commissioner and the SLRC and the district level functionaries was virtually non-existent, though prescribed.

(Paragraph 3.2.11)

3.2.1 Introduction

The land profile of the Himalayan State of Sikkim consists of steep slopes and narrow gorges, and with a high average annual rainfall of 3,700 mm, is prone to weathering, erosion and frequent landslides. Further, it is also located in Zone IV according to seismic zoning map of India where maximum intensity of VIII in the MSK⁴ scale (*corresponding to 5.52 in Richter scale*) is expected. Landslides and earthquakes have often wreaked havoc on the lives and property of the people of Sikkim besides damage to community and public property. During the last 50 years, as many as 115 cases of major landslides and nine major earthquakes of magnitude of more than 5 on the Richter scale were recorded, in terms of the studies conducted (2004 and 2006) by the Wadia Institute of Himalayan Geology, Dehradun and the School of Community

⁴ *Medvedev-Sponheuer-Karnik Scale of measuring earthquake intensity. The MSK scale ranges from I to XII in the order of intensity. Sikkim ranks VIII in the MSK scale.*

Science and Technology, Bengal Engineering and Science University, Shibpur. Therefore, disaster management (*including pre-disaster preparedness and mitigation*) is of paramount importance in the State for sustaining development.

3.2.2 Organisational set up

Land Revenue and Disaster Management Department

At the State level, the Secretary, Land Revenue and Disaster Management Department (LRDMD) who is also the Relief Commissioner (RC) of the State is responsible for coordinating all activities relating to prevention, mitigation, preparedness and response/relief associated with the imminence/onset of disasters. The RC is assisted by two Additional Secretaries, two Deputy Secretaries, one Under Secretary, an Accounts Officer and other sub-ordinate staff.

State Disaster Management Authority

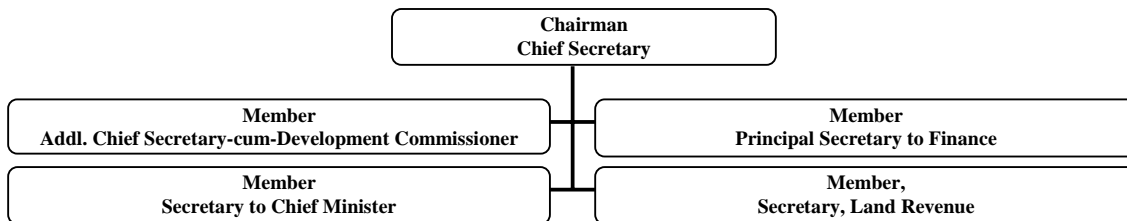
A State Disaster Management Authority (SDMA) headed by the Chief Minister and twenty other members (*Seven Ministers, Chief Secretary, Development Commissioner, 10 Secretaries⁵ and the Director General of Police*) was also constituted in October 2004 with the responsibility of declaring disaster situations and disaster areas with boundaries, declaration of disaster prone zones with boundaries and issuing notification for un-safe areas, preparation of State Disaster Management Action Plan and Policy etc.

State and District Level Relief Committee

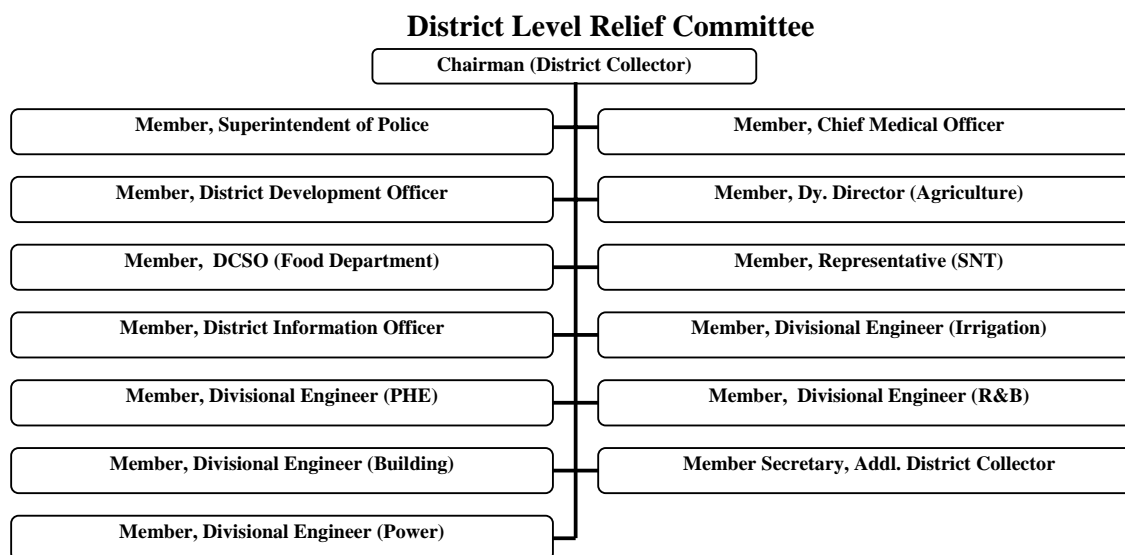
For properly administering post disaster relief measures, a State Level Relief Committee (SLRC) headed by the Chief Secretary at the State level and District Level Relief Committees (DLRC) headed by respective District Collectors in the Districts were constituted by the State Government. Organisational chart of the SLRC and DLRC is given below:

Chart 3.2.1

State Level Relief Committee (SLRC)



⁵ 1. Finance 2. Agriculture 3. Health 4. Rural Development 5. Roads & Bridges 6. Irrigation & Flood Control 7. Building and Housing 8. Urban Development & Housing 9. Water Security & Public Health Engineering 10. Land Revenue and Disaster Management Departments.



Being a border State sharing its borders with China, Nepal and Bhutan, there is substantial presence of the Army and the Border Roads Organisation (BRO) in the State. The National Highway (31A) which is the main artery providing connectivity with the rest of the country is often breached by landslides. Despite being the sole agencies for construction and maintenance of roads, the Army and the BRO were not included in the organisational mechanism set up to address the issues of disaster prevention/mitigation and response as could be seen above.

3.2.3 Scope of audit

The performance audit was carried out during May – July 2007 and covered the period 2002-03 to 2006-07. Audit findings are based on a test check of records maintained in the Land Revenue and Disaster Management Department (LRDMD), Offices of District Collector (DC) Gangtok (East) and Namchi (South), Irrigation and Flood Control Department (IFCD), Buildings and Housing Department (BHD), Energy and Power Department (EPD), Roads and Bridges Department (RBD), Water Security and Public Health Engineering Department (WSPHED), Agriculture and Horticulture Departments (AHD) and Mines, Minerals & Geology Department (MMGD).

A sample of 25 *per cent* of the works in respect of the implementation of the Calamity Relief Fund (CRF) scheme relating to administering relief measures (*both in terms of number and money value*) was selected for scrutiny in two (*East and South*) out of the four districts of the State. Multi-stage sampling with high value works constituting 50 *per cent* of the sample and 25 *per cent* each of medium and small value works was selected to arrive at a uniformly representative sample.

3.2.4 Audit objectives

The main objective was to assess the performance of the State Government in identification of various types of disasters likely to hit the State, measures adopted by the State Government for obviating the disasters or reducing the impact of such disasters and efficiency and effectiveness of post-disaster relief measures. This included assessing whether:

- The State Government had laid down detailed policy framework and set up a robust institutional framework to address the issues of prevention, mitigation and post disaster relief;
- There was mainstreaming of disaster management with other developmental plans and programmes;
- Co-ordination amongst various line departments in the event of a disaster was robust and functional;
- The funds released were used economically, efficiently and effectively;
- Monitoring mechanism was effective and operational.

3.2.5 Audit criteria

The basic principles, norms, terms and conditions, information and instructions contained in the following documents / sources of information were used as criteria for arriving at audit conclusions:

- Provisions of the National Disaster Management Framework and guidelines issued by the Union Ministry of Home Affairs (MHA), from time to time for implementation of Disaster Mitigation Programme;
- Website information on Disaster Mitigation (www.ndmindia.nic.in);
- Guidelines issued by the MHA for implementation of the CRF /NCCF.
- Sikkim Financial Rules, Sikkim Public Works Code, Manual and Schedule of Rates;
- Acts, notifications and orders of the State Government.

3.2.6 Audit methodology

The methodology of audit, *inter alia*, comprised group discussions with implementers, NGOs and other stakeholders, interviews with resource persons, concerned agencies, authorities and individuals; examination of records

maintained by the Department; analysis of data; joint physical inspections and photographs as secondary/corroborative evidence, where necessary. Entry conference at the commencement of the audit programme was held with the authorities of the LRDMD (May 2007) wherein the audit objectives and criteria were discussed and agreed upon with the Department. At the close of audit, the findings and conclusions were discussed (July 2007) again with the Relief Commissioner of the State in an exit conference and the replies of the Government have been incorporated in the review at appropriate places.

Audit findings

Audit findings are mentioned in succeeding paragraphs:

3.2.7 Policy and planning

Over the past couple of years, the GOI brought about a paradigm shift in its approach to disaster management based on the conviction that development cannot be sustainable unless all the aspects of disaster prevention, mitigation and preparedness are built into the development process. A strategic roadmap, National Disaster Management Framework (NDMF), drawn up by the GOI, was shared with all the State Governments with the advice to develop their own State specific roadmaps taking the national roadmap as a broad guideline. This roadmap provided the basis for preventing disasters and remaining prepared for disaster situations.

Audit scrutiny revealed that the salient features of the NDMF were incorporated into SDMA enacted in July 2006. Prior to that, the State had also entered (May 2003) into a MOU with the UNDP as per the directive of the Union Ministry of Home Affairs, for implementation of the GOI-UNDP “Disaster Risk Management” project in the State for furtherance of ‘Sustainable Human Development and Vulnerability Reduction’. However, there was no State Disaster Management Policy as of July 2007.

The Department stated (October 2007) that it had initiated action towards preparation of the SDM Policy and Disaster Management Framework.

Deficiencies in institutional and policy framework

3.2.7.1 Creation of State Department of Disaster Management

The changed policy/approach to pre-disaster aspects of prevention, mitigation and preparedness necessitated setting up new institutional mechanisms. Accordingly, as per the GOI direction, the State Department of Land Revenue was re-christened (May 2004) as ‘Land Revenue and Disaster Management Department’ (LRDMD) with an enhanced area of responsibility. But the officers and staff within the LRDMD had not been re-designated / re-grouped into various functional groups relating to hazard mitigation, preparedness and

capacity building, relief & response and administration & finance with definite functions to pursue a holistic approach to disaster management, as envisaged by the GOI. While activities relating to awareness and sensitisation; preparation of District, Block, Gram Panchayat and Village level disaster management plans, organising capacity building and training programmes, mock drills etc were being undertaken as per GOI-UNDP initiatives under the MOU (*referred to in Paragraph 3.2.9*), the LRDMMD was mainly engrossed in implementation of the CRF scheme relating to post disaster relief and had done little in the sphere of prevention and preparedness, as amplified in succeeding paragraphs.

The Department stated (October 2006) that consequent upon the audit observation, it had started re-organising itself into functional groups relating to various aspects of disaster management.

3.2.7.2 Setting up State Disaster Management Authority

As envisaged in the NDMF, though a SDMA headed by the Chief Minister and twenty other members was constituted (October 2004), it met only once (July 2005) so far (*July 2007*). In the meeting (July 2005), a number of resolutions / directions were issued. But those were not followed up by LRDMMD as nodal department for their implementation by various executing line departments. However, the status as ascertained by Audit from various departments/ authorities revealed that out of the 12 points resolved in the sole SDMA meeting for effective management of disasters, no action was initiated with regard to vulnerability risk assessment, preparation of urban earthquake vulnerability reduction plan for Gangtok, training of masons and construction of State emergency centre. Action initiated with regard to review of building bye-laws, Geographical Information System (GIS) mapping of landslide vulnerable areas, capacity building of engineers, creation of Hazard Safety Cell, development of disaster management framework, plan & policy and inclusion of disaster management in school curriculum were merely perfunctory/ belated/ inadequate and were more in the nature of form rather than substance. Only in 2 cases relating to appointment of departmental nodal officers for disaster management and preparation of school disaster management plan, some progress was made. Details are given in **Appendix-3.2**.

Thus, the implementation of the SDMA resolution mentioned above was far from satisfactory. This is fraught with the risk of loss of lives, property and heavy reconstruction and rehabilitation costs in the event of a major disaster striking the State and is indicative of the fact that the emphasis of the LRDMMD was more on spending (*through post-disaster relief operation*) rather than on strengthening the policy and fine tuning it to take care of all possible disaster situations and be prepared for such disasters as brought out in para 3.2.10.3 below.

The LRDMD stated (October 2007) that it had commenced steps to co-ordinate all the activities outlined in the resolution of the first SDMA meeting of July 2005.

3.2.8. Disaster prevention

As mentioned in paragraph 3.2.7 above, although the State Government had not framed its own State specific road map for disaster management as required by GOI, most of the important features of the NDMF were covered in the meeting (July 2005) of SDMA. The status of implementation in respect of other important features of the NDMF however left much to be desired as discussed below:

3.2.8.1 Mainstreaming of disaster prevention and mitigation into the development process

The NDMF envisaged that each department of the State Government which had a role in prevention / mitigation should (i) make appropriate outlays for schemes addressing mitigation / prevention, (ii) accord priority to schemes/ projects contributing to mitigation, (iii) design schemes/projects in areas prone to natural hazards to contribute to mitigation and preparedness.

Although the SDMA envisaged mainstreaming of disaster mitigation/prevention into the development process, no follow up action was taken either by the LRDMD or any other line department in this direction. It was observed that none of the departments had earmarked specific outlays for schemes connected with disaster management. Test check of 10 schemes / projects⁶ pertaining to the R&B, RMD, Energy & Power, HRD and Buildings & Housing Departments revealed that the projects / schemes had not been designed to contribute to mitigation and preparedness. The Departments instead depended on CRF for meeting expenditure on restoration of damages sustained. This is evident from the fact that the WSPHED which is responsible for supply of drinking water to Gangtok had not worked out a long-term plan for the State capital. This was despite the Department's experience with landslides (June 2003 and June 2006) when expenditure of Rs. 2.15 crore and Rs. 1.97 crore respectively had to be incurred from the CRF for restoration. There was no record in the WSPHED to indicate any study had been conducted till date to identify the slide zones in the slopes between the intake point of water for Gangtok and treatment plant at Gangtok for working out a viable solution to mitigate the recurring problem. The fact that there was inadequate or no budget goes to show the lack of seriousness with which this subject was addressed.

The Department assured (October 2007) that it would take up the matter with the SDMA to address this issue.

⁶ *Construction of School buildings under RSVY; Construction of Rural Roads (PMGSY),*

3.2.8.2 Techno-legal regime

The NDMF, *inter alia*, envisaged construction in seismic zones III, IV and V to be as per BIS codes / National Building Codes and comprehensive review and compliance of Town and Country Planning Acts, Development Control Regulations and Planning and Building Regulation in view of the fact that collapse of structures is the main cause of casualties during earthquakes. The road map also envisaged putting in place appropriate techno-financial regime and capacity enhancement of urban local bodies to enforce compliance of techno-legal regimes. The BHD and the UDHD were responsible for enforcing compliance with BIS codes and for reviewing planning and building regulations in respect of Government (BHD) and private (UDHD) buildings, respectively. Audit scrutiny revealed that while BHD had not initiated any action in this regard, the UDHD had failed to incorporate/enforce BIS code as envisaged in the Sikkim Allotment of Building (Control) Amendment Act 2003 leading to construction of unsafe buildings and rampant violation of even the existing building laws. The matter has been further elucidated in paragraph 3.3.9 of the performance review of land degradation.

The Department stated (October 2007) that it would take up the matter with due seriousness with the UDHD and the BHD.

3.2.8.3 Retrofitting of life-line buildings

While the structural mitigation measures and incorporation of BIS seismic codes would take care of new constructions, the problem regarding existing unsafe buildings would continue to be a source of concern. GOI had advised the States to take necessary action for detailed evaluation and retrofitting of existing lifeline buildings like hospitals, administrative buildings, schools, cinema halls or multi-storied apartments where people congregate, so as to ensure that they comply with BIS norms.

The State Government had not initiated any action in this regard till date (July 2007). In the event of a major earthquake striking the State, the possibility of collapse of hospitals (STNM, Manipal Referral), important Government buildings (Sikkim Legislative Assembly, Tashiling Secretariat, Power Department, Rural Development & Management Department, Nirman Bhavan, Krishi Bhavan, etc) and schools and colleges (TNHS, TNA, PNG, Deorali Girls school, Government college) etc cannot be ruled out, causing substantial loss of lives and property.

The Department stated (October 2007) that the concept of retrofitting being new to the State, it was not able to make much progress on the matter and assured that it would start remedial action.

3.2.8.4 Plan schemes for vulnerability reduction and preparedness

Although envisaged under the NDMF, the State Government had not till date (August 2007) formulated long-term Plan schemes for vulnerability reduction

and preparedness for submission to the Planning Commission for sanction. When specifically requested (June 2006) by the MHA for detailed sector-wise Plan proposals for long term rehabilitation and reconstruction of infrastructure damaged during the natural calamity of 2005, the State Government forwarded (30 June 2006) schemes valuing Rs. 94.31 crore in respect of seven Departments towards reconstruction/restoration of infrastructure. The GOI, however, had not granted sanction for the schemes till July 2007, reason for which, was not on record.

It was observed that as indicated in NDMF no consolidated action was taken by the State Government. The SDMA, which was the apex authority for enforcing incorporation of essential components of disaster prevention and mitigation into the socio-economic development planning also did not take effective action on this issue.

The Department stated (October 2007) that the administrative approval and financial sanction for first lot of schemes for long term mitigation measures were in their final stage with the GOI and that preparation of shelf of schemes covering all the areas vulnerable to disasters, was also underway.

3.2.9. Preparedness

The NDMF envisages designation of units for conversion into Specialist Response Teams, designation of training centres, training of trainers and teams and procurement of equipments using CRF resources as a part of effective preparedness to face any disaster. The position in this regard is enumerated below:

- Home Guards and State Armed Police personnel were being trained for relief and rescue operations.
- 40 regular muster roll employees of the UDHD and 30 maintenance gang of the SPWD had been deployed regularly for cleaning and clearing drains in and around Gangtok during rainy season to avoid possible disaster due to drain blockage.
- Civil Defence Units had been created and trained under the District Collector, East to respond to disasters. This was, however, yet to be done for other districts.
- Awareness, sensitisation, training and mock–drill exercises were being organised by the UNDP from time to time at the village, block and district levels on search, rescue and evacuation procedures.
- The State Government had not designated any training centre for disaster management so far. However, Civil defence and police personnel were being trained in the Police Training Institute at Ranipool in disaster response and rescue operations.

GOI guidelines envisage utilisation of 10 *per cent* of the CRF funds for purchasing search, rescue and communication equipment. So far, no equipment had been purchased from the CRF, except 4 vehicles (Maruti Gypsy) in June 2007. Although sanction for purchase of equipment worth Rs. 2.13 crore from the Rashtriya Sam Vikas Yojana (RSVY) was accorded by Relief Commissioner with the concurrence of Department of Planning & Development and Finance, Revenue and Expenditure Department in January 2006, the equipment had not been supplied in full to the Emergency Operating Centres (EOCs) in the districts as of July 2007 due to non-receipt of frequency for transmitting messages through the wireless set. Training had been imparted on use of the equipment in the East, West and South Districts to the persons engaged in the EOCs. In the North District, however, no training had been imparted as of July 2007 and even the equipment (*valuing Rs.42 lakh*) had not been unpacked.

The Department stated (October 2007) that it was re-examining all the aspects relating to preparedness in the face of disasters.

3.2.10. Post disaster response and relief

The institutional arrangements for response and relief to natural disasters are well established, except for the non-inclusion of the BRO and the Army in the mechanism. Involvement of the BRO and the Army, who are in charge of the maintenance of the national highway and play a vital role in the border areas especially in calamity situations, would ensure better response and relief during and after occurrence of a disaster.

For the purpose of financing post calamity relief assistance, a CRF fund comprising Central and State share in the ration of 75:25 was set up (*January 1991*) as per the recommendation of the Finance Commission. A National Calamity Contingency Fund (NCCF) was also created at the national level by the GOI with the objective of supplementing the State's efforts in providing relief assistance during severe calamities, when the balances of the State Government in CRF are totally exhausted.

3.2.10.1 Receipt of funds vis-à-vis expenditure

The funds received under CRF / NCCF during the period 2002-07, year-wise expenditure and closing balances were as under:

Table 3.2.1

(Rupees in lakh)

Year	Opening balance	Amount received				Expenditure	Closing balance	
		Central share		State Share	Interest			Total
		CRF	NCCF					
2002-03	506.55	557.50 (75%)	Nil	190 (25%)	15.50	1269.55	850.19(68)	419.36
2003-04	419.36	885.50 (82%)	Nil	200 (18%)	10.95	1515.81	787.62(52)	728.19
2004-05	728.19	630.00 (75%)	990	210 (25%)	16.58	2574.77	1767.30(69)	807.47
2005-06	807.47	1,315.00 (86%)	Nil	210 (14%)	17.58	2350.05	1235.00(53)	1115.05
2006-07	1115.05	Nil	520 (NCCF)	451(100%)	47.76	2133.81	1762.00(83)	371.81
Total		3,388	1,510	1,261	108.37	9,843.99	6,402.11	

Source: Finance Accounts.

Note: figures in parenthesis indicate percentage share in CRF

During 2002-07, against the GOI contribution of Rs.33.88 crore to the CRF, the State Government contributed Rs.12.61 crore, which constituted 27 per cent of the overall contribution during the five years thus over-shooting the mandatory norm of 25 per cent as prescribed. The expenditure ranged between 52 per cent and 83 per cent of available funds. Hence, funds were not a constraint to the programme.

Despite availability of balance of Rs. 7.28 crore under CRF at the beginning of 2004-05 over and above the normal contribution of Rs. 8.40 crore (Central & State) for the year, the MHA sanctioned and released Rs. 9.90 crore under NCCF based on the proposal submitted by the State Government, which was against the guidelines of the NCCF which stipulated releases only when there was no balance available in the CRF.

3.2.10.2 Non-investment of balances under CRF

Although there were huge balances ranging from Rs. 2.38 crore (September 2003) to Rs. 14.46 crore (July 2004) relating to CRF in the Public Account, the LRDMD only made a single investment of Rs. 2.50 crore in the Sikkim State Co-Operative Bank Limited in November 2001 and did not take action either to appropriately invest the balances in Central Government dated securities, auctioned treasury bills etc as prescribed in the GOI guidelines or to secure interest from the State Government at the prescribed rate for the funds remaining in the Public Account, as mentioned in paragraph 4.5.3 of the Comptroller and Auditor General's Audit Report of Sikkim for the year ended 31 March, 2006.

The Department stated (October 2007) that it was taking steps to invest optimum amount from the CRF so as to earn maximum interest.

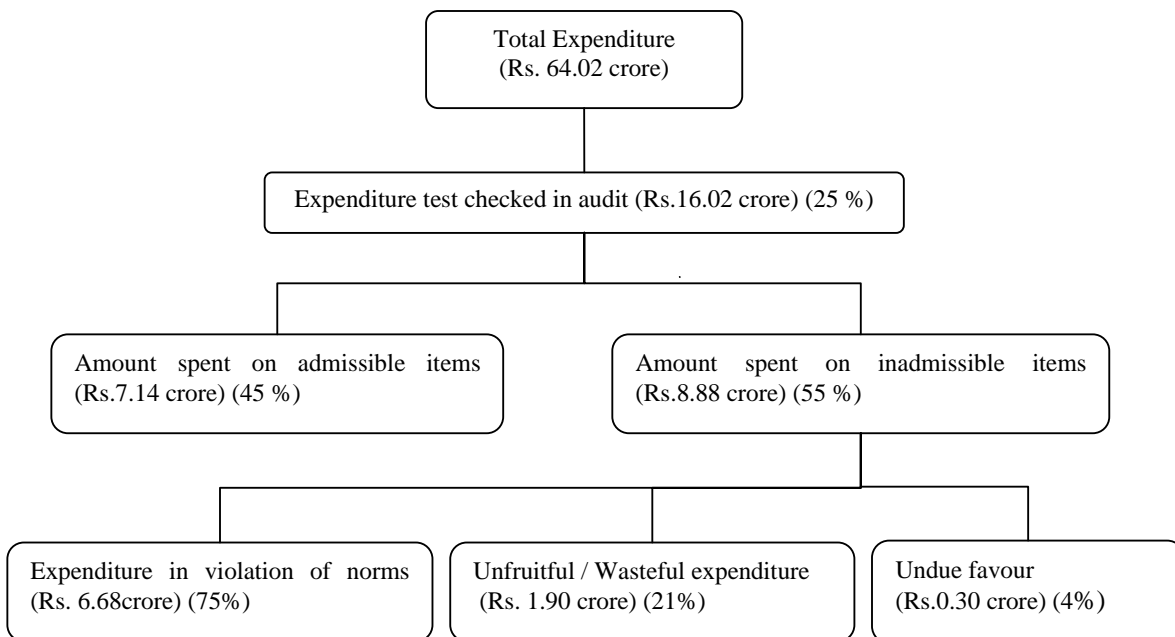
3.2.10.3 Implementation of relief measures under CRF

In terms of the GOI guidelines, the funding of relief is not in the nature of a compensation for loss but an immediate assistance to help overcome stress by providing immediate relief to the victims of natural calamities such as cyclone, drought, earthquake, fire, flood, hailstorm, cloud burst, tsunami, landslides, avalanche and pest attacks.

The assistance for repair/restoration of damaged infrastructure under CRF is permissible only for identified sectors and only for repairs of immediate nature to provide immediate connectivity to the areas affected by natural calamity so as to facilitate distribution of relief. Such expenditure is to be normally incurred within a short span mostly during the initial period of a disaster. The departments are required to have adequate annual maintenance budget for regular maintenance of their infrastructure keeping in view the vulnerability of the area to natural disasters and such regular maintenance expenditure is not to be borne out of CRF. The complete replacement/restoration of damaged infrastructure is to be met only from plan funds.

For repair and restoration of social infrastructure, the need of funding from the CRF in consideration of similar provisions under sectoral allocation was to be examined by the DLRC and only deserving cases were to be forwarded with their recommendation and justification for the approval of the SLRC. No proposal which has not been examined by the DLRC was to be entertained by the SLRC.

During the period 2002-03 to 2006-07, a total of 731 activities / works were executed in the East and South Districts by various Departments under the CRF scheme, of which, 220 works/items of expenditure valuing Rs.16.02 crore were selected for detailed scrutiny. A Finance Inverse tree summarising the audit check is shown below:



As would be seen from above, the State Government used the CRF funds almost like a discretionary fund and ignored the prescribed norms under the scheme as amplified below:

(i) Execution of works in violation of norms

It was noticed that individuals claiming to be victims of natural calamities approached the Chief Minister/ Ministers for assistance from the CRF scheme and obtained their recommendation for sanction of the works along with the value of the work, without any supporting estimates. This was not only in violation of CRF norms, but also led to benefits not reaching the targeted groups as elaborated below:

➤ ***Irregular expenditure***

Audit scrutiny revealed that in 139 out of 220 cases test checked (63 per cent) commenced between February 2004 and October 2006 valued at Rs.4.38 crore, the proposal for taking up the works were initiated by the individuals themselves. On the basis of the recommendation of the Chief Minister / Ministers, the RC / SLRC accorded sanction for the works. The 139 works constituted jhora⁷ training (cement concrete work to train the unruly mountain streams overflowing during monsoons to prevent the force of water from scouring the base and sides of the streams) (46), anti-erosion (24), minor irrigation channels (5), protective works (16) and restoration works (48) which were of capital nature and did not come under the purview of CRF.

➤ ***Repeated award of work to the same individual***

Audit noticed that one, Mr. Tshering Chhopel Sherpa of Mamring busti, Pakyong sub-division was granted (January 2005) Rs. 2 lakh by the SLRC for executing 'anti-erosion works' in his paddy field. The same person was again granted (April 2006) Rs. 2 lakh for the same purpose ('anti-erosion works to avoid destruction of his land in future'). Similarly, another person, Smt. Choki Bhutia of Chandmari, Gangtok, despite having been granted funds from the CRF twice prior to 2004 for executing 'protective works', was again granted (November 2004) Rs. 2 lakh for the same purpose, on the ground that her case was recommended by the Chief Minister. The prescribed procedure for grants was not observed in these cases.

The reply (October 2007) of the Department that these two cases were exceptions where the individuals were granted relief in the subsequent years also due to repeated damages suffered by them is not tenable as the prescribed procedure was not observed.

⁷ Local term for mountain stream / drain flowing through gorges

➤ ***Irregular payment of relief to victims of bus accident***

A Sikkim Nationalised Transport bus met (October 2006) with an accident about 30 Kms from Gangtok. Rupees 20 lakhs was paid out of the CRF to the injured and to the next of kin of the dead passengers, in contravention of CRF norms. The Department stated (October 2007) that the payment of relief to the victims of the bus accident from the CRF was an exceptional case. The reply was not tenable as the CRF guidelines do not permit expenditure for grant of monetary relief to victims of bus accident.

(ii) Delayed execution of works

Scrutiny revealed that 67 out of the 220 works (commenced between February 2004 and October 2006) examined in audit were taken up 1 to 16 months after the issue of work orders. These works were completed after a further delay of 1 to 24 months after actual commencement. Considering the delay in completing the works, the veracity and need for taking up the works under the CRF could not be vouched in audit.

There was no record of monitoring and supervision of the execution of works undertaken under the CRF scheme by the DLRC or the SLRC. There was also no evidence of public complaint to indicate the distress suffered by the public as a result of the delayed response to restore the damages suffered from natural calamity. This corroborated the audit contention that the works taken up under the CRF did not come within the ambit of calamity affecting public life and hence did not come within the definition of immediacy stressed in the CRF guidelines.

The Department while accepting the audit observation assured that it would exercise vigil in ensuring that there is no inordinate delay in completion of works in future.

(iii) Disparity between works sanctioned and works executed

The MHA granted (March 2005) Rs. 1.02 crore from the NCCF for undertaking land treatment measures to mitigate the effects of monsoon damages suffered by the State during 2004-05. This amount was later enhanced by the State Government to Rs. 1.30 crore by providing Rs. 28 lakh from the CRF. During the course of execution, the original purpose for which the sanction was accorded was ignored and the fund was spent on purchase and distribution of alkathene pipes (Rs. 50 lakh) and maize and pulses seeds (Rs. 40 lakh) by the Horticulture and Agriculture Departments, respectively. Only the balance amount of Rs. 40 lakh was spent on bench terracing, one of the items for which the expenditure had been sanctioned by the GOI.

Thus, CRF funds were spent on un-authorised items, instead of on land development/protection activities for which, memorandum was submitted to the GOI and funds under CRF obtained. CRF was thus not utilised for the purpose for which it was sanctioned.

The absence of effective monitoring and supervision by the DLRC/SLRC as well as cross checking by the GOI encouraged perpetration of such irregularities.

(iv) Unauthorised repair/renovation of power generation system

The Chief Minister approved (January 2006) the proposal of the Energy and Power Department for restoration of intake structure and water conductor system of Upper Rongnichu and Jali Power Houses (URHP & JPH) and procurement of electrical and hydro-mechanical spares for the URHP, JPH and Rongnichu Stage – II Power Houses at a cost of Rs. 1.30 crore from the NCCF/CRF scheme. The three power houses were stated by the EPD to be non-functional since July 2005 due to damage caused by landslides. The restoration works commenced in March 2006 and were completed in June 2006.

The expenditure of Rs. 1.30 crore pertained to capital works as well as regular repair/renovation activity not covered by the CRF scheme. Out of the total expenditure, Rs. 48.08 lakh related to procurement of machinery, equipments and spares damaged due to normal use and had nothing to do with any natural calamity. Further, the element of immediacy and urgency for the repairs/renovation was not there as the public was not put to immediate distress due to lack of power supply. This is underscored by the fact that the Department moved the proposal for the works not with the objective of resolving any immediate crisis due to natural calamity but with the justification that it would earn Rs. 4.32 crore per annum from the sale of power, should the power houses be repaired / renovated. Audit scrutiny however revealed that even after such irregular expenditure of Rs. 1.30 crore from the CRF, two out of the three power houses (URHP & JPH) were not generating any electricity as of March 2007, while one power house (Rongnichu Stage – II), after running for only four months (July to October 2006) was again shut down from November 2006, rendering the entire expenditure of Rs. 1.30 crore unfruitful.

(v) Unnecessary purchase of HDPE pipes

The Secretary, Irrigation and Flood Control Department (IFCD) sought sanction of Rs. 62.50 lakh from the CRF for purchase of High Density Polyurethane (HDPE) pipes for distribution to the farmers to immediately mitigate the damages caused by rain during the year (2006) to the kutchra water channels used for conveying water to the paddy fields. The proposal was endorsed by the Minister, Irrigation and approved (August 2006) by the Chief Minister. The SLRC sanctioned (January 2007) Rs. 60 lakh from the CRF. Supply order was placed by the IFCD on two local suppliers (January 2007) without inviting open tenders by giving wide publicity in leading newspapers nor involving the tender selection committee as prescribed by the Sikkim Financial Rules (SFR). The supplies were received (February 2007) and payment made (March 2007). The HDPE pipes were however lying idle in the departmental stores as of June 2007.

It is therefore obvious that there was no immediate requirement for these pipes. The justification of the Secretary for the purchase stating that the pipes were immediately required by the farmers for conveying water to the paddy fields to protect their crops was also totally unfounded.

(vi) Irregular expenditure from Central assistance for earthquake damages

The GOI approved (June 2006) Rs.2.98 crore from the NCCF as assistance to the State to mitigate the damages caused by an earthquake which hit the State on 14 February 2006. The entire amount was released by the MHA from the NCCF without verifying the availability of balance under the CRF. The sector-wise allocation of the assistance approved by the GOI, *inter alia*, included allocation of Rs. 17 lakh for the drinking water sector. Against this allocation, the SLRC sanctioned (April 2007) and allotted Rs.65.99 lakh to the WSPHED stating that there was ample balance in the CRF account to meet the excess expenditure.

Since there was ample balance in the CRF account, drawal of additional funds from the NCCF was uncalled for. Further, sanction of Rs. 65.99 lakh after a delay of fourteen months (April 2007) was hardly justified on grounds of urgency. Also, incurring of excess expenditure of Rs. 48.99 lakh over and above the GOI sanction is irregular.

(vii) Undue favour to a contractor from CRF scheme

The Rural Management and Development Department (RMDD) awarded (March 2005) the work 'construction of BDO complex at Temi in South Sikkim' to a local contractor (Binod Kumar Agarwal) at Rs. 1.38 crore with stipulation to complete it within 12 months of award. The work was completed in January 2007. Clause 17 of the general directions and conditions of the contract, *inter alia*, stipulated that if any building, road, fence, enclosures, trees, grass, or cultivated ground contiguous to the premises on which the work or any part of it was being damaged or if any damage were to happen to the work, the contractor would have to make good the same at his own expense.

During the course of execution of the work, there was a landslide behind the construction site. The SLRC granted (February 2006) Rs. 26.15 lakh from the CRF scheme towards slip clearance and protective works though not allowed under the CRF scheme. On record, the work was shown to have been executed departmentally. However, supply of sand, stones and hire charge of vehicles for throwing spoils valued Rs. 10.75 lakh was awarded to the same contractor.

Thus, not only was the norm of the CRF violated but also undue favour of Rs. 26.15 lakh granted to the contractor from the CRF scheme.

(viii) Adoption of misleading nomenclature to bring work under ambit of CRF

While forwarding a list of works to the LRDMD for sanction under the CRF scheme, the Chief Engineer, RMDD changed (January 2005) the nomenclature of a work by replacing the word ‘construction’ to ‘restoration’, to give the impression as if the work was taken up after damage of existing infra-structure by natural calamity, with the intention of bringing the work under the ambit of the CRF norms. Scrutiny of the detailed estimate, technical drawing, original technical sanction and the tender documents clearly revealed that this was an entirely new work named ‘Construction of 55 metre span SFB over Rong Rong Khola in between Kadamtam and Changey under Aho-Yangtam GPU in East district’

The work was put to tender in February 2005 and awarded to the lowest bidder at the estimated cost (Rs. 33 lakh) in April 2005. The completion period allowed was nine months from the date of award i.e. February 2006. As of June 2007, the work was still incomplete (*percentage of completion was only 36 per cent*), even after more than a year of the scheduled date of completion. Thus, the urgency/immediacy of requirement of the bridge also was unfounded as even after more than two years of forwarding the proposal for execution of the work to the LRDMD, the bridge was far from complete.

(ix) Irregular grant and non-repayment of loan

There was no provision under the CRF scheme for granting loan to any agency, Government or otherwise, for any reason whatsoever. Despite this, the SLRC granted (June 1997) a loan of Rs. 40 lakh to the Food and Civil Supplies Department (FCSD) for the purpose of procurement and transportation of essential commodities before the onset of monsoon with the condition that the loan was to be returned to the Relief Commissioner’s office within a period of two months. As of June 2007, even after more than ten years of availing of the loan, the FCSD had not refunded the amount of Rs. 40 lakh to the CRF.

Thus not only was the grant of loan irregular but also its non-repayment led to unauthorised erosion of the CRF resources.

(x) Procurement of search, rescue and evacuation equipments

The CRF scheme guidelines envisaged procurement of essential search, rescue and evacuation equipments including communication equipments subject to a ceiling of 10 *per cent* of the CRF allocation of the year, to be assessed by the SLRC. Though there was no evidence to show that the SLRC had ever assessed the requirement of various types of search and rescue equipments to be purchased from the CRF, the LRDMD purchased⁸ (2006-07) equipments worth Rs. 2.13 crore by irregularly drawing funds from the RSVY (*Rashtriya Sam*

⁸ *Complete set of equipments had not been supplied by the supplier even as of July 2007 although orders had been placed as early as March 2006.*

Vikas Yojana) programme, despite availability of sufficient funds in the CRF. On the other hand, the CRF funds were utilised (May 2007) for purchasing four new vehicles (Maruti Gypsy) at a cost of Rs. 22.70 lakh purportedly to be utilised for search and rescue. These vehicles had been issued to the Addl. DCs and SDMs in the districts for their regular use. There was nothing on record to indicate that the vehicles had been designed / equipped to respond to any calamity effectively.

3.2.11 Monitoring and Evaluation

The LRDMD as nodal Department had not devised any modalities for monitoring disaster related activities. The SDMA headed by the Chief Minister was also virtually non-functional. Even the status of implementation of the prevention, mitigation and preparedness measures as directed by the Chairman, SDMA and as resolved in its first and only meeting of July 2005 were neither monitored nor followed up for ensuring their effectiveness. In so far as the CRF scheme is concerned, the SLRC had not formulated any system for periodical internal monitoring of the administration of relief measures. No returns had been prescribed for submission by the DLRC office for effective monitoring of the relief measures and no modality had been prescribed for making periodical field inspections.

The MHA which is the nodal Ministry for overseeing the operation of CRF is required to monitor the scheme of CRF and advise the SLRC from time to time to ensure proper functioning of the scheme. The State Government is required to furnish by 30th September every year an Annual Report on natural calamities in the format prescribed by the MHA. Further, a quarterly return containing item-wise details of expenditure from the CRF / NCCF is to be sent to the MHA for monitoring and release of installments of Central share of CRF. In March 2004, the MHA further stipulated that the State Government should furnish details of expenditure incurred from the CRF/NCCF on a monthly basis by 10th of each month. The MHA reminded the State Government about the requirement of submission of Monthly Returns again in October 2006, with further stipulation that a copy of the monthly return should be endorsed to the Accountant General also. The MHA is also to undertake evaluation of the expenditure incurred out of CRF through an independent agency for at least six States in a year so as to ensure that the evaluation for all States was done at least once in five years.

Despite such an elaborate and robust monitoring and evaluation mechanism prescribed, the actual implementation was far from this as explained in the preceding paragraphs. The CRF money had been spent by the State Government without submitting any reports and returns regularly to GOI as described below.

- During the five year period 2002-03 to 2006-07, LRDMD sent Annual Reports to the MHA only for the years 2002-03, 2004-05 and 2005-06.

Reports for the year (s) 2003-04 and 2006-07 were not sent, reasons for which were not on record.

- Quarterly returns containing item-wise details of expenditure from the CRF / NCCF were never sent during 2002-07.
- Monthly returns which were to be sent from April 2004 onwards were not sent even once till June 2007.
- The MHA had also never reprimanded the State Government for non-submission of these reports and returns.
- Although stipulated in the guidelines, the MHA had neither taken up evaluation of the CRF scheme nor got the evaluation done by any independent agency even once during the five years 2002-07.

The Department stated (October 2007) that it would endeavour to send all returns / reports within the stipulated period to the GOI in future.

3.2.12 Conclusion

Although landslide and earthquake stood identified as the two major disasters striking the State time and again, the State Government had not till date put in place effective measures to prevent these disasters or reduce their impact. The State is not in a state of adequate preparedness to handle any large scale disaster. Hazard zonation through GIS mapping to identify landslide prone areas, declaration of unsafe areas, shifting of habitations from such areas and prevention of settlement in hazard prone sites had not been effected. Lifeline buildings such as hospitals, school buildings, office buildings, community centres etc had not been identified for retrofitting. State Emergency Centre to facilitate coordination for search, rescue, evacuation, communication and networking functions during disaster had not been constructed as of July 2007. The policy guidelines for implementation of disaster prevention and preparedness are still in a nascent stage. Important aspects of disaster prevention such as mainstreaming of disaster mitigation/prevention into the development process, preparation of plan schemes for vulnerability reduction and preparedness, enforcement of techno-legal regime etc were yet to be put into effect. Aspects relating to prevention, mitigation and preparedness took a back seat compared to the easier practice of concentrating only on post disaster relief which is a misplaced priority. The State Government is mainly engrossed in incurring expenditure from the CRF and NCCF Schemes in post disaster relief measures which was however characterised by expenditure on inadmissible items in total disregard of the scheme objectives. Post relief monitoring by the Relief Commissioner and the district level functionaries was virtually non-existent.

3.2.13 Recommendations

- The State Government should ensure effective functioning of the State Disaster Management Authority by convening regular meetings and reviewing follow-up action on its recommendations.
- Tenets laid down in the National Disaster Management Framework and the State Disaster Management Act may be scrupulously and expeditiously followed.
- All Disaster management related plans may be tested through mock drills to ensure their effectiveness during actual occurrence of disasters.
- Expenditure from the CRF may be incurred strictly on admissible items duly following the norms after proper verification of the genuineness of the cases. All works of capital nature may be funded through normal plan funds instead of the CRF.
- Monitoring and evaluation mechanism as prescribed by the GOI should be made operational immediately.

**URBAN DEVELOPMENT & HOUSING DEPARTMENT,
HEALTH CARE, HUMAN SERVICES & FAMILY WELFARE
DEPARTMENT AND FOREST, ENVIRONMENT & WILD LIFE
MANAGEMENT DEPARTMENT**

3.3 Land degradation in and around Gangtok

Performance audit of land degradation in and around Gangtok revealed that the State Government had not framed a comprehensive policy for control of land degradation. Enforcement of building laws, zonation, waste disposal, Forest Conservation Act etc was not stringent leading to non-compliance by the citizens. This was further compounded by fragmented policy among Government bodies for controlling land degradation and absence of a coherent approach to monitor progress and ensure compliance. There was no ownership on the part of the concerned Departments and also citizens, to contain land degradation.

Highlights

Despite being aware of the factors responsible for land degradation, the State Government did not formulate comprehensive policy encompassing various aspects of prevention and control of land degradation in the State.

(Paragraph 3.3.7)

The State Government did not conduct any study to assess the extent of land degradation in urban areas especially in and around Gangtok caused due to unrestrained construction in violation of seismic zonation norms, Sikkim Building (Construction) Regulations and inadequate waste disposal etc.

(Paragraph 3.3.9)

Urban Development and Housing Department failed to enforce the Sikkim Building (Construction) Regulations, 1991 leading to failure in restriction of buildings heights within the permissible limit, non-adherence of BIS norms relating to disaster resistant features and non-provision of gully between two buildings for facilitating aeration and reducing the impact of earthquake.

(Paragraph 3.3.9)

Management of solid wastes was characterised by inherent defects of partial collection, non-identification of landfill sites and setting up of waste disposal facilities with lesser capacity than the requirement besides delayed commissioning of treatment plant.

(Paragraph 3.3.10)

Only one hospital had obtained authorisation from the Land Use and Environment Board for treatment of bio-medical waste by itself while 57 hospitals had not taken any permission.

(Paragraph 3.3.10)

In violation of Forest (Conservation) Act, the user agencies utilised forest land for non-forestry purposes without obtaining forest clearance.

(Paragraph 3.3.11)

3.3.1 Introduction

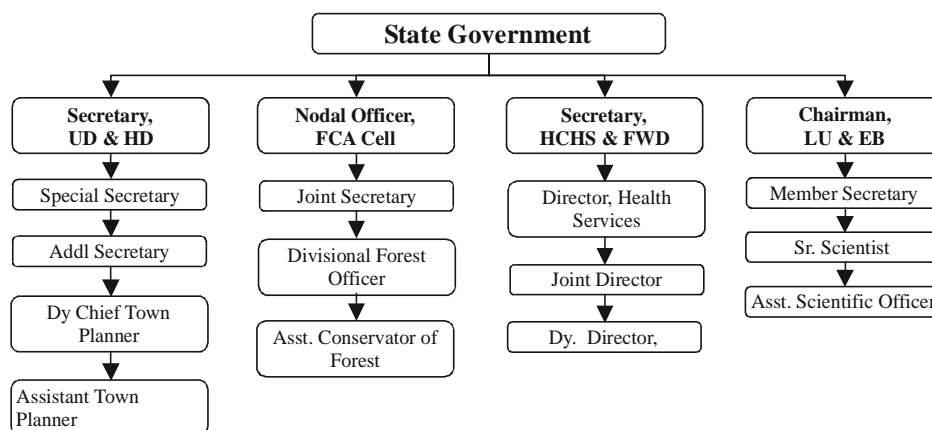
Land degradation is a major environmental hazard. It is the decline in condition or quality of the land as a consequence of urbanisation, industrialisation, population growth, faulty land practices, inadequate waste disposal, vehicular pollution, water pollution, unrestricted deforestation, rampant construction etc.

Recognising the importance of land degradation, the GOI enacted various Acts e.g. (i) The Environment (Protection) Act 1986, (ii) The Municipal Solid Wastes (Management & Handling) Rules 2000, (iii) Forest (Conservation) Act 1980 & Rules 1999, (iv) Bio-Medical Waste (Management & Handling) Rules 1998, Hazardous Waste (Management & Handling) Rules 1989, Water (Prevention & Control of Pollution) Act 1974 and Rules 1975, etc.. The State Government besides adopting the Acts and Rules framed by GOI for waste management and utilisation of forest land for non-forest purposes, also initiated a number of steps to obviate such degradation by way of enactment of rules and procedures pertaining to allotment of house sites and construction of buildings etc.

3.3.2 Organisational Set-up

There is no State level nodal agency for implementation and monitoring of enforcement of Acts and Rules relating to land degradation. However, in pursuance of the Central 'Water (Prevention and Control of Pollution) Act, 1974 (Para 4), State Land Use & Environment Board (LU&EB) was constituted in March 1983 for overseeing the activities relating to land use and environment. The Board was re-constituted in July 2003 with members drawn from various departments. Organisational set up of the main departments responsible for implementation of Acts and Rules is given below:

Chart 3.3.1



3.3.3 Scope of Audit

Implementation of the Acts and Rules pertaining to prevention and restoration of land degradation encompassing (i) construction of buildings, (ii) diversion of forest land for non-forestry purposes and (iii) waste management, etc covering a period of five years from 2002-03 to 2006-07 was reviewed during June-July 2007 through a test check of the records of three⁹ departments, besides the Land Use & Environment Board, Gangtok. Department-wise list of Acts and Rules test checked in Audit are enumerated below:

Table- 3.3.1

Departments	Acts and Rules
Urban Development & Housing Department	(i) Sikkim Allotment of House Sites and Construction of Building (Regulations and Control) Act 1985 (ii) Sikkim Building (Construction) Regulations 1991 (iii) The Municipal Solid Waste (Management and Handling) Rules, 2000

⁹ (i) Urban Development & Housing Department; (ii) Forest, Environment and Wildlife Management Department; (iii) Health Care, Human Services & Family Welfare Department;.

Forest, Environment and Wildlife Management Department	(i) Forest (Conservation) Act 1980 and Rules 1999 (ii) The Environment (Protection) Act, 1986,
Health, Care, Human Services and Family Welfare Department	(i) Bio-Medical Waste (Management and Handling) Rules, 1998,
Land Use & Environment Board	(i) Oversight functioning of Solid Waste & Biomedical waste Management

3.3.4 Audit objectives

The performance audit was conducted to assess the extent to which the departments responsible for containing land degradation were successful in enforcing the Acts and the relevant Rules and initiating prescribed penal action against defaulters. In addition, the following aspects were also assessed:

- Adequacy and efficacy of policies for containing land degradation;
- Adequacy of funds and their proper utilisation;
- Adequacy and efficiency in deployment of manpower;
- Effectiveness of regulatory mechanism;
- Adequacy and effectiveness of awareness programme;
- Adequacy, economy, efficiency and effectiveness in creation/ acquisition of infrastructure;
- Adequacy and effectiveness of monitoring mechanism.

3.3.5 Audit Criteria

Following criteria were used for arriving at audit conclusions:

- Policy pronouncements by the State Government and GOI;
- Provisions of Central and State Acts and Rules relating to land degradation;
- Prescribed monitoring mechanism as envisaged in Acts/Rules /notification/orders issued by GOI and State Government.

3.3.6 Audit methodology

The performance audit process began with the audit engagement letters (April 2007) to concerned departments followed by entry conferences (June 2007) with the officers of the concerned departments. The broad performance

indicators and criteria for evaluating the performance in implementing various Acts and Rules relating to prevention of land degradation were discussed with the departments and agreed upon. Simple random sampling was adopted for selection of samples for test check. The data provided by the departments in response to audit questionnaire was analysed with reference to original records in Head offices of the three concerned implementing departments¹⁰ and also supplemented by discussions with senior officers of the departments. Exit conference was held in August 2007 and the report was finalised after taking into consideration the replies of the departments.

Audit findings

3.3.7 Policy and planning

The State Government had identified land slides, floods, damage to roads, bridges and buildings as the factors responsible for land degradation and accordingly formulated a 'State Policy of Environment, Forest and Land Use, 2000' which *inter-alia* included (i) efficient management of land under urban and village settlements to prevent occurrence of land slides, flooding and damage to roads, bridges, building etc. (ii) adoption of modern town planning techniques and restriction on construction of buildings and houses in landslide prone areas, (iii) proper disposal of solid waste to arrest choking of drainage system and silting of rivers and streams, (iv) adoption of necessary safeguards by industrial units to reduce pollution to soil and water bodies, (v) prevention of diversion of forest and agricultural land for other purposes and (vi) preservation and restoration of ecological balance disturbed due to developmental activities, faulty land practices and degradation of forest resources.

In order to implement the above policy, techno-legal framework through appropriate legislations, enactment of Acts and Rules was required to be put in place. Audit scrutiny, however, revealed that the State Government had not taken any initiatives to enact the policy except adopting implementation of central acts pertaining to (i) Forest (Conservation) Act & Rules; (ii) Municipal Solid Waste (Management and Handling) Rules 2000 (iii) Hazardous Wastes (Management & Handling) Rules, 1989; (iv) Bio-Medical Waste (Management & Handling) Rules 1998; etc. indicating lack of seriousness on its part to obviate land degradation. The State Government had not yet conducted any study to assess the extent of degradation in urban land especially in and around Gangtok.

¹⁰ (i) Urban Development & Housing Department; (ii) Forest, Environment and Wildlife Management Department; and (iii) Health, Care, Human Services and Family Welfare Department.

3.3.8 Fund Management

Despite formulation of State Policy for Environment, Forest and Land Use 2000, there was no specific budget provision for control of land degradation in any of the departments test checked (except LU & B). However, expenditure towards enforcement of various Acts and Rules having bearing on control of land degradation in various implementing departments/ agencies for the years 2002-07 was as below:

Table-3.3.2

(Rupees. in lakh)

Department	2002-03	2003-04	2004-05	2005-06	2006-07
LU & EB	3.55	13.08	14.92	20.28	17.50
FCA	179.54	57.55	38.54	84.96	38.59
Bio-medical	0	0	0	0	10.40
Solid wastes/ Sanitation	34.90	284.42	218.51	97.03	91.24
Urban Planning	58.72	61.06	45.67	35.52	37.50
Total	276.71	416.11	317.64	237.79	195.23

Source: information furnished by concerned departments/Budget books /appropriation/ Finance accounts.

Audit noticed the following:

- Budget provision of LU&EB, also known as State Pollution Control Board, was not commensurate with its function of monitoring and overseeing the implementation of activities of collection and dissemination of information regarding pollution, inspect works and plants of sewage and trade effluent treatment and water treatment and also rendering advice to Government on pollution, compliance of standards regarding ground water, ambient water, leachate quality, compost quality etc. In fact, the budget provision was barely sufficient to meet the expenditure on salary and establishment of the Chairman and Member Secretary of the Board. It was obvious that the Board couldn't have performed its duties.
- No separate budget provision for bio-medical waste management except in 2006-07 when Rs. 10 lakh was provided for running incinerator. All the four Government hospitals¹¹ test checked cited inadequacy of funds as one of the impediments for implementation in waste management.
- Of Rs. 2.38 crore spent (2002-03 to 2006-07) on urban planning, utilisation of Rs.79.97 lakh on implementation of master plan was irregular, as the draft master plan was neither notified for implementation, nor expenditure on items such as carpeting (Rs. 14.11 lakh), road (Rs. 5.13 lakh), drain (Rs. 10.82 lakh) children park (Rs. 15.10 lakh), footpath (Rs. 29.45 lakh), contour line and survey (Rs. 2.95 lakh) and miscellaneous works (Rs. 2.41 lakh) covered under the draft master plan.

¹¹ (i) STNM Hospital; (ii) CHC, Singtam, (iii) PHC, Sang and (iv) PHC, Pakyong

3.3.9 Enforcement of Acts and Rules on land degradation

In addition to the 'Policy on Forest, Environment and Land Use, 2000', the State Government enacted Sikkim Allotment of House Sites and Construction of Buildings (SAHSCB) (Regulation & Control) Act, 1985; Sikkim Building (Construction) Regulation, (SBR) 1991 and issued notifications from time to time with a view to promote planned, organised and systematic growth of towns and bazars in the State. The State also adopted Central Acts as detailed in paragraph 3.3.7 for implementation in the State.

It was however, seen that enforcement of these Acts was grossly deficient in the areas of construction of buildings, waste management and compensatory afforestation, as evidenced from the following:

3.3.9.1 Urbanisation

The UD&HD was assigned the responsibility of development and improvement of towns/ bazaars, control over all buildings and roads within Gangtok and other small towns and other public services such as sanitation, waste disposal, etc.

Gangtok had approximately 6,000 buildings as on 31 March 2007. The Department had not maintained the list of buildings appropriately as evidenced from the fact that year-wise and zone-wise data for construction of houses, approval of blue print plans (BPP) were not available and indexing was not done for the period 2002-07. As a result, the Department was unable to provide files/records of those establishments which had been issued trade license by the Department for carrying out business, new water and electricity connections from the Water Security & Public Health Engineering Department and Energy and Power Department respectively. It was not known how electricity connections, water connections and renewal of trade licenses were allowed to these households when the Department did not have/could not furnish the approved BPP. On specific requisition from Audit, the Department informed that 922 new constructions have come up during the above period, but failed to provide the detailed list to substantiate the figure. Audit noticed that the data was compiled on the basis of fee collection register maintained for the purpose of passing of BPP, which was not correct, as new constructions could have been approved without levy of fees. The Department had also not maintained records detailing approval of BPP, unauthorised constructions including regularisation thereof for 248 constructions involving 44 bureaucrats, 29 ministers, 6 hotels, 17 government buildings, 52 commercial establishments. Thus audit checks were restricted to the extent of non-availability of these primary and vital records. Since the records were not available, 217 cases were selected in Audit on random sample basis from the list of 786 files produced to Audit. Deficiencies noticed are enumerated in the succeeding paragraphs.

3.3.9.2 Inconsistency in Acts/ Rules

According to the Seismic graph, Sikkim is vulnerable to earthquakes. The area is also located in Zone IV according to seismic zoning map of India where maximum intensity of VIII in the Medvedev-Sponheuer-Karnik Scale (corresponding to 5.52 in the Richter scale to be categorised as Zone IV having a floor height limit of two and a half storeys) is expected. Accordingly, lighter structure buildings not having floor height of two and a half storeys are to be constructed so as not to disturb the land profile and minimise the damage during earthquake.

Despite the above prescribed maximum height of two and a half storeys, the UD&HD permitted floor height limits of six (vide notification in July 1995), three (vide notification in June 2000), five and a half (vide notification in October 2001). There was no justification for permitting greater heights in violation of seismic zonation map and endangering the lives and properties of the area.

The Department accepted (July 2007) that there was no scientific reason for it to raise the limit to five and a half storeys.

3.3.9.3 Failure to restrict construction within permissible height

Notwithstanding this defect in stipulation of maximum height, enforcement machinery of the UD&HD failed to restrict the house owners to the prescribed limits as shown below:

Table-3.3.3

Stability zone	Permissible height	Cases checked	Construction exceeding norms		Construction within norms
			Number	Storeys	
1	5 ½	82	11 (13.41 %)	(5¾ to 8½ storied)	71
2	4 ½	15	4 (26.66 %)	(5 to 5½ storied)	11
3	3 ½	8	3 (37.50 %)	(5 to 5½ storied)	5
4	2 ½	1	Nil		1
5	1 ½	Nil	Nil		Nil
6	No construction	Nil	Nil		
N.A.*	--	111	18 (16.21%)	(6 to 8 storied) **	93
Total		217	36 (16.59%)		181

Source: Notification and files test-checked.

* Stability report not in file

** Taking maximum height norms i.e. 5 ½ storeys as norm

It would be seen from the above that there was violation in 17 per cent of the buildings test checked of which, maximum violation occurred in Zone 3 (38 per cent). There was violation of norms in 16 per cent cases where stability report was not available. In 111 (51 per cent) cases (out of the 217 cases), the Department did not mention any zone while approving BPP. As a result, audit could not vouchsafe the compliance with norms by the house owners.

These cases indicate the casual approach of the Department in allowing construction freely in violation of norms, without considering the seismic zonation and the impact of such violation on the safety of lives and property. It approved BPP without even indicating the zone. Existing enforcement mechanism in the UD&HD also failed to monitor construction and enforce restrictions. This led to unabated and unrestricted construction.

The matter needs to be investigated by the State Government and necessary action needs to be taken to enforce norms.

3.3.9.4 Failure to demolish unauthorised structures

The Act of 1985 (Sec 8) read with Rule 26 of Regulations 1991 authorised Secretary, UD&HD to demolish any construction which contravened the provisions of the Act or the Regulation made there under at the cost of the person concerned, after issue of 15 days notice. The Act also provided for penal action including simple imprisonment of six months. Audit noticed that the Department not only failed to restrict unauthorised vertical extensions, but also did not take any penal action. Even deterrent actions such as stopping construction, demolition, penalising defaulters and stopping water and electric supply etc. were not taken. In fact, the Department did not demolish even one such structure in the five years period covered by Audit, and remained indifferent till the defaulters themselves approached for regularisation by payment of nominal regularisation fee. In two cases¹², though demolition orders were issued (11 September 2001 and 7 July 2003) by the Assistant Town Planner for construction beyond the approved height to 6 and 6 ½ storied building as against the approval of 4 and 4 ½, it was not effected and instead processed for regularisation on the request of the house owner. Even the regularisation process was faulty, as the notification (October 2001), while forbidding construction beyond the maximum floor height (ranging between 5 ½ and 1 ½ for zone 1 and 5 respectively), provided for regularisation of unauthorised constructions beyond the prescribed limit upto the date of notification (October 2001) on payment of prescribed fees. The concession of regularisation for all irregular constructions was further extended upto September 2004 vide another notification (September 2004). Thus, the notification, instead of acting as a deterrent, was used as an easy tool by unauthorised structure owners to easily regularise their irregular and illegal constructions by payment of nominal fees. Thus the land was exposed to permanent degradation.

Even the competency of various authorities to regularise such construction was unclear. Twelve cases (33 *per cent*) out of 36 of unauthorised constructions were regularised by Additional Secretary (8 cases) and the Special Secretary (4 cases) in accordance with notification dated 15 October 2001, issued by the Department.

¹² Ms. Parinita Lama, Tadong, Shri M. B. Sharma, S/o T. R. Sharma, Deorali

After being pointed out in Audit, the Department issued (28 June 2007) notification *inter-alia* stating that such vertical unauthorised construction would not be regularised any further and unauthorised construction on Government allotted land would henceforth be liable for demolition.

3.3.9.5 Construction activities in the areas after ban

Based on the recommendations of the Committee, constituted (September 1995) by the State Government, UD&HD declared (February 1996) Tathangchen, Pani House, Arithang, Chandmari and Bojoghari areas as unsuitable and unsafe for human habitation and accordingly banned further construction of houses in those areas. The Department did not maintain record of houses constructed in the banned areas and could not furnish relevant records even after repeated reminders. Cross check of records with PHED revealed that 322 water connections to newly constructed houses were provided in these areas during 2002-03 to 2006-07 without insisting on approved BPP from UD&HD for the house. Thus construction of new houses continued unabated in disregard of Government directives as enforcement mechanism in the UD&HD was non-functional. The fact that relief measures involving Rs. 1.16 crore in 65 cases were undertaken by the State Government from Calamity Relief Fund during 2002-07 for obviating effect of natural calamity was also indicative of the fact that these areas were unsuitable for human habitation and construction of new houses is fraught with the risk of further deterioration of the already unstable land profile.

3.3.9.6 Non-adherence to BIS norms relating to seismic design guidelines

Sikkim Allotment of House-sites and Construction of Buildings (Regulation and Control) Amendment Act 2003 forbids construction of buildings in geologically unstable areas unless the requirements specified by the Bureau of Indian Standards (BIS) are fulfilled. The BIS norms envisage construction of equal floor height and symmetrical construction and also forbid construction of heavy structures in unstable areas.

It was noticed that although the Department prescribed compliance with BIS norms while according approval to the BPP, it failed to monitor the actual implementation of the conditions laid down for earthquake resistance design to be incorporated during actual construction of the buildings. Bengal Engineering and Science University, Shibpur also confirmed (April 2006) this fact of non-compliance with seismic design guidelines in construction, in their report on the earthquake (14 February 2006) which damaged around 500 buildings in and around Gangtok. CPWD, Kolkata, on specific request from Audit, also confirmed (August 2007) that BIS norms were ignored in the drawings approved by the UD&HD for the purpose of BPP in all five cases referred to them at random.

Non-adherence to BIS norms is fraught with the risk of more casualties in terms of loss of lives and property during disasters and further deterioration of land.

3.3.9.7 Construction on valley side of the road

SBR stipulates that buildings constructed on the valley side of the road are to have a maximum of one storey only above the road level depending on the stability of the location and structured foundation of the building but the total number of floors of the building is not to exceed four storeys or 40 feet.

Test check of 127 buildings constructed on the valley side of NH 31–A in and around Gangtok at Bishal Gaon, Pani House, Upper Arithang and Tadong revealed 75 cases of irregular constructions on the valley side having two and more storeys above the road level. At the instance and in the presence of Audit, the departmental officers conducted (7 June and 10 August 2007) physical verification of those buildings and confirmed the irregular constructions beyond the prescribed floor norms as shown below:

Table 3.3.4

Total no. of buildings checked	Below Road	1 and 1½ storeys above road	Irregular construction			Total
			2 & 2½ storeys above road	3 & 3½ storeys above road	4 & 4½ storeys above road	
127	19	33	16	34	25	75

Source: Construction records and physical verification

Thus, 75 (60 *per cent*) out of 127 constructions were irregular in this unstable region. Interestingly, most of these buildings were utilised for commercial purposes such as lodge, shops, etc.

3.3.9.8 Provision of gully¹³ between two plots/buildings

As per the SBR 1991, where two plots/sites are joined on one side, minimum gully of 6 feet on the opposite free site of these plots/sites is to be provided for emergency exit, ventilation, proper drainage, for containing damage to adjacent buildings during earthquake and avoidance of congestion leading ultimately to safer environment and avoidance of land degradation. In case of detached single plots/sites, a minimum gully of 6 feet each is to be provided between the plots/sites.

However, physical verification by the Department at the instance and in the presence of Audit revealed that 50 buildings (60 *per cent*) out of 83 buildings test checked by Audit (M.G. Marg: 40, Deorali: 16, Pani House: 9 and Syari: 18) had no provision for gully between two plots as can be seen in the following photograph:

¹³ Gully means a passage or strip of land set apart for the purpose of serving as a drain or affording access to a privy urinal, cesspool or other receptacle for filthy or polluted matter for municipal employees and includes the air spaces above such passage or land.



Adjacent buildings without proper gully at MG Marg

The Department failed to check these aberrations which were not only vulnerable to damages due to oscillations during earthquake but also fraught with the risk of increased vulnerability to land.

3.3.9.9 Non-erection of guard wall

In hilly terrain, the hill side of roads is to be supported by a guard wall to safeguard against land slides and consequent damage to the roads. It was noticed that in and around Gangtok (Deorali, Tadong) the hill side of National Highway 31-A was not protected by guard walls and eventually led to land slides/ slips at many places as seen in the photograph below.



Landslides due to absence of guard wall in hill side of roads at Amdo Golai

The Superintending Engineer (North/East), UD & HD stated (July 2007) that retaining structures for the roads would not prove to be economical and feasible in view of limited availability of funds. The reply is not tenable in view of the National Disaster Management Framework's stipulation to lay emphasis on prevention rather than on relief in the aftermath of the disasters, as original

construction cost would be much less than the reconstruction cost besides obvious advantages of saving precious lives and property in the event of disasters.

3.3.9.10 Inadequate drainage

The committee constituted (July 1997) for the purpose of ascertaining the basic cause for the landslides in and around Gangtok recommended (July 1997) (i) creation of public awareness of keeping drains and jhoras clean, (ii) restrict construction of buildings in haphazard manner thereby limiting space for natural drainage, (iii) increase the geometrics of the road and its drains so that the excess runoff water does not flow into valley side and cause damage below. Audit, however, noticed that the Department had not acted on this counsel as evidenced from absence of adequate drainage, choking of drains, throwing of garbage in drains as can be seen from the photographs below.



Inadequate drains leading to overflow of water in NH 31A

Thus, land degradation was caused by unrestricted construction in violation of seismic zonation norms, soil quality and building laws. This was compounded by inadequate legal framework as the building laws did not prescribe stringent penalty, imprisonment clause was never invoked by the enforcing authority and inconsistent rules. Awareness generation campaign was not robust enough to create awareness among citizens, as throwing of spoils and garbage continued in the drains and jhoras leading to choking and land slides.

3.3.10 Management and handling of Waste

Waste management includes collection, transport, recovery and disposal of waste, including supervision of such operations and after-care of disposal sites. Municipal solid waste, hazardous wastes and biomedical wastes are the most common wastes generated in and around Gangtok. The responsibility of waste management was assigned to UD&HD and the Health and Family Welfare Department as already indicated in table 3.3. Defects noticed are enumerated below:

3.3.10.1 Assessment of waste and risks associated therewith

Although the State Government had recognized waste as a threat to environment in the 'Land Use & Environment Policy' and also adopted Central acts for implementation in the State, none of the departments responsible for waste management had initiated any action for assessment of total waste currently being generated in the State. Assessment for future generation of waste had also not been made to facilitate creation of new capacity for management of waste so that its deleterious effects could be minimized on the environment and health of the public.

Concerned Departments and also the LU&EB had not yet initiated (October 2007) any steps to analyse the risks arising out of indiscriminate waste disposal in contamination of soil and water and thereby to the environment and possible health risks. The LU&EB while accepting the audit contention stated that they were unable to initiate the requisite steps due to manpower constraint and financial crunch.

3.3.10.2 Waste minimisation and reduction

Disposal of waste is the least favoured solution to the management of waste. Audit noticed that the concerned departments had not accorded due priority to extract maximum practical benefit from products and prevent and minimise the waste by adopting the 3 Rs (reduce, reuse and recycle). Neither targets were fixed for each kind of waste nor was strategy for reduction of quantum of waste adopted. Although, the concerned departments had launched awareness drive for proper waste disposal, adequate coverage was not given to reduction, reuse and recycling of waste through print and electronic media.

The Department stated (September 2007) that it is aware of 3 Rs strategy and a proposal is in process for awareness drive through electronic media.

3.3.10.3 Segregation of waste

Municipal Solid Waste (Management and Handling) (MSW) Rules 2000 require separation of waste into bio-degradable and non-biodegradable categories right from the point of generation itself by putting them in green and blue containers respectively. While the bio-degradable waste is to be converted to compost, the non-biodegradable waste is to be thrown at landfill sites and thereby decrease the volume of waste to be thrown into landfill sites and improve the environment.

Physical verification by departmental officers at the instance and presence of Audit revealed that segregation of waste as prescribed was not being adopted by the Department either at the point of generation or during treatment as can be seen in the photograph below:



Un-segregated Garbage dumped at Martam site for treatment

The Department stated (September 2007) that awareness campaign for segregation of waste through print media, postering, local NGOs, etc. was carried out but that the exercise did not work. The Department further added that it would require a more in depth study and a professional approach before it could be tried again.

3.3.10.4 Partial collection

The MSW Rules stipulate collection of solid waste and prohibition of littering in city areas. Primary causes of land slides in and around Gangtok were attributed (by a Committee set up by the State Government in June 1997) to disposal of wastes into drains.

Gangtok town generates approximately 0.39 kg /capita/day solid waste aggregating 45 MT, of which only 18 MT (40 per cent) is being collected through bell ringing vehicles within town limits. The remaining waste is being indiscriminately thrown into *jhoras* (storm water drains), streets, valleys by individual households as seen in the following photographs:



Garbage dumped at Metro Point Fly Over

Garbage dumped at drains near Indira Bye Pass

Failure of UDHD to enforce the provisions of rules is fraught with the risk of landslides, land degradation and other health hazards.

The Department stated (September 2007) that efforts were being made to streamline the collection of garbage to minimise the volume thrown into jhoras.

3.3.10.5 Transportation

According to MSW Rules, wastes shall be transported in covered vehicles to prevent exposure to open environment and scattering. Audit, however, noticed that out of 10 vehicles involved with transportation of waste, two vehicles were covered and the remaining were uncovered as may be seen below:



Transportation of waste in uncovered vehicle

Transportation of waste in uncovered vehicles is fraught with health hazards. While accepting the Audit contention, the Department stated (September 2007) that efforts will be initiated to transport the garbage in covered trucks, subject to availability of funds.

3.3.10.6 Processing and disposal

As per MSW Rules, waste processing and disposal facilities should be set up latest by December 2003. However, the Department could commission the solid waste treatment plant only in May 2006, primarily because of change (May 2002) of original site from Marchak to Martam and delay due to revision of scope of work which ultimately resulted in reduction of the capacity from 50 MT to 30 MT per day, cost escalation of Rs. 1.35 crore and deletion of vermi-compost yard and above all, curtailment of life span from 30 years to 20 years. The total capacity of the plant now at 30 MT per day is even less than the total estimated solid waste generated at present. Besides, the plant has now been set up at close proximity to the river which is fraught with adverse effect on water, air and land and health of the surrounding people. Further, specified procedure for disposal of accumulated solid waste (approx. 80,000 MT) at old sites was also not followed and instead, the site was handed over to the Tourism Department for construction of *Theme Park* which was not constructed as of July 2007.

3.3.10.7 Land fill sites

These sites are meant for disposal of segregated bio-degradable and treated bio-medical waste on land designed with protective measures against pollution of ground water, surface water and air, slope stability and erosion. As against the stipulation to identify and make the landfill sites ready for operation by December 2002, no initiative was taken by the Department to identify and declare the landfill sites till date (March 2007) despite the lapse of seven years after implementation of the MSW Rules.

Physical verification by the Departmental officers at the instance and in presence of Audit revealed that the untreated waste was dumped by the Department by the riverside of the solid waste plant at the Martam as seen in the photograph below:



Garbage dumped just near the riverside at Martam

Dumping of untreated waste in open space near river side is indicative of callous approach of the Department and will also be an environment hazard.

While accepting the audit contention, the Department stated (September 2007) that due to difficulty in finding large areas of flat land for land fill site, the rejects from the composting plant is dumped in the riverside near Martam.

3.3.10.8 Non adherence to Bio-Medical Waste (Management & Handling) Rules

The Bio-Medical Waste (Management & Handling) Rules 1998 stipulate treatment and disposal of bio-medical waste in the prescribed manner. Scrutiny revealed that hospitals had not adhered to these prescriptions as detailed below.

Despite release (June 2001) of Rs. 1.36 crore by GOI, the State Government commissioned (July 2003, February 2005 and August 2006) three incinerators

belatedly in the East District (out of total of six in the State¹⁴) as against the 2002 respectively. This was primarily due to indecisiveness in selection of incinerator, absence of electrification and non-provisioning of fuel. Not only were funds (Rs. 1.36 crore) allowed to remain idle, but the bio-medical waste to the tune of 24 kg per day was dumped along with the solid waste against the prohibition of mixing bio-medical wastes with other wastes which is fraught with hazard to the citizens in the vicinity of the dumping area.

Physical verification at the instance and in the presence of Audit of STNM, CRH, one Community Health Centre (Singtam) and two Public Health Centres (Pakyong and Sang) revealed that (i) none of the institutions had set up bio-medical waste treatment facilities within the stipulated date; (ii) none of the institutions except STNM had initiated steps to ensure handling of waste without any adverse effect to human health and environment; (iii) no incineration facilities were available in any of the PHCs test checked and thus the wastes were disposed off by dumping in the pits; (iv) segregation of microbiology wastes, waste scraps, discarded medicines and cytotoxic drugs, solid wastes, liquid wastes, incineration ash, chemical wastes were not segregated into respective categories by any of the five institutions test checked; (v) no records relating to generation, collection, reception, storage, transportation, treatment, disposal or handling of bio-medical waste were kept by any of the institutions.

The Health Care Human Services & Family Welfare Department accepted (September 2007) the audit observation.

Further, none of the operators /occupiers of the facilities (57 in the East District) except CRH had obtained authorisation from LU&EB till date (July 2007) as required under Bio –Medical Waste (Management & Handling) Rules 1998.

The LU&EB stated (September 2007) that the Board was constantly in touch with the HCHS&FW Department but cooperation from the other end was not forthcoming.

3.3.11 Afforestation under Forest (Conservation) Act 1980

Forest cover is necessary for soil binding, drainage control, preventing infertility in land, flood control measures, arresting landslide, etc. and absence thereof leads to land degradation. GOI enacted Forest (Conservation) Act 1980 (FCA) stipulating compensatory afforestation in all cases of diversion of forest land for non-forestry purposes. The responsibility of implementation of the Acts and Rules relating to FCA in the State was assigned to FCA cell of the Forest, Environment and Wildlife Management Department headed by Chief Conservator of Forest designated as Nodal Officer.

¹⁴ STNM, CHCs Singtam, Mangan, Namchi and Geyzing, CRH (out of which STNM, CHC Singtam and CRH, Tadong were test checked in audit)

The FCA provides for obtaining prior approval from the Union Ministry of Environment and Forest (MOEF), for all cases of diversion of forest land for non-forestry purposes. As of March 2007, 17 such cases pertaining to areas in and around Gangtok were pending with FCA Cell for final approval. FCA Cell had not kept any tab over execution of works in forest area especially in case of proposals pending approval from GOI. Cross check of records of 15 cases (out of 17) in user agencies by Audit revealed (May – June 2007) that in five¹⁵ cases, the user agencies, went ahead with the execution of projects within the forest land of 9.13 hectares in violation of the Act. This also indicated lack of monitoring on the part of FCA Cell to arrest such unauthorised diversion of forest land and arrest depletion of forest cover. In reply, FCA Cell stated (June 2007) that it had no such information/report.

Further, although the Act prescribed remission of fund for compensatory afforestation by user agency before final clearance by State Government, in two cases (out of 17), involving diversion of 2.84 hectare of forest land, requisite funds of Rs. 19.96 lakh had not been deposited by user agencies as of March 2007 despite clearance from GOI. As a result, compensatory afforestation works against the depleted forest cover could not be carried out so far.

3.3.12 Monitoring and Evaluation

The State Government had not assigned the responsibilities for monitoring and overseeing the activities for prevention of land degradation to any Department or agency. As a result, the activities leading to land degradation were not monitored centrally by any Department or agency at the State level as evidenced from the following:

- The LU&EB met only four times as against the requirement of 20 meetings on quarterly basis during 2002-07 recording a shortfall of 16 meetings (80 *per cent*). As a result, LU&EB failed in its duties to give policy directions for effective implementation of the covenants of the Central Acts in relation to solid waste, bio-medical waste etc.
- UD&HD, which was assigned with the responsibility of urban planning, allotment of house sites, construction of buildings, solid waste management, etc. failed to oversee and monitor the enforcement of the Acts and Rules pertaining to these activities. Large scale unauthorised construction of buildings, disposal of waste at places other than designated places, etc indicated absence of monitoring mechanism in the Department.

¹⁵ (a) Urban Development and Housing Department (2 cases) (b) Roads & Bridges Department (2 cases) and (c) Commerce & Industries Department (1 case).

- LU&EB (State Pollution Control Board) is responsible for monitoring and evaluation of the implementation activities enshrined in the Acts / Rules relating to biomedical waste and solid waste. The Board failed to discharge its duties as is evident from the facts discussed in paragraph 3.3.10.

3.3.13 Conclusion

Although the State Government had identified land slides, flooding, damage to roads, bridges and buildings as the factors responsible for land degradation, a comprehensive policy for control of land degradation was not framed. The policy pronouncements were never followed up by the State Government with enactment of rules and procedures to give techno-legal framework for their effective implementation, indicating lack of seriousness in containing land degradation. This was further compounded by fragmented policy among Government bodies for controlling land degradation and the absence of a coherent approach to monitor progress and ensure compliance. Implementation of both the Central and the State Acts and Rules was beset with weaknesses as commissioning of requisite infrastructure (incinerators and treatment plant) was delayed. Fund allocation was inadequate affecting appropriate enforcement of control measures. Provisions of State Acts pertaining to building constructions were not enforced in right earnest leading to rampant violation by the citizens. Awareness drive initiated by the State Government did not yield desired results. Monitoring by line departments was very weak in case of building construction, solid waste disposal, bio-medical etc. There was complete lack of ownership on the part of the concerned Departments and also citizens to contain land degradation.

3.3.14 Recommendations

- The State Government should frame specific policy on land degradation and initiate steps to appoint a focal agency within the Government to monitor and oversee the activities for prevention of land degradation.
- Master Plan for Gangtok town with a perspective of 25 years should be prepared with techno-legal framework for its effective implementation.
- Building byelaws may be amended to restrict floor limit in line with seismic zonation norms and ensure its strict enforcement. All unauthorised constructions beyond the norms should be demolished immediately.
- Waste hierarchy of 3 R's (Reduce, Reuse and Recycle) should be adopted and waste disposal mechanism strengthened
- Result oriented robust awareness drive should be put in place.
- The State should prescribe rules envisaging “*degraders must pay*”