



**REPORT OF
THE EVALUATION STUDY ON
HILL AREA DEVELOPMENT PROGRAMME
IN ASSAM AND WEST BENGAL**

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Preface

The hill areas of the country, due to their difficult terrain, variable agro-climatic conditions and distinct socio-cultural features, face problems inhibiting their process of development. Keeping this in view, it was realised that adequate measures need to be taken for the conservation and proper utilization of the resources of the hill areas. Hence, Hill Area Development Program (HADP) was introduced by the Government of India in the Fifth Five Year Plan to initiate socio economic development in the hill areas of India. The objectives of the programme include eco-preservation and eco-restoration with the focus on sustainable use of bio-diversity, ensuring community participation in the design and the implementation of the strategies for conservation of bio-diversity and sustainable livelihood.

At the instance of the Planning Commission, the Programme Evaluation Organisation (PEO) undertook the task of evaluating the programme in the Hill districts of Assam and West Bengal to study the progress on various facets, namely, eco-preservation, eco-restoration, conservation of biodiversity, ensuring sustainable livelihood, community participation, involvement of PRIs and NGOs, watershed-based development, extent to which funds available in the Central and State plan schemes have been combined with HADP, status of maintenance and utilization of assets created under HADP, examining the strengths and weaknesses of the programme and suggest remedial measures. The evaluation study was outsourced to M/s Gfk-Mode Pvt. Ltd, a national level social research organisation, with PEO, Planning Commission acting as the nodal organisation.

The study covered the three hill districts of West Bengal and Assam, namely Darjeeling, Karbi Anglong and North Cachar Hills. The findings are based on the data and information collected for the reference period 2002-03 to 2006-07 (Tenth Plan period) through a sample survey from structured schedules and focus group discussions.

The major findings of the study are:

- Holistic approach towards targeting the areas was not noticed; however, work has been done under various departments like Forestry, Irrigation, Animal Husbandry, Parks and Gardens, etc.
- Beneficiary oriented schemes undertaken in Assam have succeeded in ensuring sustainable livelihood to some extent.
- In addition, funds allocated and utilized by various line departments also had a positive impact on general development of the region resulting in improved livelihood options.
- There were mixed findings on community participation. Grass-root level involvement was somewhat better in the District of Darjeeling.
- Panchayati Raj Institutions like Gram Panchayats had no role in implementation, due to non-existence of these institutions in any of the three hill districts.
- NGOs were not involved in the implementation of HADP schemes in any of the three Hill areas.

- Watershed management approach was still at preliminary levels of implementation.
- Although, the State budgetary allocation showed clear demarcation on the break-up of funds under HADP/ Special Central Assistance vis-à-vis State fund allocations together with their head wise break-up, the same was not clear at the level of the line departments in any of three districts which were studied.


I am sure that the findings and suggestions presented in this report would be useful to the Government of India to facilitate the objectives of eco-restoration, eco-preservation and watershed development approach get adequate priority.

I would like to commend the team members of GFK Mode Pvt. Ltd led by Dr. Udit Ghosh Sarkar for putting in their sincere efforts in bringing out this comprehensive evaluation report.

The study received constant support and encouragement from the Deputy Chairman, Planning Commission and Member Secretary, Planning Commission. The Report in its present form owes to the guidance and close supervision of Smt Ratna Anjan Jena, Adviser, PEO and coordinated at headquarter level by Shri B.P. Meena, Director, Programme Evaluation Organisation, Planning Commission.

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Finally, the help and co-operation extended by the authorities of State Governments of Assam and West Bengal at all levels of the administrative set up, is gratefully acknowledged.


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Abbreviations

APL	Above Poverty Line
ARWSP	Accelerated Rural Water Supply Program
ASTC	Assam Road Transport Corporation
BADP	Border Area Development Programme
BDO	Block Development Officer
BPL	Below Poverty Line
BPL	Below Poverty Line
BRGF	Backward Regions Grant Fund
C&SSI	Cottage and Small Scale Industries
CADP	Command Area Development Program
CEM	Chief Executive Member
CRSP	Central Rural Sanitation program
CSS	Centrally Sponsored Scheme
DFO	Divisional Forest Officer
DGHC	Darjeeling Gorkha Hill Council
DI	Depth Interview
DPAP	Drought Prone Area Program
DPB	District Planning Board
DRCS	District Registrar of Co-operative Societies
DRDA	District Rural Development Authority
ECC	Emergency Construction Cell
EM	Executive Member
FC	Fully Covered
FGD	Focus Group Discussions
FPC	Forest Protection Committees
FW	Family Welfare
GOI	Government of India
GOI	Government of India
Ha	Hectare
HADP	Hill Area Development Program
IJDP	Integrated Jhum Area Development Program
LAMP	Large Area Multipurpose Coop Societies
MFAL	Marginal Farmers and Agricultural Labour Agency
N. C. Hills	North Cachar Hills
NA	Not Applicable
NCHAC.	North Cachar Hills Autonomous Council
NCHC	North Cachar Hills Council
NGO	Non Governmental Organisation
NWDPRA	National Watershed Development Project for Rainfed Areas
OBC	Other Backward Castes
PC	Partially Covered
PHC	Primary Healthcare Centre
PHE	Public Health Engineering
PRI	Panchayati Raj Institution
PWD	Public Works Department
RLEP	Rural Landless Employment Programme
RO	Range Officer
SC	Scheduled Caste
SCA	Special Central Assistance
ST	Scheduled Tribe
T&CP	Town and Country Planning
VDO	Village Development Officer
VTRC	Vocational Training and Rehabilitation Centre
WBREDC	West Bengal Rural Energy Development Corporation

EXECUTIVE SUMMARY

The Hill Area Development Program (HADP) has been introduced by the Government of India to initiate socio economic development in the hill areas of India since the inception of the Fifth Five Year Plan. The main objective of this program is to ensure 'sustainable' development of hill areas, keeping in view the basic needs of the hill people and generating ample livelihood options for the local community. With the progress of the Five Year plans, the focus has been shifting to preservation of biodiversity and rejuvenation of hill ecology.

The major objectives of the current evaluation study was to understand the approach and strategy for the implementation of HADP and analyze the 'impact' of the program in the two districts of Assam, namely Karbi Anglong and North Cachar Hills and the district of Darjeeling in West Bengal. The study has also aimed at gaining an understanding on how far the newly emphasized objectives of eco-preservation and eco-restoration have been achieved under HADP in the above mentioned states. Physical and financial performances in the districts under HADP were evaluated, the perception of the beneficiaries and the implementers of the program (through interviews and focus group discussions) on the maintenance, degree of utilization and cost effectiveness of HADP sponsored facilities provided were analyzed and finally the extent to which the Hill Area Development Programs have been able to meet its objectives in these two states was assessed.

Major Findings

- *The broad objectives of HADP of balancing development and eco-preservation such that sustainable development is ensured in districts of Assam and West Bengal have only recently gained momentum in the appropriate direction. This is primarily because the HADP guidelines in the initial stages of the Five Year plans did not emphasize on ensuring protection of biodiversity and maintaining ecological balance. As late as the Tenth Plan, the objectives lacked clear specifications on preservation issues and how the programs need to be restructured for bringing forth sustainability in the states. A major shift in the policy making took place when the watershed development*

approach was highlighted for implementation of HADP in the 11th Plan. Watershed area as a unit of development is expected to ensure a holistic view of water and land resources.

- *The present evaluation study has not been able to secure adequate information on the extent or degree of implementation of the Watershed development approach in both the districts of Assam and in Darjeeling because work under this approach has not yet gained enough momentum. Effects of this new approach can only be summarized when plans and programs have been identifiably undertaken under this approach. It has therefore been concluded that the 'watershed management' approach is still at its preliminary levels of implementation and successive Five Year plans may find a shift in the policy approaches in this regard.*
- *It has been seen that although the state budgetary allocation shows clear demarcation on the breakup of funds utilized under HADP / SCA allocations, the same is not clear at the level of the line departments in all three districts under study.*
- *There is delayed release of funds to the departments, occurring mainly due to the delay in submission of the utilization certificates by the various line departments from the districts of Assam and Darjeeling.*
- *It has been seen that there were discrepancies in the allocation of funds released to the departments by the council. This is a frequent practice in N C Hills as opposed to Karbi Anglong. Noticeably, in N C Hills district, the release of funds to departments has been more often less than what was sanctioned.*
- **Financial Allocations:**
 - *Karbi Anglong: Education has received a priority in Karbi Anglong in terms of allocation of funds throughout the period 2002-2007. It remains to be decided however whether funds from HADP can be utilized for this particular sector as a priority when other sectors like Animal Husbandry, Irrigation and Forestry need to be supported as well. These later departments had very low allocation of funds till 2005. (9.2.1)*
 - *North Cachar Hills: In aggregate, maximum allocation in N.C. Hills has been made to the department of PWD within the period 2002-2007. The PHE department, cooperative department and social department have received less emphasis in this district in 2006-2007. (9.2.2)*

- *Darjeeling: The Parks and Garden department, the Engineering department and the Rural Electrification department has seen an overall decline of funds in 2006-2007 in Darjeeling. The ECC department has however received higher funds during the later years of the 10th Plan Period.*
- **Physical Achievements:** *The Departments on average have reported 100% achievement of targets across all districts except in a few cases of line departments in North Cachar Hills.*
- *One of the important findings is that though targets are set at the Council level (as can be seen from the Annual Plans submitted to Planning Commission) these targets do not necessarily match with that of the line departments. The figures reported by the line departments as their targets are either closer or often same as their reported achievements.*
- **Status of maintenance of physical assets:** *The status of maintenance of assets sponsored by HADP funds has often been reported to be 'good' across the line departments in the districts of North Cachar Hills and Karbi Anglong. During the field work, an effort was taken to physically verify 10 such HADP assets in all the three districts of our study. However, in some cases the extent of asset utilization was poor, identified as not due to the 'condition of the assets' per se but due to the 'relative irrelevance of the assets in the localities'. Therefore there is some need to assess why the schemes that were apparently irrelevant to the needs of the local people were implemented in the districts. Perhaps greater efforts are required to identify the asset requirements of the public, so that a need-based approach is followed in order to have a viable impact on the lives of the people.*

Before going into the Sector-wise conclusions and suggestions, the achievements of HADP Vis-à-vis the broad objective of the scheme as well as the present study are summarized in the table below.

Achievements Vis-a-Vis Targets in a Nutshell

Broad Objective	Achievement
Eco-Preservation, Eco-Restoration, Conservation of Biodiversity	Holistic approach towards targeting these areas was not noticed. However work have been done under various departments like Forestry, Irrigation, Animal Husbandry, Parks and Gardens, etc.
Ensuring sustainable Livelihood	Beneficiary oriented schemes undertaken in Assam have been able to achieve this target to some extent. Funds allocated and utilized by various line departments have a positive impact on general development of the region resulting in improved livelihood options.
Community Participation	Findings are mixed: Grass-root level involvement being somewhat more in the District of Darjeeling
Involvement of PRIs	Panchayati Raj Institutions like Gram Panchayats have no role in implementation in any of the three Hill Districts.
Watershed Based Development	Effects of this new approach can only be summarized when plans and programs have been identifiably undertaken under this approach, which is yet to start. It has therefore been concluded that the 'watershed management' approach is still at its preliminary levels of implementation
Involvement of NGOs	NGOs are not involved in the implementation of HADP schemes in any of the three Hill areas
Extent to which funds under related Central and State plan schemes have been combined with HADP	Although, the state budgetary allocation shows clear demarcation on the break-up of funds under HADP/ SCA vis-à-vis state fund allocations and also indicates their head wise break-up, the same is not clear at the level of the line departments in any of three districts under study. (Further details in Chapter Nine)
Status of maintenance and utilization of assets created under HADP	Varied from Department to Department. People's perception also varied from those of the Line Depts Detailed analysis in Chapters Five and Six

Sector-wise Conclusions & Suggestions:

One of the most important findings of the study was the identification of sectoral needs based on the perception of the beneficiaries (via focus group discussions) and those provided by the line department officials through schedules. These have been discussed in details in main report. Overall, across most of the departments, there still remains a gross mismatch on opinions of the quality of services provided by the line department officials and villagers on infrastructural facilities which suggests that further evaluation needs to be done at the post implementation phase on such issues .

SECTORS	CONCLUSIONS	SUGGESTIONS
Infrastructure		<i>There is a necessity for improvement in the quality of facilities provided under this sector via HADP schemes.</i>
Education	<i>School infrastructure definitely needs more emphasis on development as most schools lack proper school buildings, walls, playgrounds, water outlets, and furniture and sanitation facilities.</i>	<i>Surveys might be needed on the number of schools that are in the operational phase across villages and those with further need for development as in most villages school buildings are either absent and new ones are needed or they are in dilapidated condition, needing renovation.</i>
Irrigation	<p><i>Although agriculture is still one of the highest income generating sectors in the hill areas, irrigation facilities under HADP have only marginally improved in the hill area, despite a positive effort in addressing constraints being faced in agriculture.</i></p> <p><i>Owing to shifting cultivation, majority of land in the hill areas has been losing productivity.</i></p> <p><i>Very little increase in the land covered under irrigation has taken place in the period of study, only about 213 ha in N C Hills and 101 ha in Karbi Anglong.</i></p>	<p><i>There is need for introduction of multi-cropping practices. Area of irrigated land needs to be increased with extensive use of fertilizers, especially usage of nitrogen fixation and hybrid variety of seeds and saplings.</i></p> <p><i>There is need for additional pump facilities for greater water supply as 50% of the sampled villages have marked that 'water supply is inadequate for agricultural practices'.</i></p>
Agriculture	<p><i>Ploughing of fields is a very cost-worthy and useful practice for farmers even in the hilly terrains. However, due to problems associated with ploughing of fields in the hilly regions, the departments have undertaken schemes to support farmers with ploughing of fields in several villages.</i></p> <p><i>Following traditional guidelines for improving agricultural productivity, seeds and fertilizers are being supplied.</i></p> <p><i>Jhum is however not very popular in Darjeeling.</i></p> <p><i>The department of agriculture has taken up a few projects to promote use of modern technology as well. Horticulture crops are promoted in both the districts of Assam.</i></p> <p><i>But overall, despite the importance of agriculture among hill areas, it still remains one of the most neglected sectors.</i></p>	<p><i>Agriculture produce on a cooperative basis needs to be increased.</i></p> <p><i>Emphasis on promotion of modern technology including horticulture in Assam and floriculture in Darjeeling should be made a priority.</i></p> <p><i>Programs to enable shift from jhum cultivation to plantation crops for eco-restoration and preservation should be included in the fund allocations in the Agriculture Department.</i></p> <p><i>But the supply chain for these goods need to established more effectively so that the villagers from all villages have equal or convenient means of acquiring them. And markets for the agricultural produces also need to be developed.</i></p>
Forestry	<p><i>There is lack of gross knowledge among villagers on the disadvantages of deforestation in the hill areas.</i></p> <p><i>Despite larger fund allocation and subsequent massive afforestation programs (3872 ha) including 2350ha of social forestry taken up by</i></p>	<i>Specific training and awareness efforts from the Forest Department have to be conducted to educate people on the drawbacks of deforestation and the long term effects it has on climatic patterns.</i>

SECTORS	CONCLUSIONS	SUGGESTIONS
	<p><i>the forest department in N C Hills, there has been only a marginal increase in the forest cover due to the practice of shifting cultivation in the districts of Assam.</i></p> <p><i>There was no allocation to this sector in Darjeeling.</i></p>	<p><i>More of plantation efforts definitely need to be introduced and regularly emphasized.</i></p>
Preservation of Ecological Balance	<p><i>Plantation efforts in the forest development have been far from adequate. Uncontrolled felling and cutting of essential trees such as the 'bamboo' has the potential of a long term negative impact on the ecological balance of the area.</i></p>	<p><i>Regular monitoring on cutting and felling of trees by the concerned departments is a priority in this sector.</i></p>
Animal Husbandry	<p><i>Even though the substantial funds were allocated for Animal Husbandry and Dairy development in the districts of Assam, especially Karbi Anglong, the achievements have not been very encouraging.</i></p> <p><i>.The potential benefits of animal husbandry have only been perceived in a handful of villages.</i></p> <p><i>There has been no allocation in Darjeeling under this sector.</i></p>	<p><i>There seems to be a considerable need for employment generating schemes in this sector.</i></p> <p><i>The potential shift of occupation to animal husbandry from other less reliable sources of earning and occupation is high and needs to be captured.</i></p> <p><i>This can also come out as an effective alternative to Jhum cultivation.</i></p>
PHE	<p><i>Public Health and Engineering department has received major funds in both the districts of Assam. Due to schemes executed by the department, almost all the mauzas have drinking water facility in Darjeeling. However, there are still 91 habitations, which do not have any source of drinking water in N C Hills and in Karbi Anglong.</i></p>	<p><i>HADP sponsored tube-wells in Assam could offer a solution to the problem of scarce availability of safe drinking water.</i></p>
Tourism in Darjeeling	<p><i>Major portion of SCA allocation was spent on general services in Darjeeling each year during the reference period. Guesthouses, residential and official buildings were constructed out of these funds. Besides construction of buildings, parks and gardens, resting rooms etc were also developed to promote tourism in the district. It was found during the study that even a 'momo counter' was built to attract the tourists.</i></p>	<p><i>It has been observed that in tourism, focus has shifted from provision of basic tourism facilities via HADP to personal livelihood options. There needs to be an assessment on usage of funds for control on misuse of funds in this department for those being used for personal tourism oriented business purposes instead of civic use. In addition, options of low cost eco friendly toilets for tourists in the hill areas are also a major requirement that have not been explored.</i></p>
Rural Electrification Sector	<p><i>Electrification has been a grossly benefited sector of HADP.</i></p>	<p><i>Usage of energy conserving outlets and solar lamps is a possibility in the hill areas that have not been explored yet. The benefits from usage of these energy conserving lamps and outlets could also spill over to other departments, including tourism.</i></p>

Please Note: Further discussions on the opinion of the line departments and that of the beneficiaries on conclusions and suggestions made in the table above have been summarized in the main report in Section 10.5

Comparison of Views of Line Department officials and villagers on Utilization of Assets and Cost-effectiveness of assets

Underlying Non-Statistical Hypothesis: The perception of the line departments that there has been effective utilization of assets created under HADP, and that they are cost-effective (in the two Districts of Assam), is supported by the users.

Results of the non-statistical hypothesis on utilization of assets and cost effectiveness

HYPOTHESIS	North Cachar	Karbi Anglong	Darjeeling
Utilization of Assets The perception of the line departments that there has been effective utilization of assets created under HADP, is supported by the users	Rejected*	Rejected*	True*
Cost Effectiveness: The perception of the line departments that the performance of HADP schemes is cost effective (in the two districts of Assam), is supported by the users	Rejected*	Rejected*	Inconclusive

*Based on data available from focus group discussions.

As the above table shows, villager's opinions in North Cachar Hills and Karbi Anglong do not match the opinions of the officials from the line departments – both their opinions vary to a large extent as far as utilization of assets and the cost effectiveness of the schemes implemented are concerned. Thus a gross restructuring of implementation plans along with monitoring and evaluation has to be done in the area. However the situation is a bit different in Darjeeling. Despite lack of adequate information from the sources in Darjeeling, it was concluded based on the responses received that in case of 'utilization of assets', the opinions of the beneficiaries and the implementers of the program do match, although all HADP facilities and services provided by the line departments have been under the banner of DGHC. However, as regards cost-worthiness of the assets created, nothing definitive came out of the focus group discussions. A total of 30 such assets created under HADP fund was physically verified during the study.

- **Eco-restoration and Eco-preservation**

Jhum Cultivation: Majority of the village people from both districts of Assam (North Cachar hills and Karbi Anglong) suggest that settled cultivation of cash crops and plantation crops is acceptable to them as a replacement to jhum, if a higher income is ensured in short and long term. Currently however, considering the risks involved in the returns from plantation crops, most beneficiaries are in favor of using settled cultivation as a supplement to jhum rather than a replacement. Most of the villagers also acknowledge the fact that 'jhum' is harmful for ecology to a great extent and there seems to be a general keenness on shifting to other possible means of employment if returns were guaranteed to them. Hence policy makers need to consider alternative employment options for the people who are practicing jhum cultivation in the districts of Assam.

- *Jhum was not found to be very popular in Darjeeling. In Darjeeling therefore, irrigation efforts need to be emphasized for the same in order to enhance soil preservation efforts.*

Conclusion:

As much as the objectives of HADP were framed with the benevolent purpose of assisting the states in enhancing livelihood options for the people living in the hill areas of India and ensuring sustainability of the hills – it is important that HADP guidelines are stated and defined more elaborately to the states with specific instructions on the kinds of facilities that can be provided by HADP funds, the priority of usage of funds by the departments and perhaps on the extent to which funds can be utilized on a certain program. Initially it was planned that the funds be used for filling gaps in the district departmental budgets being utilized in fulfilling the general objectives of HADP. But such guidelines create room for diversion of funds to other sources that are not intended towards fulfilling the goals of HADP. In some cases the funds are even being used for payment of the salaries of IXofficials in the departments. Hence HADP guidelines on kinds of programs that can be sponsored and the extent of funds that can be used for these programs have to be specifically mentioned before any disbursement of funds.

As far as eco-preservation is concerned, there are multiple avenues where programs need restructuring and revision for the achievement of this target. It has therefore been concluded that the 'watershed management' approach was still at its preliminary levels of implementation during the survey period though it has taken a momentum later. The successive Five Year plans may find a shift in the policy approaches in this regard as there is a gradual thrust on following policy making as per the guidelines of Watershed Management provided by the Government of India. There is dire need of involvement of community members, village committees and local NGOs into the programme.

There are many reasons however to state that HADP has been successful in offering additional livelihood and benefits to the people of the hills in India. Evidently, the 'impact' of HADP was sufficiently positive in terms of earning and supplementary income; and with gradual refinement in policy guidelines the dual objectives of ensuring better livelihood options among villagers in these areas along with fulfillment of the objectives of eco-preservation and eco-restoration. The need for awareness about HADP programme, maintenance of their own assets and preservation of their resources is equally important for the effective implementation and formulation. Involvement of local NGOs/CBOs is recommended for the effective implementation of HADP in all the three districts of our study. The main role of the NGOs will be to create an awareness among the people of the special areas and the need to protect them and educate them about the various developmental programmes being implemented by different heads of departments. Signage at the various locations and capacity building of the functionaries can act as an important measure in terms of visibility of the programme in all the three districts.

1. Introduction

1.1 Development in Hill Areas – A National Objective

The mountain ranges and hill areas of India have a crucial role to play in determining the climate and physiography of the country and are prime determinants of development of plain areas as the rivers have for centuries been instrumental in socioeconomic development of India. The Central and the State governments therefore joined together in designing an innovative approach to deal with specific issues pertaining to hill areas of the nation only, named as the Hill Area Development Program.

The introduction of the Hill Area Development Program by the Government of India has been a major step towards ensuring the much needed goals of sustainable development in these areas. It is unquestionable that the hill areas of India, especially the Himalayas and the Nilgiris have major contributions in maintaining climatic and ecological balance in the country with their forests areas and watersheds. For a long time, these areas have not received their due emphasis on development issues and majority of these areas remain underdeveloped & livelihood patterns among villagers continue to be primitive. Moreover, the ecologically hazardous forms of common practices such as the shifting cultivation significantly threaten the climatic patterns. It should also be mentioned here however that development programs in the hill areas have distinct features and problems associated with implementation that need consideration before any plan or program can be introduced. Some of these issues stem from the difficult terrains that make it harder for common people to monitor programs and reach out to remote areas and village people in the hills; variable and unpredictable agro-climatic conditions that do not ensure consistent returns from plantation crops; the huge inter-regional disparity that exists among the people in terms of their culture and practices and finally the fact that people are generally more disadvantaged in terms of accessibility to resources such as transportation and communication. In view of these factors, the Government of India articulated the Hill Area Development Program. The goals include proper utilization and conservation of resources in the hills, establishment of linkages, complementarities and organizational support for implementation of schemes and for effective harmonization of

socio-economic growth with eco-restoration, eco-preservation and watershed management.

The designated Hill Areas under HADP were outlined as follows:

- Two districts of Assam – North Cachar Hills and Karbi Anglong
- Major part of Darjeeling district in West Bengal
- Nilgiris District of Tamil Nadu
- 171 Talukas of Western Ghat Development Program

The present study concerns the two districts of Assam and the Darjeeling district of West Bengal.

1.2 Objectives of HADP

The goals of the HADP program have been outlined with final objectives of sustainable development in the hills. Given the constraints in implementation of variable climate patterns and backwardness of livelihood practices among villagers in these areas, there is considerable need for planned implementation of programs that have dual objectives of diverting ecologically harmful practices of the villagers to alternative livelihood options such that their existing quality of life is not hampered and also ensuring proper restoration of forests and other essential resources to maintain the ecological balance of the areas. The final long term objective is of sustainable human development in the villages of the hill areas. The Special Central Assistance (SCA) was to be used primarily for schemes which preserve and increase productivity while protecting environmental schemes, as supported by the classical definition of 'sustainable development'. Programs under watershed development, afforestation, horticulture and pisciculture were to be revised and re-implemented with sustainable objectives. The emphasis under these schemes is on developing the hill areas in terms of provision of basic amenities, infrastructure facilities, human development indicators and income levels. With these objectives, the broad outline of goals of HADP have evolved to be as follows:

- Eco preservation and eco restoration with focus on sustainable use of bio diversity
- Ensuring community participation in the design and implementation of strategies for conservation of bio-diversity and sustainable livelihoods

- Watershed based development to be the basic thrust area- but not applicable to West Bengal & Assam
- State Governments should evolve mechanisms to involve NGOs and PRIs

1.3 Evolution of the Hill Area Development Program (HADP)

This section aims at discussing the evolution of HADP through the Five Year Plans in India. In the initial stages of program designing and implementation, the HADP program lacked objectives on achieving sustainability in the hill areas. The primary focus then was on enhancing livelihood options for the people living in these areas, with consequent additions and development in the program that were implemented in successive Five Year Plans. Owing to the massive change in climate patterns and eco-degradation of the areas, it almost became mandatory to include eco-preservation and eco-restoration in the final objectives of HADP. This study therefore aims at evaluating the progress of HADP through the annual periods of 2002-2007 in terms of the objectives outlined and the effectiveness of the programs already implemented. The current evaluation study is however based on the two hill districts of Assam and the major part of the Darjeeling district in West Bengal only.

The approach and strategy of the program has evolved through the Five year Plans designed by the Government of India and has been outlined in this particular section.

1.3.1 Fifth Plan

HADP has been in operation since the Fifth Five Year Plan. The programs implemented during the Fifth Plan period were mainly beneficiary oriented.

1.3.2 Sixth Plan

During the Sixth plan, the emphasis shifted to economic development. The general tenor of HADP remained substantially the same as that of the 'Normal State Plan' following the same sector wise approach while designing the schemes under HADP.

1.3.3 Seventh Plan

The Seventh Plan laid particular emphasis on the development of ecology and environment, namely eco-restoration, eco-preservation and eco-development. The aim

was to evolve plans and programs, which would stimulate socio-economic growth, development of infrastructure and promotion of ecology of the areas covered by HADP.

1.3.4 Eighth Plan

During the eighth Plan, the approach was substantially the same as that in the Seventh Plan with special focus on involvement of the people and meeting their basic needs through improved management of their land and water resources. The measures outlined toward this however were broadened and made more detailed. For example,

- An energy policy was introduced to reduce pressure on forests and provide alternate sources of energy
- Afforestation of denuded forest land for fuel and fodder
- Provision of adequate and safe drinking water by development of gravitational sources of water
- Emphasis was laid on improvement of health facilities in primary health institutions
- Development of skilled manpower was also one of the concerns
- Proper land use pattern keeping the socio- economic and ecological parameters in view
- Development of horticulture and plantation crops
- Improvement of livestock
- Development of industries such as electronics which do not pollute the atmosphere and lead to high value addition
- Development of network of transport and communication facilities with emphasis on feeder paths and roads and
- Evolution of appropriate technology and scientific inputs which would suit local conditions and harness local resources.

1.3.5 Ninth Plan

In the Ninth plan, the main objectives of the program on eco-preservation and eco-restoration were conceptualized. However, it was not until the 10th plan that the plans were ready for implementation. In this plan therefore, all development schemes were to be planned within the framework of the guidelines provided with emphasis on preservation of bio-diversity and rejuvenation of the hill ecology. Traditional practices

were to be dovetailed with appropriate technology to serve the needs of the people of these areas. Traditional knowledge was to be used as the starting point for introduction of modern science and technology. Schemes were to be routed in the existing cultural system so that they were easily acceptable and would provide maximum benefit to the people. The strategy for the program has been centered on the sub-plan approach under which a separate sub-plan for all hill areas in the concerned State was prepared indicating the flow of funds from the State Plan and Special Central Assistance (SCA) so that convergence could be achieved and duplication avoided. Thus the state Governments prepare a sub plan showing the flow of funds from different sources. Funding under HADP is used somewhat on the lines of a mini state plan i.e. the Special Central Assistance is used to fund critical gaps in diverse sectors.

The Special Central Assistance (SCA) provided for HADP is additive to normal State Plan funds and supplements the efforts of the State Government towards accelerating the development of hill areas. This SCA is not meant to be utilized for normal State Plan activities. The schemes under the HADP are to be properly integrated with the State Plan schemes. The schemes undertaken under this program also need to be conceived and designed to achieve the specific objectives of the program and should not be merely conventional State Plan schemes.

The Special Central Assistance available for HADP is now divided amongst the designated hill areas under HADP and the designated talukas of Western Ghats Development Programme¹ in the ratio of 60:40. The SCA is distributed amongst the designated hill areas on the basis of area and population, giving equal weight to both factors.

1.3.6 Tenth Plan

During the Tenth Plan, for the hill areas of Assam and West Bengal, multi-sectoral approach followed in the previous plans has continued but with increasing emphasis on watershed development and ecological restoration/ preservation.

¹ Western Ghat Development Programme: In December 2002 common guidelines for implementing Hill Areas Development Programme (HADP) and Western Ghats Development programme (WGDP) were used. The WGDP covers most of the hill areas in India except the Darjeeling district in West Bengal, Nilgiris in Tamil Nadu and districts in Assam.

In practice, the Hill Area Development Program is implemented differently from the Western Ghats Development Program. In case of the hill areas of Assam and West Bengal, a sub plan is prepared showing the flow of funds from various sources to the plan. These two areas are also different in terms of their constitutional and administrative structures. In this Plan, the issue of fund allocation also gained major importance. Funds allocated under SCA were grossly increased from Rs. 160 crores to Rs. 200 crores.

1.3.7 Eleventh Plan

A major shift in policy making took place in the 11th Plan as watershed development approach was highlighted for implementation of HADP. It was decided that the HADP and the WGDP will be continued in the Eleventh Plan with renewed vigour so that the natural resources of these fragile areas can be used in a sustainable manner based on environment-friendly technologies.

It was also noted that these programmes need to be continued – firstly because, most of the hill areas lack infrastructure facilities particularly roads, power, education and health facilities. Second, most of the hill areas lack political power and consequently adequate funding. Third, many of the programmes are not suitable to hill areas. For example, wages are often higher in the hill areas than the wages under wage employment programmes, and normally machines are required for earthwork as the rocky terrain is not suitable for manual labour. This also holds true for the norms set for some programmes as settlements are often small hamlets which do not qualify for coverage or are too expensive to cover. Hence, the need to find and encourage local solutions was acknowledged.

1.4 Objectives of the Evaluation Study

The current study focuses on analyzing the implementation of HADP in the Darjeeling district in West Bengal and two districts in the State of Assam – North Cachar Hills and Karbi Anglong. The study hopes to develop an in-depth understanding on the extent to which the schemes under HADP implemented by the state (and assisted by the Government of India) have been able to fulfill the objectives outlined by the previous and most recent Five year plans. Sector wise analysis would provide insight into details of employment generation in villages across the sectors where HADP schemes are active,

the flow of funds to beneficiaries, the constraints involved in implementation of such schemes and regional disparities that exist or issues that may be relevant in reducing the effectiveness of schemes. It was therefore necessary to design a 'response based study' in order to evaluate the performance of HADP in the states concerned and project on possible higher achievable targets, emphasize on sectors that may yield higher benefits through HADP schemes, at the end, balancing targets of 'need based' and 'cost effective' reallocation of funds among these departments. Following such intentions, the current evaluation study has been designed to receive inputs via focus group discussions from direct beneficiaries of the HADP in all three districts under study (primarily villagers residing in the sampled villages for the study) and beneficiary level schedules from the hill districts of Assam only. Additional inputs from schedules canvassed to the officials of line departments, responsible for implementation of the schemes under the state and the Government of India, have also been collected in the study. A comparative analysis on the results may provide guidelines for better implementation of the schemes and on narrowing gaps between the 'estimated or targeted results' of the program and the 'actually achieved ones'. This would aid in more effective policy making by the policy makers which would in turn enhance the performance of existing HADP schemes considering villagers expectations and views on the matter and eventually fulfilling the objectives of 'sustainable human development' in the districts.

The Main Objectives of the Evaluation Study are as follows:

- To understand the approach and strategy followed for the implementation of HADP
- To examine the extent to which watershed-based development strategy has been adopted for the implementation of HADP
- To examine the extent to which funds under related Central and State plan schemes have been combined with HADP
- To examine the degree to which the objectives of eco-preservation and eco-restoration have been achieved under HADP
- To evaluate the impact of HADP on the economic well-being of beneficiaries and on the development of participatory institutions in project areas
- To examine the status of maintenance and utilization of assets created under HADP
- To examine the strengths and weaknesses of the programme & suggest remedial measures therein

1.5 Overall Structure of the Study

The present study is concerned with an overall assessment of the working of the HADP scheme in the Karbi Anglong and North Cachar Hill areas of Assam and the Darjeeling Hill area of West Bengal. In all of these regions, the responsibilities of implementing the schemes have been entrusted to the respective Autonomous Hill Councils. The assessment deals with every aspect of the scheme: monitoring, fund flow, implementation and impact assessment. Thus, it is necessary to study the situation both from the view of the implementing agencies as well as the beneficiaries. In line with this requirement, survey instruments for the study consisted of the following instruments:

- State Level Schedule (West Bengal, Assam)
- District Level Schedule (Karbi Anglong, North Cachar Hills, Darjeeling)
- Council Member Schedule (KAAC, NCHAC, DGHC)
- Line Department Schedule (responding departments)
- Group Discussion Format (for sample villages)
- Beneficiary Schedule (for sample beneficiaries - only for Assam as there are no individual beneficiary oriented programs in Darjeeling)

The state level, district level and line department schedules have mainly dealt with the administrative set up, planning and implementation including the constraints while the rest of the schedules dealt with the villagers'/beneficiaries' opinion on the schemes, and the implementation and impact of the schemes. The data obtained from the schedules was then tabulated and analyzed. A non-statistical hypothesis on responses have been used to draw specific conclusions on matters of utilization of assets by villagers and their cost effectiveness based on the perceptions of the line departments and the beneficiaries themselves. **It may be mentioned here that statistical analysis has been somewhat restricted due to lack of adequate data points and since the nature of the endpoints collected during the survey that are mostly qualitative in nature. In addition, since the responses from the line departments and from the villagers are based on individual perceptions, there remains a possibility that some of the responses may have been biased. Nevertheless, the derived conclusions throw valuable insight into the schemes implemented under the HADP for adequate understanding on their performance, acceptability and deficiencies.**

1.6 Field Work and Data Collection

1.6.1 Selection of Field Staff

Since there are different locations, different teams of personnel were selected for the study. Different set of field team were organized for Assam and Darjeeling. The field team for Assam were fluent in Assamese and local dialect especially for NC Hills. Investigators with knowledge of Nepalese language were part of the Darjeeling team. The supervisors in the team were thus selected from the pool of field personnel retained by Gfk-Mode. Researchers were part of the team during the data collection and traveled to all the three districts of the present study. A convoy had to be hired for the field operation in Karbi Anglong district of Assam owing to typical circumstances of the region.

Field Research team comprising of members having minimum 3 years of experience in the field of data collection were recruited from our panel of field personnel. All those selected had experience of qualitative research techniques, participatory approach with an orientation of Government related programmes in particular. All of them chosen were also locals, fluent in Bengali and/or other local languages and familiar with cultural and ethical aspects of rural community.

1.6.2 Training of Field Team

Training of investigators was one of the most important aspects, since the study was designed to investigate every sensitive issue of the respondent, determined by the skills and articulation of the investigators. The training provided orientation and clarity of study objectives, and data collection methodology. Adequate care was taken to ensure recruitment of investigators, who meet the profile with regards to language, communication, and are familiar with the socio-cultural and behavioral context of the dwellers in the respective states. All the Field Research Team members were also provided intensive training by research professionals.

1.6.3 Fieldwork Quality

Gfk- MODE has the largest contingent of highly experienced field control personnel. Our field work adheres to maximum quality standards following the guidelines of GfK Mode field work guideline.

1.6.4 Team deployment

In accordance with the Terms of Reference of the Evaluation Study, there were different teams for two different states.

1.6.4.1 West Bengal

There were 4 teams with 5 members in each team. Each team had 3 investigators and 1 supervisor. A total of 24 days was planned for the state of West Bengal. A total of 12 investigators with 4 supervisors and 1 executive had been planned to accomplish the assignment.

1.6.4.2 Assam

Considering the total sample size more manpower was planned for covering the two districts of the state in comparison to West Bengal. It was planned that 18 investigators with 6 supervisors be hired to accomplish the assignment. There were 6 teams for the assignment in Assam. Considering the geographical terrain, availability of manpower and other related factors, higher number of days for completion of the field work was also considered as buffer for catering to both the districts.

1.6.5 Data Analysis

All survey instruments were scrutinized at the field level on a daily basis by the team leader / supervisor. Necessary rectification for detected inadequacies and inconsistencies was directly done at the site. Further, the check-lists / schedules were scrutinized by office editors and submitted for data entry. All open-ended questions have been coded and content analyzed by the researchers. In order to handle large amount of qualitative information, the database was prepared in Nudist software. Content analysis and subsequent tabulation was carried out with the help of this software.

All the focus group discussions (FGDs) were audio-recorded, and the cassettes were transcribed. The researchers, who are fluent in Bengali/local language and/or English, carried out content analysis of FGDs.

1.7 Selection of Study Areas: North Cachar Hills and Karbi Anglong

Watershed-based approach has not been followed for the implementation of HADP in Karbi Anglong and NC Hills districts of Assam. The only option here was to select beneficiary villages directly from the district level. There were two considerations. First, the villages selected should have significant presence of HADP works during the reference period: 2002-03 to 2006-07. Such villages were located through discussions with officials and from the available village-specific data on flow of HADP funds.

Secondly, 131 (out of the total of 539) villages of NC Hills and 166 (out of the total of 2633) villages of Karbi Anglong district have been covered (as on 31st October 2004) under North-Eastern Region Community Resource Management Project (NERCRMP), a joint initiative of International Fund for Agricultural Development (IFAD) of the United Nations and the Government of India, represented by North Eastern Council and DONEAR. While the basic objectives of NERCRMP appear similar to those of HADP, the preliminary assessments have suggested that NERCRMP has tried to incorporate many tools of community participation in achieving its ends though the presence of this was found to be dominated with the components of HADP programme. The approach and strategy followed by HADP and list of villages covered by it in these districts has been made available to the field team for the Evaluation study.

All the HADP villages of both the districts were categorized into different divisions and subsequently the villages were randomly selected from the stratum thereby fulfilling the stratified mode of simple random sampling. Finally, the proposed 15 villages with significant presence of HADP projects, have been studied in each district of Karbi Anglong and NC Hills.

The table below provides a visual account of the sources of information that have been used in the study. This includes the schedules that have been canvassed at the state and the district levels in North Cachar hills and Karbi Anglong, those that have been canvassed to the line departments (for feedback from officials in the department) and focus group discussions that have been held in 15 sample villages in this area.

Table 1.7: Schedules canvassed during the HADP Evaluation

Schedule/ Instrument	Assam		Total	West Bengal
	NC Hills	Karbi Anglong		Darjeeling
State Level Schedule	1		1	1
State Level Note	1		1	1
Hill Council Member	As many as required to cover the sample villages under study			
District Level Schedule	1	1	2	1
District Level Note	1	1	2	1
Line Department Schedule	9*	9*	18*	9*
Village Level FGDs	15	15	30	15
Village Level Note	15	15	30	15
Beneficiaries Schedule	150	150	300	None

***Stipulated numbers.**

It should be noted that of all the departments in operation in each of the districts considered for study, the priority departments were identified by us (Chapter4). But not all were responsive to the schedules. Hence in the districts of Assam, while *in some cases we have data beyond this number as we had collected information on more than the required 9 number of Line Department Schedules, in some cases we have not been able to collect information even from nine Line Departments. Complete information from stipulated number of schedules were not available from Darjeeling either.*

1.8 Selection of Study Areas: Darjeeling

Watershed-based approach has not been followed for the implementation of HADP in Darjeeling. The only option here, as in the districts of Assam was to select beneficiary villages directly from the district level. Twenty villages, which have had the maximum presence of HADP works during the reference period, 2002-2003 to 2006-2007, have been selected for detailed focused group discussions. These villages were identified through discussions with officials.

There were three instruments of observation in each selected village- focus group discussion, exhaustive village level note and Gram Panchayat Schedule. Individual beneficiary schedules are mostly redundant as it is learnt that only collective projects have been taken up under HADP.

The table 1.7 above once again provides a visual account of the distribution of schedules in Darjeeling. In order to maintain consistency, the same number of schedules and focus group discussions were planned in Darjeeling as those in both districts of Assam. However responses from the line departments were not forthcoming despite repeated pursuance. Finally, only 6 schedules could be completed and submitted at the level of the line departments.

All the HADP villages of Darjeeling district were categorized into three different divisions and subsequently the villages were randomly selected from the stratum thereby fulfilling the stratified mode of simple random sampling. Finally, the proposed 15 villages with significant presence of HADP projects have been studied in the district with representation from the three subdivisions of Darjeeling.

So, throughout the study, especially in case of Darjeeling there would be lack of some valuable information, useful for drawing conclusions. The dearth of information stems from inaccessibility of information from both line departments and villagers in the hill districts of Assam owing to political unrest in the area and long periods of office closures in the DGHC offices that hold substantial information on the development schemes.

2. Profile of Hill Areas Covered Under Study

2.1 Karbi Anglong and North Cachar Hill Districts

Karbi Anglong district is part of the Shillong plateau with altitude varying between 100 meters in the northern range to 900 meters in southern range. The average rainfall varies from 846mm to 1580mm. The population is 8.12 lakhs (Sub Plan report 2006-2207) and is a mosaic of tribal groups with the Karbis dominating and including Dimasas, Kukis, Hamars, Gaors, Nagas, Bodos etc. The hill districts in Assam comprise of 15,322 sq. km. in area.

North Cachar Hills District was carved out of the erstwhile North Cachar and Mikir Hills district in 1970. It has rugged hilly terrain. The total area is 4890 Sq. Km. which is 6.23% of the total area of the state. The total population is 1.86 lakhs (Sub Plan report 2006-2007). There are 13 tribes of which Dimasa Kacharis constitute 36% and the rest are Hamar, Biete, Naga, Kuki, Khasi etc. Appendix I shows a map on the geographical area of the districts in Assam.

2.1.1 Administrative Arrangements

The Karbi Anglong Autonomous Council and N.C. Hills Autonomous Council occupy a special status because of their creation under the Sixth Schedule of the Constitution of India, although they are within territorial jurisdiction of Assam. The councils are democratic decentralized institutions with participation of the people at the grass root level for election of representatives in the councils.

As per paragraph 3 of the Sixth Schedule of the constitution, the autonomous Councils of the Hill Districts of Assam exercise inherent powers. Besides, thirty departments have been entrusted to the councils, such that all administrative/ executive and development works can be implemented through these departments. The non-entrusted departments are being directly controlled by the State Government.

Each autonomous council consists of a specified number of members both elected and nominated. Each council, unless dissolved earlier, continues for a period of five years from the date appointed from its first meeting. There is a Chairman and a Deputy Chairman for each Autonomous Councils, with the Chief Executive Committee of the

Autonomous Council. Further, there is an executive committee of the Autonomous councils, with chief executive members as its head and a fixed number of Executive Members. They are appointed by the Governor of Assam on the advice of the Chief Executive Member. Thus, the functions of the two councils are vested with the Executive Committee. There is a secretariat in each Council with the Principal Secretary as its head. The Circle Officers and Block Development Officers look after the Revenue administration and development activities of the Circles and Blocks respectively. They work under the overall control of the council, through the local Departmental Heads.

2.1.2 The State Government

The Administrative Department of the state government, which deals with the affairs of the two councils, is the Hill Area Department, with the office of the Development Commissioner for Hill Area of Assam being the Commissionerate. That main functionality of this office is to review and monitor the developmental activities of the hill areas of Assam.

2.1.3 Planning and Fund Allocation

In matters of preparation and finalization of the plans, powers have been entrusted to the council and suitable mechanism has been evolved for release of funds to councils by the State Government.

Before the beginning of the financial year, the Planning Commission of India indicates the size of the State Plan (including the Hill Plan allocation). The allocation is communicated to the councils for preparation of their budgets. Subsequently, after the passing of respective budgets by the two councils, copies are sent to the State Government for inclusion in the State Budget.

Various State Government departments release their funds in half yearly installments, as per the budget allocations, which are deposited in the P&L Accounts of the Councils. The Councils then sanction and release the funds for salary and development activities through the treasuries.

In each Autonomous Council, there is a District fund to which all funds received by the Autonomous Councils are credited. The autonomous Councils have power to assess and

collect revenues and taxes on professions, trades, vehicles etc and to issue licenses and leases on minerals available in the Council areas.

2.1.4 The Key Sectors

2.1.4.1 Agriculture

Agriculture is the main occupation of the farming communities. They practice both settled as well as shifting cultivation (Jhum Cultivation), which is an age-old traditional practice. Other economic activities practiced by the farming communities are livestock rearing, sericulture, pisciculture, weaving and wage employment. Scientific and mechanized cultivation is not possible for want of assured irrigation. Hence, the entire area remains under single-cropping with the exception of a few pockets. Potential for growing horticulture crops is not fully utilized and existing yields of crops suffer from want of organized marketing network and lack of processing/ preservation units. The thrust of the development process involves improving the living conditions of the hill people mainly in the rural areas thereby encouraging them to settle down with permanent cultivation, weaning them away from the practice of Jhum.

During the successive Annual Plans, strategies have been adopted to boost agriculture in the hill areas under the following heads: effective transfer of scientific and modern technology to the farmers; use of HYV seeds and improved agricultural implements; augmenting production of oil seeds and commercial crops with special emphasis on sugarcane production; development of horticulture through supply of quality seeds and planting materials; rejuvenation programme for existing orange orchards and household gardens, development of spices viz. ginger, turmeric, garlic, onion etc., thrust on increased fertilizer consumption and thrust on increasing cropping intensity.

2.1.4.2 Animal Husbandry and Veterinary Sector

Animal Husbandry and Veterinary Sector is playing a vital role in the socio-economic development of the hill people. Farmers of the hill districts have already accepted scientific livestock rearing as their source of income creating avenues for self-employment.

2.1.4.2 Forests

Total geographic area of Karbi Anglong and North Cachar Hills is 15,222 sq. km., of which 2,711 sq. km. is under State Reserved forest and 2, 491 sq. km. is under Council Reserve forest. The programs in the Forest Department aim at increasing plantation and their regeneration, strengthening of protection forces, mobilization of forest produces and creation of Ecological Park and Botanical Gardens. “Environmental forestry” has also been a major concern for the policy makers in recent years.

2.1.4.3 Industry and Mining

The Hill districts of Assam are still industrially backward due to geographical remoteness, poor road networks, poor purchasing power, lack of resources and skills. There is also dearth of institutional credit. Major thrust has been given on building up of suitable infrastructure to create awareness for sustained growth and development of trade and commerce, agro industries sector and to promote rural handicraft as part of the heritage tradition in these areas.

Hill areas have rich sources of minerals but their potential has not been properly tapped. The strategy will have to be aimed at setting up large mining and agro-based industry around available mineral and natural resources and link support of small industrial units through industrial loans, supply of improved tools, and such other incentives.

2.1.4.4 Handloom Textile and Sericulture

The handloom industry is a traditional industry in the hill areas of Assam. About 80,000 weavers are concentrated in the hill district but their production is not commensurate with the size of the work force as most of the weavers are domestic weavers. The main thrust is therefore to provide improved training, upgrade looms and provide accessories, provide better designed outputs, maximize self-employment opportunities in rural areas for socio-economic development.

Sericulture is also an age old domestic small scale industry with Eri silk worm rearing being one of the traditional practices. Recently, Mulberry and Muga culture has also been introduced by the sericulture department in selected areas considering their vast scope of development. The industries provide gainful employment and opportunities to people living the hill areas. The climatic condition, soil quality, pollution free atmosphere is conducive in hill areas for growth and culture of silk worm rearing.

2.1.4.5 Roads and Transport

Improvement of roads and transport continue to be one of the thrust areas during the Five year plans. A good communication network is prerequisite for development of hill areas. Special attention has been given to road connectivity to rural and remote areas, which are not yet connected to the main roads. Rural roads and village connectivity are inherent subjects of the Councils and pre-requisite for development.

2.1.4.6 Education

The two hill districts of Assam are predominantly inhabited by the Schedule Tribe population scattered in different parts of the districts. The literacy percentage in Karbi Anglong and N.C. Hill districts are 53.83% and 68.59% respectively as per the 2001 Census while that of Assam as whole was 64.28%. The educational program- Sarba Shikhya Abhijan (SSA) is oriented towards providing free and compulsory education to all children up to 14 years of age and emphasis has been given to provision of free textbooks, midday meal, free uniform etc.

2.2 West Bengal: Darjeeling District Hill Areas

The Darjeeling District Hill Area covers an area of 2476 Sq. Km. spanning three revenue Sub-Divisions of Kalimpong, Kurseong and Darjeeling and 13 Mouzas of Siliguri Sub-Division. Broadly speaking, the Darjeeling District Hill Area falls under subtropical per-humid climate with an average rainfall of 3104.5mm per annum, with an air temperature of maximum 26° C and minimum 4° C.

The agro-climatic condition of areas under Darjeeling Gorkha Hill Council is diverse, varying from sub-tropical on the foothills to the temperate in the higher altitudes. It is broadly sub-divided into three zones.

- The Terai foothill slope the sub- tropical belt.
- The sub-temperate belt (the mid-hill).
- The upper hills or the temperate belt.

The soil of hills is mainly brown forest soil, sandy loam in texture, porous, shallow in depth having highly under composed organic matter. Soil is acidic in nature. The pH value of the

soil varies from 3.5 to 5.0; phosphorous and potash content in the soil varies from medium low to medium.

2.2.1 Administrative Arrangements

The Darjeeling hill areas are under the Darjeeling Gorkha Hill Council (DGHC) which was established under the provision of Darjeeling Gorkha Hill Council Act, 1988 with the objective of total social, economic, cultural and educational upliftment of Gorkha and other communities of people living in the hill areas of Darjeeling district.

The General Council used to be headed by the Chairman and consisted of 42 councillors of whom 28 were directly elected and 14 were nominated. The Executive Council consisted of 15 executive Councillors, of whom, 13 were nominated from amongst the elected Councillors and the remaining two out of the nominated Councillors. The Chairman was also the Chief Executive Councilor of the executive council. Presently, in the absence of an elected body in the council, the Government of West Bengal has appointed an Administrator, after expiry of the period of elected body, to run the administration of the Council till such time that an elected body is re-constituted.

Under the provision of Darjeeling Gorkha Hill Council Act, 1988, the executive powers of about 27 departments mostly dealing with development and welfare have been transferred to the hill Council. The management and control of the programs and schemes as well as the organizational set up of these departments have been transferred to DGHC.

After the discontinuation of the elected body in the council, the various Departments set up by the Council headed by the elected councilor were put under the charge of Executive Officers and only normal or small schemes could be executed with the approval of the Administrator DGHC. During the year 2005-06 it has not been possible for the Council to take up big schemes and also to utilize the funds received under certain sectors fully.

Things have of course taken a new turn after the recent decision to abandon the Sixth Schedule bill and in principle agreement to repeal the DGHC Act 1988. Dialogues are on,

though the fourth round of tripartite talks on Gorkhaland issue held in December 2009 failed to come to an agreement in the absence of a consensus.

2.2.2 Key Sectors

2.2.2.1 Agriculture

Agriculture in this region is grossly rain dependent and distributed between pre-kharif and kharif seasons. Almost all upper ridges of the region are forest areas; tea plantations and native agriculture occupy mid-hill section. Cultivation of well paddies extends down the mid-hill section up to the bottom valley in some cases. Soil in general is shallow, medium to light textured, surface drainage is rapid, highly susceptible to erosion by water, internally well drained, reasonably high in organic matter, poor in bases and phosphate and distinctly acidic in reaction. Cultivation in drier months is limited to small patches where residual moisture/ limited irrigation from nearby rivulets are available. Almost all arable lands have a slope of more than 8%. In some extreme cases poor farmers are seen cultivating very steep slopes that have gradients of 40% or even more. The annual rainfall is very unevenly distributed over the year. Four fifth of the precipitation is witnessed from June- September. So the hill farmers face surplus water during these months and there is acute scarcity of water from February to May.

These conditions necessitate aggressive intervention in conserving the precious topsoil during monsoon as well as harvesting life saving irrigation water for the dry months. This could only be done successfully by covering the arable and non-arable lands with perennial plants, disrupting the slope of terraces with vegetable hedges planted along the contour and encouraging cultivation in leveled to inward terraces for checking erosion and by harvesting water in durable structures on stable marginal lands.

2.2.2.2 Animal Husbandry

Livestock plays an important role to uplift the rural economy in our country and more so in the hills. Its contribution in the Gross National Income is about 25%. Several important technological developments in branches of Animal science has established that Animal Resources Development is one of the most important sectors for economic growth of rural poor, marginal destitute farmers and unemployed youth of the country with special reference to Darjeeling hills, where land holdings among these groups are significantly

low and returns from agriculture are diminishing. As such, successful implementation of the animal resources development schemes has been given priority by the DGHC for eco-friendly sustainable income generation among the local people.

2.2.2.3 Horticulture

Most of the farmers in these regions are still practicing the traditional method of cultivating traditional crops like ginger millet, local varieties of paddy, maize and vegetables. It has been observed that the traditional method of crop cultivation with local traditional crop varieties is not economically viable these days due to low productivity and high cost of cultivation. It is, therefore imperative that the emphasis and development initiatives vis-à-vis agriculture be shifted to floriculture-horticulture crops in the hill areas of Darjeeling Gorkha Hill Council.

The main fruit crops of the area are temperate fruits like orange, plum, pears and peach. Beside these, there are substantial areas growing banana, pineapple and guava. There is also scope for cultivation of passion fruit and its juice has great demand at present especially for the export purposes.

2.2.2.4 Forests

After the formation of DGHC about 6952 Ha of 'Resumed Forest Areas' comprising of 1,71,631 Ha of 'Protected Forest' and 5236.69 Ha of 'Unclassified State Forest' have been transferred to DGHC. Darjeeling Territorial Division of Forest Department under DGHC was thus created during the year 1990. These transferred forest areas are managed and looked after by both the Forest Divisions under DGHC and the Social Forestry Hills Division. The total area managed and look after by this Division is 4236.95 Ha. and these areas are scattered in far-flung areas in small patches under Darjeeling and Kurseong Sub-divisions.

Under Social Forestry Division, DGHC, 22 Forest Protection Committees (FPCs) have been formed taking the fringe villagers of the Resumed forest Land. Similarly, under Territorial Forest Division, DGHC, 12 Forest Protection Committees have been formed thereby making a total of 34 FPCs under the Forest Department, DGHC. These FPCs were formed in order to have the Joint Forestry Management System in the DGHC forests as well.

The following types of works are undertaken by the Forest Department through the territorial and Social Forestry Divisions functioning under it:

- Afforestation
- Forestry Treatment
- Maintenance of Old plantations
- Maintenance of Village nurseries
- Maintenance of Parks and Gardens

2.2.2.6 Roads and Transport

Rural roads are a key component of rural development in India. They contribute significantly to generating increased agricultural incomes and productive employment opportunities, alongside promoting access to economics and social services. As per 2006-2007 Sub Annual Plan report, about 60% villages are connected by roads, connecting about 164 habitations. However, about 309 habitations still need to be covered.

2.2.2.7 Panchayat and Rural Development Department

There was a single tier Panchayat System in the district of Darjeeling. Gram Panchayats used to be under DGHC with forty one of them in Kalimpong, thirty in Kurseong and forty one in Darjeeling. *Currently however, the Panchayat system does not exist and only DGHC is operational in Darjeeling.*

2.2.2.8 Rural Electrification:

The implementation of Rural Electrification schemes in the hill sub-divisions of Kurseong, Kalimpong, Sadar and 13 Mouzas of Siliguri sub-division has been entrusted to Darjeeling Gorkha Hill Council (DGHC). Consequently, an assessment was made based on data provided by West Bengal Rural Energy Development Corporation (WBREDC). Of the total 1213 number of villages, 554 have been electrified and the balance was expected to be completed by 2009.

3. Watershed Management

3.1 Rural development through Watershed management has been a preference among policy makers in the hill areas development program. With the advent of participatory implementation of such projects in India, there has been a paradigm shift in the role of personal involved in rural development from implementers to motivators and facilitators. This approach was attempted on DGHC area also by the Department of Agriculture under the NWDPRRA during the Eighth Five Year Plan. Eight Micro Watersheds (one for each block in three hill Sub-Divisions) are taken up for the purpose. Information in Assam was not sufficient in this regard. However, in Darjeeling the new approach was readily accepted by the villagers of the adopted Micro Watershed as it empowered them beyond their expectation. They were also organized on a participatory basis as never before. Following that experience, some other areas were also brought under the aegis of NWDPRRA during the Tenth Five Year Plan. The guidelines of the said project was restructured by the Govt. of India to ensure further participation of villagers, to empower women and backward groups and to attain sustainability in targeted goals.

3.2 Model for invigorating the role of village committees through participatory Watershed Management in Darjeeling hills:

- Darjeeling being located at a hilly terrain, the scope for watershed was very limited though few initiatives were taken up by the various functionaries.
- Delineation of Micro Watershed-DGHC with an area of 2500sq.km (approx) has about 2450 sq. Km rural and 50 sq. Km urban areas. Of this rural land, 38% is under forest, 22% is under tea plantation and the remaining 40% is covered by 'bustees'. Therefore, it is imperative to delineate this 40% land into 500-hectare Micro Watershed and prioritize them in order to systematize planning and development process of the Hill Council.
- Meteorological centers should be located in scientifically correct locations and should be correlated with each other.
- Community Development- Development of village communities on watershed basis is essential for a hilly terrain like Darjeeling. Here two or more villages located within a micro watershed may be clubbed together to form village committees. Since these are village

based there remains a competitive environment amongst neighboring villages with respect to accessing common natural and social resources.

- Institutionalization of Watershed Communities- Once matured, the villagers may be encouraged to run the project on their own with facilitative support from Government personnel. All work plans conceptualized at the group level should be endorsed by the Committee in consultation with technical support from the concerned Department. Budgetary provision is kept in the ongoing NWDPR for running the Office of the Watershed Committee.

3.3 Watershed Based approach

Darjeeling hill areas are unique from environmental eco-perception. The Darjeeling hill area is formed of comparatively recent rock structure that has a direct bearing on landslides. The causes of the landslides vary from one locality to another. Heavy monsoon precipitation is however a very common cause of these disasters. Moreover soils of Darjeeling hill areas are extremely varied, depending on elevation, degree of slope, vegetative cover and obviously geolithology. The natural system of erosion in the hill gets more complicated when man interferes.

As the mountains serve as the source of resources for the population residing in the hills as well as in the plains, the form of environmental degradation is quite extensive other particularly is applied to the extraction of timber and other forest produces, mining and agriculture are taken into account. As human population expands in the hills, forests are being depleted for the extension of agricultural lands, introduction of new settlements, roadways etc. The growing changes coming in the wake of urbanization and industrialization leave deep impression on the hill ecosystem; disrupting normal functioning. Due to unprecedented growth of population during the last few decades in the Darjeeling hill areas, nature has started reacting sharply to the accumulated human guilt.

Watershed based development has been basic thrust area of the programme along with a participatory approach to ensure efficiency, transparency and accountability during the Tenth Five Year Plan period. The main aim of the watershed approach is to ensure a holistic view of water and land resources and to prevent further degradation of these ecologically fragile areas. However, the development of the people of these hilly areas in

consonance with the fragility of their habitat, demands an approach which is more than just watershed development. Attention is given to economic activities which are sustainable, use of technologies which will reduce the burden of the people both in economic and household situations and ensure means of livelihood for the inhabitants with minimal disturbance to the ecology. Thus, the approach is a watershed plus approach – an approach which gives as much emphasis to ecology as to economic development. Preserving the bio-diversity of ecologically vulnerable hill zone is an important aspect of Darjeeling hills. Importance is given to wise stewardship of existing natural resources like natural springs, the role of Village Committee in planning, decision making and execution of works in participatory mode.

However, the present evaluation study has not been able to secure adequate information on the extent or degree of implementation of this approach in both the districts of Assam and in Darjeeling.

Effects of this new approach can only be summarized when plans and programs have been identifiably undertaken under this approach. It has therefore been concluded that the 'watershed management' approach was still at its preliminary levels of implementation during the survey period. The successive Five Year plans may find a shift in the policy approaches in this regard as there is a gradual thrust on following policy making as per the guidelines of Watershed Management provided by the Government of India.

Hill Area Development Program

EVALUATION STUDY

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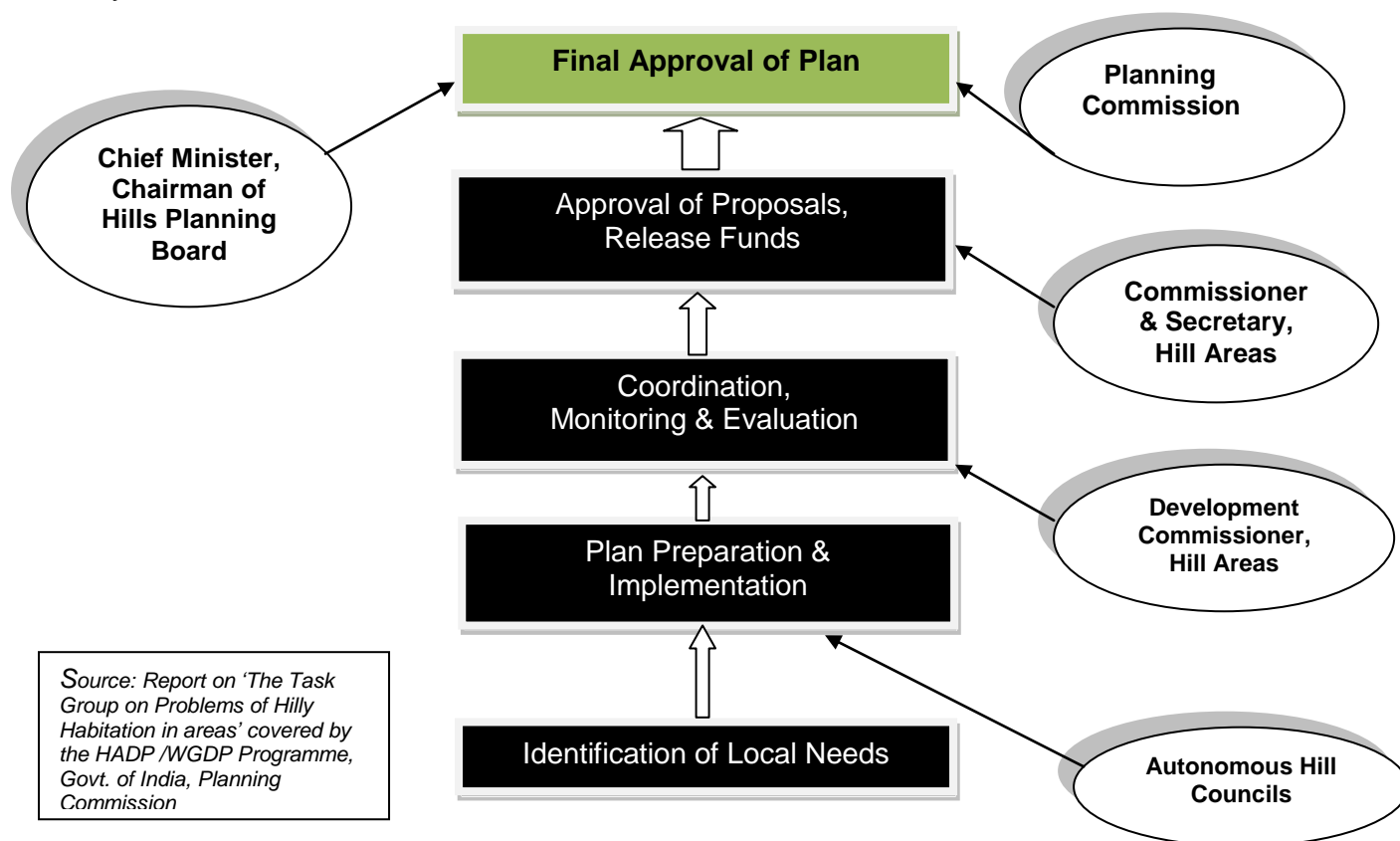
FINDINGS

4. Plan Formulation

4.1 Uniformity in Approach and Strategy for Hill Development

A *sub-plan approach* grounded in the integration of various sectoral programs has been adopted for the designated hill areas covered under HADP in the Himalayan region. The approach is primarily based on following the basic principles of hill area planning that have been generally followed in the past across all the hill states. In addition, the plans of hill states (as distinct from the designated hill areas) have incorporated ecological and environmental considerations in order to fulfill the various targets of the Five year plans. A suitable mechanism within the constitutional framework has therefore been devised to ensure that the approach and strategy developed for the development of hill areas is uniformly followed in all categories of hill areas.

The objective of this section is to understand the approach and strategy followed in the states of Assam and West Bengal for the implementation of HADP. The chain of command followed in the preparation of sub-annual plan is outlined in a brief schematic way as follows:



Flowchart 4.1.1: Steps in Preparation of the Sub-Annual Plan in Assam

4.1.1 Preparation of the Sub-Annual Plan

A Sub-annual plan is prepared by the state of Assam for HADP following the guidelines in the 10th Annual Plan. The flowchart 4.1.1 provides a graphic illustration of the bureaucratic steps of approval that the programs have to undergo before implementation. Officials involved at various levels during the process are as follows:

- Commissioner and Secretary of Hill Areas Department approve the plan proposal, controls the release of funds and submits the Utilization Certificate.
- Development Commissioner of Hill Areas Assam plans the coordination, monitoring and evolution
- Autonomous councils of Karbi Anglong and North Cachar are responsible for plan preparation and implementation.

Plan is finally approved by the Chief Minister acting as the Chairman of Hills Planning Board and by the Planning Commission.

4.1.2 Karbi Anglong, Assam

Information gathered on first and second stage of preparation of plans has been obtained from the state level schedule of Assam.

4.1.2 .1 First Stage

On receipt of the guideline from GOI on HADP, the same is circulated to the concerned departments for preparation of the Annual Plan for HADP. Principal Secretary of KAAC is in charge of the Department of Planning & Development and supervises all the concerned offices for preparation of innovative schemes and/or project proposals. It also oversees the submission of the reports to the Department of Planning & Development, KAAC for approval.

4.1.2. 2 Second Stage

After the compiled final version of the HADP Annual Plan is received from the concerned departments, it is scrutinized and submitted for approval by the authorities at KAAC to Hill Area Development Department and then to the Planning Commission, GOI at the final stage.

4.1.2.3 Role of Line Departments

- In case of *Agriculture, Education and Animal Husbandry*, the Autonomous Hill Council suggests the schemes and the Department frames the schemes accordingly. So the designated line departments of the district are involved in preparation of action plan.
- In the area of *Forest Conservation*, the department itself suggests the schemes and hence has a greater role in planning and implementation.
- The department of Irrigation has role in initialization and formulation of schemes.
- However, in the areas of *Flood Control*, the departments have no role in plan preparation.

Table 4.1.2.3: Line Departments involved in HADP implementation in Karbi Anglong

DEPARTMENT INVOLVED IN HADP IMPLEMENTATION		
SL. NO.	DEPARTMENTS	DESIGNATED AUTHORITIES RESPONSIBLE FOR PLAN IMPLEMENTATION
1	Agriculture	Additional Director (Agri)
2	Soil Conservation	Additional Director (Soil)
3	Animal Husbandry & Veterinary	Dist. A. H. & Veterinary Officer
4	Dairy Development	Asst. Director, Dairy Extn. Service
5	Fisheries	Joint Director (Hills), Fisheries
6	Forestry & Wildlife	Conservator of Forest
7	Community Development Panchayat	Dy. Director (Hills), P & RD (Panchayat & Rural Dev.)
8	Irrigation & C.A.D. (Command Area Development)	Additional Chief Engineer (Irrigation)
9	Water Resources	Executive Engineer, Water Resources
10	Handloom & Textiles	Jt. Director (Hills), H&T
11	Sericulture	Additional Director (Sericulture)
12	PWD (Roads & Bridges)	Additional Chief Engineer, PWD (R&B)
13	Education	Additional Director (Education)/ Inspector of Schools
14	Medical & Health Services	Joint Director, Health Services
15	PHE	Additional Chief Engineer, PHE
16	Cooperation	Additional Registrar, Cooperative Society
17	Land Reforms	Asst. Director, Land Reforms (Survey)
18	Industries (Cottage)	Additional Director, Industries & Commerce
19	Road Transport (ASTC, KAA)	Dy. Secretary, Transport & KAAC
20	T & CP	Dy. Director, T & CP

4.1.3 North Cachar Hills, Assam

4.1.3.1 First stage: Projects and schemes are suggested and proposed by the members of the autonomous council, which are then forwarded to the departments concerned for feasibility assessment.

4.1.3.2 Second Stage: The selected feasible projects or schemes, are then forwarded to the council, which are placed before the District Planning Board (DPB) for approval and prioritization. The district Planning Board approves projects/ schemes after discussions with departments and people's representatives before forwarding it to the GOI for approval.

4.1.3.3 Role of Line Departments

- In the case of *PWD, PHE, Social Welfare, Transport, Information and Public Relations*, the Councils suggest the scheme and the Department frames the schemes accordingly.
- The Department suggests sectoral schemes in case of *Education and Cooperative Society*.
- *Health* department has no role in the preparation of action plan for HADP.

Table 4.1.3.3: Line Departments involved in HADP implementation in North Cachar Hills

DEPARTMENT INVOLVED IN HADP IMPLEMENTATION		
SL. NO.	DEPARTMENTS	DESIGNATED AUTHORITIES RESPONSIBLE FOR PLAN IMPLEMENTATION
1	Agriculture	Additional Director of Agriculture
2	Soil Conservation	Additional Director of Soil
3	Animal Husbandry	Additional Director of Veterinary
4	Forest & Wildlife	Conservator of Forest
5	Irrigation	Additional Chief Engineer
6	Flood Control	Additional Chief Engineer (W.R.)
7	Sericulture	Additional Director of Sericulture
8	Transport	Secretary of Transport
9	Tourism	Deputy Director of Tourism
10	Water supply & Sanitation	Additional Chief Engineer
11	Information & Publicity	Additional Director of Public Relations
12	P.W.D.	Additional Chief Engineer
13	Social Welfare	Deputy Director
14	Cultural Affairs	Officer-in-Charge
15	Cooperation	District Registrar of Co-operative Societies
16	Medical	Joint Director of Health Services

4.1.3.4 Role of Gram Sabhas

Action Plans were not discussed in Gram Sabhas and are not communicated to them. DGHC is responsible for the implementation of programs in the district.

4.1.4 Darjeeling, West Bengal

Despite making repeated visits, complete information on state level schedule for Darjeeling, West Bengal was available from the Office of the Principal Secretary, Kolkata. Hence, the information gathered on the state level and the method of implementation of HADP in those departments remains inadequate. Over and above, it has been interestingly noted in Darjeeling that HADP is not implemented as 'Hill Area Development Program' but under the banner of DGHC. The information was available to the line department officials themselves. However, since the chain of command and implementation of HADP schemes is indistinguishable from DGHC, the same authorities of DGHC are applicable for HADP and have been listed as follows:

Table 4.1.4: Authorities implementing HADP in office of Darjeeling Gorkha Hill Council

ADMINISTRATIVE SET UP	
DESIGNATED AUTHORITY	NATURE OF DUTIES
Administrator, DGHC	Relocation and disbursement of fund
Principal Secretary, DGHC	Monitoring
Secretary, Finance, DGHC	Receive/ Release of Fund
CCF, DGHC	Release of fund and supervising accounts and audit finance

In Darjeeling, the Planning and Development Department of the DGHC supervises the projects and schemes under HADP. However, the various Block Development Officers, Sub Divisional Officers and the Engineering Departments of the various divisions are involved in plan implementation along with other departments as well, like the Department of Parks and Gardens, Power and Emergency Construction Cell. The Plan is approved by the District Planning Board constituted by the DGHC with the final approval being endorsed by the Chairman of the Board.

4.1.4.1 Role of Line Departments in Preparing Action Plans

- The departments of Parks & Gardens and Emergency Construction Cell have significant roles in preparation of the Action Plan for HADP. The Council suggests the schemes and the Departments frame the schemes accordingly.
- Sectoral Schemes to be undertaken are suggested by the authorities of the Department of Engineering and Rural electrification. Hence, these departments have a major role in preparation of an Action Plan for HADP. In case of the Engineering department in Kalimpong in particular, the Council is itself in charge of conceptualizing schemes and the Department implements the schemes.

Table 4.1.4.1: Line Departments in Darjeeling with designated authorities and nature of participation

DEPARTMENT	NO. OF GP/BLOCKS COVERED	ADMINISTRATIVE SET UP	
		Designation	Nature of Work
Eng. Dept., Kalimpong	9	Executive Engineer	Overall Supervision (D.D.O)
Eng. Dept., Kurseong	2 blocks	Executive Engineer	All power - Supervision, Payment to the agencies
Eng. Dept., Darjeeling	9 constituencies	Executive Engineer	Initiating proposal, preparing project report, vetting, obtaining approval, tendering, execution
Emergency Construction Cell Dept.	4 blocks	Executive Engineer	Supervision of work
Rural Electrification Dept.	9 blocks	Secretary, Power Dept.	Supervision of all other staff
Parks & Garden Dept.	4 blocks	Executive Engineer	Supervise & estimation of work

4.1.5 Prioritization of Sectors

A total of 27 sectors have been found in each of the districts considered under study. After careful evaluation of allocation and disbursements in each of these 27 sectors at the district level, the top nine have been selected as 'priority sectors'. This suggests that each district have their own priority sectors and they do not match across districts. Between 2002-2007, it has also been noted that financial allocations for expenditure have been made to the a few of the priority sectors only with respect to each of the districts and the district wise list of these sectors have been mentioned below. It should also be noted that even among the identified priority sectors, information was not exhaustively available in all cases, such that some of these sectors were left out from consequent analysis in later chapters.

4.1.5.1 Karbi Anglong

Priority Sectors in Karbi Anglong

- Roads and bridges (PWD)
- Agriculture
- Irrigation
- Water resources
- Education
- Medical & Public Health
- PHE

- Forestry & Wild life
- Animal Husbandry

4.1.5.2 North Cachar Hills

In following the guideline of HADP, priorities are fixed by the District Planning Board (DPB) for considering schemes. The Executive Body of the Autonomous Council prioritizes sectors. Based on the actual need of the district, each sector is given 'priority'. The Action plan is approved at the council level and there is systematic prioritization within each sector. After thorough discussion in the Executive body and DPB, prioritization is finally allotted in consultation with the departments concerned.

Priority sectors in North Cachar Hills

- Cooperative Society
- Soil Conservation
- Agriculture
- Health
- Social Welfare
- Forest
- PWD

4.1.5.3 Darjeeling

The priorities are fixed by the concerned departments, although the ultimate authority of prioritization rests on the Administrator or the Chief Executive of the DGHC. The needs of the locality along with climate issues are the most important factors considered in the prioritization process.

Priority sectors in Darjeeling

- Emergency Construction Cell
- Communication
- Education
- Engineering
- Rural Electrification
- Parks and Gardens

It may be clarified here that in our analysis in the subsequent sections of this Chapter, and the following Chapters, analysis of Line Departments would not necessarily conform to these identified priority sectors and are mainly determined by availability of information. Hence, in some cases we have data beyond these sectors; in fact we had collected information on more than the required 9 number of Line Department Schedules stipulated to be canvassed by us. And in some cases we have not been able to collect information from the same.

4.1.6 Selection of Blocks

4.1.6.1 Karbi Anglong

The HADP scheme on education covered almost all eleven blocks of the district. In case of irrigation, blocks and area were selected on public demand and also on the basis of availability of cultivable land and resources. For implementation of HADP schemes on Animal Husbandry, blocks were selected on the basis of demand and feasibility. Criteria for selecting blocks for flood control are based on action plans by council and petitions by public. Conservation criteria for selecting blocks are based on the decisions of the council and the decisions of the respective departments.

4.1.6.2 North Cachar Hills

In the N.C.Hills district in case of implementation of HADP schemes on education, selection of areas was generally need based, while In case of Cooperative societies, selection was done if area was suitable to the definitions of a “Large Area Multipurpose Coop Societies” or LAMP. In addition, for decisions regarding Social welfare, villages to be covered under HADP are decided by the District Planning Board. Unfortunately for the health sector, although the whole area was considered for selection, finally none was selected.

4.1.6.3 Darjeeling

The procedure for selection of blocks in Darjeeling is not known as information from the State level schedule was not available.

4.1.7 Selection of Areas/Beneficiaries

4.1.7.1 Karbi Anglong

In *Agriculture, Irrigation, Education and Forest Conservation sectors*, the beneficiary areas for HADP schemes are selected by the Hill Council in consultation with the Department. In *Animal Husbandry and Flood control sectors*, the line departments report the beneficiary areas for HADP schemes which are finally selected by the council.

Department-wise selection criteria, as retrieved from line department schedules in Karbi Anglong have been listed in the table below.

Table 4.1.7.1: Selection Criteria across departments in Karbi Anglong

DEPARTMENT	SELECTION CRITERIA	
Animal Husbandry Dept.	Interest & Demand	Feasibility
Forest Dept.	Need based	
PWD Dept	On population	
Agriculture Dept.	Need based	
Education Dept.	Backwardness	
Irrigation Dept.	Public Demand	Availability of cultivated land & resource
Information & Public Relation Dept.	Need based	
Soil Conservation Dept.	Need based	Priority wise
Education Dept.	Need based	
Transport Dept.	As decided by the D.P.B.	
Agriculture Dept.	ST beneficiary	Should have required norms for scheme
Flood Control Dept.	Action plan by council	Public Petitions
Forest Dept.	Decision of Council	Decision of own development

4.1.7.2 North Cachar Hills

Beneficiary areas are selected *directly* by Council for HADP schemes implemented under education, cooperative and health sectors. However in case of Social Welfare sector, PWD and Information & Public Relations sectors, selection is done by the Council in consultation with the respective departments.

A major criterion for selection of area in the Public Works Department (PWD) is population in the area. So far the routes covered under PWD are Haflong-Umrangso, Haflong –Tungje, Haflong-Khepre and Haflong-Hajadisa. In case of Public Health and Engineering (PHE), the council identifies the areas and the department frames the scheme. The areas that are ultimately covered in PHE have three major divisions- Haflong, Maibang and Umrangso.

Decisions regarding villages and areas to be covered under HADP for the Transportation sector are taken by the DPB and thereafter selection is done. For Public Relation and Information sectors, the selection criterion for areas is essentially need based and hence primarily selected by the District Planning Board of NCHAC.

Table 4.1.7.2: Selection Criteria across departments in North Cachar Hills

DEPARTMENT	SELECTION CRITERIA	
	A	B
Social Welfare Dept.	As recommended by District Planning Board	
A.H. & Veterinary Dept.	As recommended by District Planning Board	
Cooperative Dept.	LAMP (Large Area Multipurpose Coop. Societies) wise	
Health & Family Welfare Dept.	No Criteria	
PHE Dept.	Council's suggestion	
Animal Husbandry Dept.	Interest & Demand	
Forest Dept.	Need based	
PWD Dept	On population	
Agriculture Dept.	Need based	
Education Dept.	Backwardness	
Irrigation Dept.	Public Demand	Availability of cultivated land & resource
Information & Public Relation Dept.	Need based	
Soil Conservation Dept.	Need based	Priority wise
Education Dept.	Need based	
Transport Dept.	As decided by the D.P.B.	
Agriculture Dept.	ST beneficiary	Should have required norms for scheme

Under Forest conservation, selection is once again primarily need based and is conducted by the District Forest Department of NCHAC. Under the Maitang Civil Subdivision, areas for soil conservation were selected on need and priority basis. The table below lists the selection criterion/criteria across all departments in North Cachar Hills.

4.1.7.3 Darjeeling

Beneficiary areas are selected by the Council for Engineering and Rural electrification departments. In the **Kurseong** subdivision however, beneficiary areas that are selected by council, are done so in consultation with the Department of Engineering. No particular information could be provided by the for Park & Garden Department.

Table 4.1.7.3: Selection Criteria across departments in Darjeeling

DEPARTMENT	SELECTION CRITERIA	
	A	B
Eng. Dept., Kalimpong	Mass Petition	
Eng. Dept., Kurseong	Necessity wise	Priority wise
Eng. Dept., Darjeeling	Requirement at site	Mass Petition
Emergency Construction Cell	Mass Petition	
Rural Electrification Dept.	Requirement of villagers	
Parks & Garden Dept.	Requirement of Community People	

4.2 Implementation Process

The role of district council has been very crucial in implementation. As already discussed, the autonomous council is the final authority in the district for prioritization of sectors. The Principal Secretary with the approval of Executive members of the Hill Council and Head of the respective departments (PWD, PHE, Irrigation, Health, Forest, Agriculture, Soil Conservation, Social welfare) are involved at implementation stages.

4.2.1 Coordination

4.2.1.1 Karbi Anglong

On receipt of funds from the GOI against the respective schemes submitted to the concerned District Departmental offices / nodal officers implement the schemes under the supervision of the head of the departments/ offices as per instruction /direction of the authority of KAAC and as per guidelines of GOI.

Table 4.2.1.1: Nature of participation of departments in Karbi Anglong

DEPARTMENT	ROLE OF THE DEPARTMENTS		
	Role in Action Plan Preparation	Kinds of Role played	Nature of Participation
Animal Husbandry Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Barren land being given to the dept for Dairy, Wage Employment on works executed
Agriculture Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Wage employment on works executed
Education Dept.	Yes	Sectoral schemes to be taken up are suggested by the Dept., Council suggests schemes, the Dept. frames the schemes accordingly	Not mentioned
Irrigation Dept.	No	Sectoral schemes are taken up	Initiation and formulation of schemes
Flood Control Dept.	No	Council suggests schemes	Civil work at site, excavation work
Forest Dept.	Yes	Sectoral schemes to be taken up are suggested by the Dept.	Fertile land is used for social forestry, Wage Employment on works executed

4.2.1.2 North Cachar Hills

There is a unidirectional communication to the line departments by the Planning Commission. Works are implemented by the line department in coordination with the head of the departments and the members of Executive Committees. The concerned departments implement the projects/ schemes after their due approval and sanction from the Council.

Table 4.2.1.2: Nature of participation of departments in North Cachar Hills

DEPARTMENT	ROLE OF THE DEPARTMENTS		
	Role of Dept. in Action Plan Preparation	Kinds of Role Played	Nature of Participation
Social Welfare Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Arrange for donation of land and Voluntary Labour, Wage Employment on works executed, Maintenance of works
A.H. & Veterinary Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Initiation and formulation of schemes, Wage Employment on works executed, Awareness programme
Health & Family Welfare Dept.	No		Initiation and formulation of schemes
PHE Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Donation of Land, Wage Employment on works executed
Forest Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Donation of land, Wage Employment on works executed, Maintenance of works
PWD Dept	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Not mentioned
Information & Public Relation Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	After participation, wages are paid
Soil Conservation Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Initiation and formulation of schemes; Donation of land; Maintenance of works
Education Dept.	Yes	Sectoral schemes to be taken up are suggested by the Dept.	Donation of land, Wage Employment on works executed
Transport Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Not mentioned
Agriculture Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Wage employment on works executed

It has been observed that the co-ordination between State Government and both the councils has been poor. For example, two proposals sanctioned for N C Hills and Karbi Anglong districts under 275 (1) of constitution for minor tribal development were not given to the councils. The NCHC did not know that the Ministry of Tribal Affairs, GOI has sanctioned these projects. When enquired by the Council, the authorities were told that the funds received under this project were merged in the annual sanctions to the Council.

4.2.1.3 Darjeeling

Table 4.2.1.3: Nature of participation of departments in Darjeeling

DEPARTMENT	ROLE OF THE DEPARTMENTS		
	Role of Dept. in Action Plan Preparation	Kinds of Role Played	Nature of Participation
Engineering Dept., Kalimpong	None	Not at all consulted in Action Plan Formulation	Arrange for donation of land, employment on executed activities
Engineering Dept., Kurseong	None	Not at all consulted in Action Plan Formulation	Donation of land, Wage Employment on works executed
Engineering Dept., Darjeeling	Yes	Sectoral schemes to be taken up are suggested by the Dept.	Initiation and formulation of schemes, Donation of land, Voluntary labour, Wage Employment on works executed
Emergency Construction Cell Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Donation of land, Maintenance of works
Rural Electrification Dept.	Yes	Sectoral schemes to be taken up are suggested by the Dept.	Not mentioned
Parks & Garden Dept.	Yes	Council suggests schemes, the Dept. frames the schemes accordingly	Donation of land

According to Table 4.2.1.3, we see that in most cases in Darjeeling, sectoral schemes are suggested by the line departments; in some cases the Council may also suggest the schemes and department is involved with framing action plan of schemes (as suggested by the Council). The Engineering department in Kurseong and Kalimpong are exceptions in this regard however.

4.3 Monitoring and Supervision

4.3.1 Monitoring at the State Level

The monitoring mechanism at the State level is the Quarterly Progress Report sent by the district (Hill Council). In the two districts of Assam, the Progress report is to be submitted within ten or fifteen days of completion of a quarter.

4.3.2 Monitoring at the District Level

4.3.2.1 Karbi Anglong

Review meeting is held at district nodal office, at six months interval, on progress/ achievements of the schemes under HADP. Chief Executive of the KAAC is the reviewing authority.

4.3.2.2 North Cachar Hills

Review of the performance including HADP is done at the meeting of the DPB at the district and by the Development Commissioner Hill Areas at the state level. The State Govt. Principal Secretary is the final reviewing Authority. Review indicators are economic and social. Frequency of review meetings has been quarterly in the past.

4.3.2.3 Darjeeling

Review meetings are held at the district nodal office. The reviewing authorities are the Administrator and the Principal Secretary, DGHC. The review is based on the utilization certificate. In practice review meetings, are rarely held and are effective to a limited extent. This is generally because of the irregularity in the acceptance of utilization certificate. For this, there remains a constant backlog in dealing with allocation and disbursements.

Monitoring at the Block Level

None of the districts under study have block level monitoring instruments in effect.

4.3.3 Physical Supervision

4.3.3.1 Districts of Assam

Field visits from various line departments such as PWD, Agriculture, Irrigation, Health and PHE have been carried out for supervision in Karbi Anglong. Monthly field visits by the departments have proved very effective in the past. Similarly in N. C. Hills, monthly field visits by concerned agencies such as PWD, Forest, Education, Health & PHE have proved very effective in the past as stated by the local community members.

4.3.3.2 Darjeeling

In Darjeeling, an examination of the physical supervision of 5 line departments, inclusive of Engineering in Darjeeling, Kurseong and Kalimpong Divisions, ECC and Rural Electrification shows that physical supervision is done at the state level, although no specific agency is mentioned. Supervision is half yearly and effective to a limited extent.

4.3.4 Involvement of Villagers and Village Institutions

4.3.4.1. Gram Panchayats

Panchayati Raj Institutions (PRI) like Gram Panchayats has no role in implementation of HADP in any of the three Hill Districts. There are no such institutions in the two districts of Assam and as reported in the district level questionnaires, Panchayats are not in existence in Darjeeling since May 2006.

4.3.4.2 Village Level Committees/Watershed Committee/User Associations

No such committees or associations were involved under the HADP scheme in any of the districts at present.

4.3.4.3 Role of Beneficiaries/Villagers in Implementation by Sectors

The role of villagers and beneficiaries in the implementation of HADP schemes varies from village to village and sector to sector. A brief summary of the nature of their sector-wise participation is as follows:

Karbi Anglong

- In case of *education*, the PRIs, when in existence (that were previously present still have their impact on the programs), had monitored the progress of the work.
- In *irrigation*, PRIs were actively involved with execution of the works.
- Village institutions are not at all involved in the implementation of HADP schemes under *Animal Husbandry, Flood Control & Conservation*.
- Villagers participated in the implementation of HADP work under agriculture, education, irrigation and animal husbandry

North Cachar Hills

- Panchayati Raj institutions are not at all involved in the implementation of HADP schemes. Villagers participated in the implementation of HADP schemes.
- Villagers did not participate in the implementation of HADP schemes of PWD, Transport, Information & Public Relation sections.
- Villagers do participate in the implementation of HADP schemes of PHE and Information & Public relation sector.

Darjeeling

While the villagers participated in the implementation of HADP for Engineering, Emergency Construction Cell and Parks & Garden Departments, they did not play any role in the implementation of HADP in case of the Rural Electrification department.

4.3.5. Involvement of Beneficiaries at the Village Level

There is no involvement of villagers in formulation of HADP schemes in the hill areas of Assam. Involvement of villagers in implementation and selection of beneficiaries is also quite low, not in more than 20% in case of implementation of the schemes, and approximately 10% in case of selection of beneficiaries in the villages. By contrast, involvement in both formulation and implementation is remarkably high in the Darjeeling district of West Bengal.

Table 4.3.5: Involvement of Beneficiaries at the Village Level in all the three districts

District	No. of Villages	In formulation of Schemes			In Implementation of Schemes			In Identification of Beneficiary		
		C	P	N	C	P	N	C	P	N
Karbi Anglong	15	0	0	15	0	2	13	0	0	15
NC Hills	15	0	3	12	0	4	11	1	2	12
Darjeeling	14*	0	10	4	0	8	5	0	0	14

C: Complete, P: Partial, N: None

*-Less than 15 owing to local political unrest

4.3.6 Involvement of Women

In the two hill areas of Assam, women are involved at the implementation stage of the HADP schemes. Their role, particularly in the NC Hills area relates to the maintenance of assets created by these schemes. In Darjeeling, women in the sample villages have no involvement under HADP.

5. Physical Assets created under HADP and their Maintenance Status

Reports from line departments and villager's perception on sector-specific 'physical performance' under the HADP in each of the sampled villages by sector have been documented through schedules and focus group discussions. The following section analyses and lists the findings that have emerged, both from the perspective of the line departments and the villagers.

5.1 Karbi Anglong

5.1.1 Responses from Line Departments

In the Karbi Anglong Hill Area, the respondents were selected from the departments of Agriculture, Education, Irrigation, Animal Husbandry, Flood Control and Forest Conservation.

5.1.1.1 Agriculture:

The main area of work during the reference years of implementation of HADP schemes was land development. Minor irrigation and land reclamation works have also been done.

5.1.1.2 Education:

The department of education had the following listed targets which were fulfilled within the designated period. In the year 2002-03, the target was to supply furniture/TLM(Teaching Learning Material)/ Library books in 89 Higher Secondary schools and 206 Middle schools, for 2003-04 target was construction of 43 school buildings and boundary walls in 2 schools, for 2004-05 target was construction of 85 school buildings and boundary walls in 12 schools and for 2005-06 targets was construction of 21 school buildings and boundary walls in 3 schools. Finally, 2006-07 target was construction of 22 schools and boundary walls in 19 schools.

5.1.1.3 Irrigation:

During the periods 2002-03 to 2006-07, flow irrigation scheme was implemented under HADP. Target areas that have been covered under the scheme are 110Ha in year 2003, 110 Ha in year 2004, 112Ha in year 2005, 110Ha in year 2006 and 350Ha in year 2007.

5.1.1.4 Animal Husbandry:

Construction, medicinal supply and generating awareness are the nature of schemes that have been undertaken in this sector and the department of Animal Husbandry achieved their targets every year. The number of beneficiaries who participated in awareness generation efforts in this sector is 230 (2003), 542 (2004), 741 (2005), 1370 (2006) and 1180 (2007) respectively.

5.1.1.5 Flood control:

Nature of work undertaken in this sector is soil erosion control. Targeted and achieved areas covered are 20 Ha, 20 Ha, 28 Ha, 18 Ha and 93 Ha during the five reference years respectively.

5.1.1.6 Forest Conservation:

It was reported only that maintenance is good. Unfortunately no other detail was received from this department.

Maintenance Status of Physical Assets Created

The table below lists some of the sector-specific information on overall maintenance status of physical assets created HADP. The three departments listed were the only ones from which feedback on maintenance status were received in Karbi Anglong.

Assessment of the Maintenance Status of Physical Assets: The 'total' row is a summation of the total markings on 'good', 'average', 'poor' and 'not mentioned' marked by each of the departments and the percentages reflect the overall perception of the line departments on their markings. For example, the maintenance-status of facilities and services as informed by the line departments of Karbi Anglong have been stated as

'good' in 100% of the cases. That is, none of the services provided, in the perception of the line department officials have received poor or average markings on maintenance. Such markings, therefore, raise questions on the validity of the markings on maintenance levels. Further, analysis of perceptions of beneficiaries/villagers would help us draw conclusions on the validity of the reports made by the line departments.

Table 5.1: Maintenance Status of Physical Assets through 2002-2007 across departments in Karbi Anglong

Department	Nature of Work (2002- 2007)	Maintenance Status of Works Undertaken		
		Good	Average	Poor
Animal Husbandry Dept.	Construction, Medicine Supply, Awareness, Construction	15	0	0
Education Dept.	Supply of furniture, TLM/Library Books, Building, Boundary wall	10	0	0
Irrigation Dept.	Flow Irrigation Scheme	5	0	0
Totals		30	0	0
Percentages		100	0	0

Note: Numbers in the table indicate the number of works enumerated by the Line Departments during the reference period.

Similar analysis on tables has also been done for North Cachar Hills and Darjeeling in subsequent sections.

5.1.2 Responses from the Villagers

In the group discussions, villagers stated their perception regarding the status of the facilities constructed by plan schemes as well as that of the natural resources of their localities before and after the implementation of the schemes.

It was observed that in Karbi Anglong, the status of most constructed facilities including roads, bridges, community halls, tourist transit, public service utility building parks and water supply was perceived to be in a poor condition *before* the implementation of plan schemes. What is of greater concern is that even *after* the implementation of the

schemes many of these facilities (except roads and bridges perhaps) are still perceived to be in poor shape as well.

Similar perception prevails on facilities like community halls, tourist transit facilities, parks, public utility buildings in majority of the villages and in case of almost half of the responding villages, it was noticed that even crucial facilities like water supply were poor. However, only in case of a few facilities like roads, an improvement from poor to average maintenance condition was observed.

The status of the environment appears only to be marginally better. *Before* the implementation of the schemes, soil erosion had been reported to be severe and flora and fauna steeply degraded in a large majority of the villages although the water table and agricultural yield remained satisfactorily high for a decade in most of the villages in addition to the forest cover and cultivation of medicinal plants. *After* the implementation, the state of the environment seemed to have improved with respect to soil erosion and the water table. However, it appears to have slightly declined with respect to the forest cover and the flora and fauna.

Responses from the villagers therefore do not seem to be as encouraging as those from the line departments in Karbi Anglong.

5.2 North Cachar Hills

5.2.1 Responses from Line Departments

In the North Cachar Hills Area, the respondent departments were Education, Cooperative Society, Social Welfare, Health, Public Works (PWD), Public Health Engineering (PHE), Transport, Information & Public Relations, Agriculture, Animal Husbandry and Dairy, Forest Conservation and Soil Conservation.

5.2.1.1. Education

In education, new schools were established; free text books and school uniforms to the students, and furniture were supplied. Funds were invested to employ more teachers and

improve the quality of teaching along with maintenance of the school buildings and establishment of drinking water facilities. The departments have reported to have achieved 100% of the target in maintenance of assets.

5.2.1.2 Cooperative society

No work has been reported to be done during the years 2002- 2005 in this area. In 2006-07, working capital for PDS & transportation was provided. The target was 11 units of PDS, which were successfully achieved.

5.2.1.3 Social welfare:

No work has been done during the years 2002-2004 in North Cachar under social welfare. Only in 2004-2005, economic benefit schemes were undertaken in 6 areas and the target was achieved. Number of beneficiaries in this year was 348. In the following year, target was to empower and provide skill up-gradation of 330 beneficiaries and this was achieved. In the years 2006-07, the target of the department was to provide sanitation facilities in ICDS centers in 194 units but only 6 units were found where such facilities were provided. Number of beneficiaries covered was 1600 and maintenance status of the ICDS and vocational centers was average.

5.2.1.4 Health Sector:

Schemes undertaken were control of blindness scheme, Tuberculosis (TB) program, National Labour Employment Programme(NLEP), National Vector Borne Disease Control Programme (NVBDCP), Births and deaths registration, Mother and Child Health (MCH) activities and Family Welfare (FW) activities.

5.2.1.5 PHE:

In NC Hills a total of 12 major schemes and 526 minor schemes were completed during the period of 2002-2007. The major schemes were categorised into three major heads of Works, Establishments, Maintenance while the minor schemes included -repairing of pipeline, re-siltation cost, replacement of pipes, construction of tube-well beds etc. The total population was covered through the schemes.

5.2.1.6 PWD:

Schemes undertaken by the PWD department were construction of Roads, bridges, Culverts etc. The targets that were fulfilled by the Department in their designated periods are construction of 60 km road and 60 culverts in 2002-2003, 62 km roads and 65 culverts in 2003-2004, 42 km road and 70 culverts in 2004-2005, 81 km roads and 75 culverts in 2005-2006 and finally 144 culverts in 2006-2007.

5.2.1.7 Transport:

Department of Transport mainly purchased buses for public benefit; some money was spent on maintenance and repairing of existing buses and trucks of the department.

5.2.1.8 Information and public relation section:

Nature of schemes undertaken was installation of Fixed Loud Speaker Systems (year 2004-05) & Far Still D camera, Public Address systems (year 2005-06), Video camera Multimedia Projector Press Tour and Publication of news letter(2006-07). The entire district was under coverage.

5.2.1.9 Forest Conservation:

Nature of works undertaken was plantation of trees, maintenance of the Botanical Garden etc. The department achieved 100% of the target.

5.2.1.10 A.H. & Dairy Department:

Works covered are health care measurement, training & maintenance on rearing of livestock, preventive measures against Bird Flue etc.

5.2.1.11 Agriculture sector:

Distribution of food grains, seeds, manures & fertilizers, plant protection, commercial crops are some of the activities undertaken by the department of agriculture. In addition, agricultural economics & statistical research, agricultural engineering, horticultural and vegetable crops, extension & farmers training and agricultural marketing & quality controls are the other activities done in this sector.

5.2.1.12 Soil and water conservation

Due to lack of funds in the year 2002-2006, no activities were undertaken by the soil and water conservation department. However, work has been done in the year 2006-07.

Table 5.2: Maintenance Status of Physical Assets through 2002-2007 across departments in North Cachar Hills

Department	Nature of Work (2002-2007)	Maintenance Status of Works Undertaken			
		Good	Average	Poor	Not Mentioned
Social Welfare Dept.	Economic benefit scheme, Empowerment & skill upgradation (Capacity expansion of VTRC in 1 location, new Knitting & Tailoring Centers in 5 locations, Crèche of 330 trainees and Workshed to passed out trainees), Empowerment & skill upgradation (additional 330 trainees) and Sanitation-latrines construction in 110 Anganwadis	2	1	0	0
A.H. & Veterinary Dept.	To take health cover measures, Training & motivation programme, Rearing of livestock, Economic upliftment amongst the people, Preventive measures of bird flu	4	1	0	0
Cooperative Department	Working capital for PDS and Transportation	1	0	0	0
Health and Family Welfare Department	National Leprosy Eradication Programme, T.B. Control Programme, National Vector Borne Disease Control Programme	0	0	0	9
PHE Department	Improvement and Maintenance of schemes	0	5	0	0
Forest Department	Plantation – Botanical Garden	5	0	0	0
PWD Department	Road and Culvert Construction	10	0	0	0
Information and Public Relation Department	Purchase of Multi media Projector with accessories, Installation of Fixed Loud Speaker (FLS) System; Purchase of Still Digital Camera (1 no) & Fax (1 no), Purchase of Public Address System (1 no), Handy camera (1 no) & Computer with furniture (1 no)	3	0	0	0
Education Department	Education and Teaching	5	0	0	0
Transportation Department	Purchase of 709 trucks, Maintenance of all buses and trucks, purchase of tourist buses	2	2	0	0
Agriculture Department	Distribution of Seeds and seedlings	0	5	0	0
Totals		32	14	0	9
Percentages		59	25	0	16

Since efficient use of irrigation water is the need of the day, attempt has been made in the recent past to introduce use of sprinklers and drip irrigation methods. This approach has been however readily accepted in other hill areas, especially by progressive farmers of North Cachar hills and provides a tested example for the districts in Assam to follow. If adequate support system is established in future, water requirement of the farming community could be fulfilled to a great extent through this approach.

In 25% of the cases, maintenance of facilities provided by the departments have been reported to be 'average', predominantly in PHE and Agriculture department. However, in 59% of the cases maintenance of departments under HADP, have been reported as 'good'.

5.2.2 Responses from the Villagers

The initial state of physical assets in NC Hills was poor in nearly all of the villages. And except for roads and water supply the situation did not change much after the implementation of the schemes. Furthermore, it was noticed that a decline in the status of the facilities occurred after the initial improvement in majority of the sectors, indicating poor maintenance.

Regarding the environmental conditions, reports were highly unsatisfactory in North Cachar as far as water table, forest cover and cultivation of medicinal plants were concerned. However, with respect to soil erosion and flora and fauna it appears to be somewhat better.

Although not as discouraging as in case of Karbi Anglong, villagers in North Cachar also seem to have similar views on provided infrastructural facilities and have highlighted similar issues such as lack of maintenance and inadequate services.

5.3 Darjeeling

5.3.1 Responses from the Line Departments

In Darjeeling, the respondents were the department of engineering (PWD), rural electrification, parks and gardens and Emergency Construction Cell.

5.3.1.1 Engineering Department:

The activities in this department mainly involved construction of roads, bridges, and other complexes. Achievement of target was 100 %. Maintenance of assets was reported to be varying between average and good. The year wise level of progress made has been discussed in the following paras.

In the year 2002-03, two roads of lengths 3.5 Km and 0.30Km have been constructed in the Darjeeling district. However maintenance of these roads was very poor. While one Primary school has been established during the same year, maintenance of the school building has been reported to be average.

In Kurseong subdivision, two roads of length 18 Km and 5.50 Km have been constructed. Moreover a one-storied building has also been constructed for a High School.

In Kalimpong subdivision, two roads of lengths of 1 Km and other of 2 Km have been constructed. One footbridge and a wall has been made as well. Maintenance of these has been considered to be average.

In the year 2003-04, one high school, one community hall, one crèches house and one link road has been constructed in Darjeeling and maintenance of these are average. In Kurseong one river bridge has been constructed, one double-storied Girl's High school has been constructed, and one decorative flooring work of a road side restaurant has been done. In Kalimpong, a culvert, a road of 2 Km length, one footpath, one footbridge and one protection wall has been made.

In the year 2004-05, one primary school and two roads were constructed in Darjeeling. Maintenance of roads was poor while maintenance of school is average. In Kurseong one 3 Km. road has been constructed. Bituminous work of two roads of lengths 1.44 Km and 4.4 Km have been done. In Kalimpong the works included construction of culvert, construction of 10 meters foot bridge and construction of roads.

In year 2005-06, roads were constructed and maintenance of those is average. In Kurseong, construction work of one road having a length of 2 Km and one bituminous road work having a length of 4 Km have been done. One Car Parking zone with parapet and protection wall has been made. In Kalimpong there was construction of two roads and one culvert.

In the year 2006-07, one community Hall, one Rangalaya Bhavana and one Higher Secondary School has been constructed in Darjeeling. Maintenance of these are average. In the Kurseong Extension, a bridge of length 50 miles has been constructed. Surface bituminous work of 3 Km has also been done on roads. One Primary Health Center with six beds has been constructed. In Kalimpong, there was construction of two-protection walls, one of 6Kms and other of 3 Kms.

5.3.1.2 Rural Electrification Department

The Gumba power station was established in the year 2002-03 and Saimandir power Station in 2006-07. Asset maintenance status was reported as average.

5.3.1.3 Parks & Garden Department

In the year 2002-03, three parks have been built in Darjeeling. Maintenance is average for two and good for one of them. In 2003-04 three parks have been constructed and the maintenance of these parks is good. In consequent years, 6 parks have been constructed, 3 per year and maintenance is reported to be good for only 50% of those parks (i.e. 3 parks only) and average for the rest.

5.3.1.4 Soil Conservation:

The DGHC has emphasized on soil conservation efforts to reduce impact on ecological degradation. Past achievements include:

- Distribution of agriculture equipments, seed kit, poly green house, plant protection chemicals, and soil testing.
- Execution of River Valley project Teesta under soil conservation.
- Normal soil conservation scheme that involves work on soil protection
- Integrated Horticulture Development Program

Line departments in Darjeeling have reported 100% satisfaction on targets achieved across all sectors. But status of maintenance varies across the sectors. The results have been summarized in Table 5.3 below. It is interesting to note that the departments in Darjeeling have reported the status of maintenance of facilities differently. Average maintenance has been mostly reported in 49% of the cases, followed by good and poor in 24% and 13% of the cases respectively. According to line departments, reports might be indicative of insufficiency of funds in the departments required for appropriate maintenance of the assets or that the inconsistency is caused due to difficulty in working in the hilly terrains.

Table 5.3: Maintenance status of physical assets through 2002-2007 across departments in Darjeeling

Department	Nature of Work (2002-2007)	Maintenance Status of Works Undertaken			
		Good	Average	Poor	Not Mentioned
Engineering Department	Construction of road, footbridge, bridges, culverts, protection wall, footpath, car park, primary health care centre, floor of high schools, protection of busty, restoration of road after landslides, decorative flooring work of restaurant, surface bituminous work of road.	10	26	2	6
ECC Department	Construction of road, community hall, junior high school, primary school, Crèche, other buildings such as the Rangshala Bhavan, widening of roads, higher secondary school etc.	3	7	4	1
Parks and Garden Department	Construction of Parks, National parks, Development of Tourist Spots	6	5	4	4
Totals		19	38	10	11
Percentages		24	49	13	14

5.3.2 Responses from the Villagers

The views of the respondents in Darjeeling seemed to differ from those in Assam. It has been noted that while the condition of existing facilities in Darjeeling was equally poor as Karbi Anglong and North Cachar Hills, the villagers perceived an improvement in a larger proportion of the cases where schemes were implemented.

There was no specific scheme on environment in the sample villages of the district of Darjeeling. The villagers have also stated that they are in general more aware of the schemes being implemented under DGHC as opposed to being implemented under HADP, even in cases where the programs are covered under HADP. Thus villager's perception is that all facilities are being provided by DGHC directly and they are not aware of the role of HADP.

5.4 Important finding of the field visit

One of the important findings is that though targets are set at the Council level (as can be seen from the Annual Plans submitted to Planning Commission) these targets do not necessarily match with that of the line departments. The figures reported by the line departments as their targets are either closer or often same as their reported achievements.

6. Utilization of Assets and Cost Effectiveness

This section provides a comprehensive reporting of *comparison study* between opinion of villagers/beneficiaries on one hand and perception of line department officials on the other on the “status of maintenance” and “utilization of assets” as the required endpoints of the evaluation study. As opposed to the previous chapter, where there has been detailed discussion of maintenance of physical assets generated through HADP schemes in the line departments, this chapter would particularly focus on the comparison part so as to derive a conclusion on the level of satisfaction on services generated from assets created directly from the beneficiaries. The reports have been generated on the basis of comparison of responses from the line departments and the villagers in the three districts, Karbi Anglong, North Cachar Hills and Darjeeling. The section, therefore, provides an evaluation of the condition of assets, their status of maintenance, cost-effectiveness of establishment and an opinion on their long run utility or impact, in the three districts, both from the point of view of the implementing authorities and the beneficiaries. Ideally, the view point of the beneficiaries or the villagers, gathered from group discussions, should be distinctly provided on each sector for necessary analysis on the status of the schemes from the actual users of the assets. However, in this case, the limitation is in the fact that the responses of the beneficiaries do not specifically refer to particular sectors as in case of those provided by line departments. Besides, the information available was mostly subjective, i.e. as perceived by the authorities of the line department and the beneficiaries. Hence, the comparison is purely based on qualitative judgment of both the parties.

6.1 Hypothesis

Subsequent sections shall therefore compare the responses of the line departments and those of the villagers. Responses have not been quantified to conduct simple data analysis with plots and figures. Percentage values based on the similarity or dissimilarity of responses from line departments and villagers have been considered to analyze a ‘non-statistical hypothesis’.

The non-statistical hypothesis has been defined as follows:

Utilization of Assets

H₁₀: The perception of the line departments that there has been effective utilization of assets created under HADP is supported by the users or beneficiaries. For example, the percentage of responses coded as 'effective' or 'poor' for degree of utilization of assets by the line department officials and those by the villagers would follow close to similar values or trend on percentage values (as 'equality' would be a strong assumption here because responses are based on the best possible perceptions of the respondents).

Cost Effectiveness

H₂₀: The perception of the line departments that the performance of HADP schemes is cost effective (in the two districts of Assam), is supported by the users
In this section therefore, the primary focus on comparison of results are on 'Utilization of assets' and 'cost effectiveness of assets' only as 'quality of maintenance of assets' have been exhaustively discussed and compared prior to this section in the report.

6.2 Assumptions

It should be however noted that the assets across all sectors (in case of line departments) and all villages (in case of villagers' opinions) have been considered in aggregate for analysis and percentage values compared on total number of assets implemented in order to generate the hypothesis results, ignoring sectoral and village specific differences that might exist. All sectors are assumed to have equal weights and so are all villages in calculation of percentages. And all assets have been assumed to be equally distributed across all villages for the percentage calculation.

6.3 Definitions

Degree of utilization of assets: The extent to which assets have been serving their due purpose in the villages. The responses from the villagers have been categorized as

utilized effectively, utilized irregularly, mostly not functional (hence poorly utilized), mostly functional but poorly utilized due to irrelevance to locality and don't know or can't say (which has been marked as 'unsure' in the tables that follow).

Cost effectiveness: Qualitative assessment of cost of the asset with respect to the benefits received such that the villager's perception of cost effectiveness is based on a qualitative judgment on the utility of the asset (or benefits obtained from the asset) and its cost. In case of the line department officials however, cost effectiveness is measured on the basis on their own assessment of the benefits being generated from the asset to the villagers and the 'actual cost' of construction or provision of the facility. The categories are 'very much', 'barely', 'not at all' (which has been indicated as 'none'), 'cannot assess' and 'don't know/can't say'.

Quality of maintenance of assets: Qualitative assessment on level of asset maintenance over a period of one year was classified as 'very good', 'good', 'average', 'bad' and 'don't know/can't say'.

6.4 Karbi Anglong

6.4.1 Opinion of the Line Departments

Table 6.4.1.1: Line Departments Reporting on Sector wise performance of HADP schemes in Karbi Anglong

DEPARTMENT	Quality of Maintenance of Assets 1	Degree of utilization of Assets 2	Cost Effectiveness 3
Animal Husbandry Dept.	Average	Effective	Very much
Agriculture Dept.	Average	Mostly functional, but poorly utilized due to irrelevance to locality	Very much
Education Dept.	Good	Effective	Very much
Irrigation Dept.	Very Good	Effective	Very much
Flood Control Dept.	Good	Effective	Very much
Forest Dept.	Good	Effective	Very much

The response on maintenance levels varied from very good to average across the line departments and the assets were also reported to be effectively utilized except in

agriculture where utilization was reported to be poor, not due to the condition of the assets but due to the relative irrelevance of the assets in the localities. There might be a question therefore as to why schemes that were apparently irrelevant to the needs of the local people were implemented in the districts or perhaps greater efforts need to be made to identify the desired changes on utilities have to be considered so as to have a viable impact on the lives of the people. The table 6.4.1.1 also shows that in the opinion of the line departments, the implemented schemes across all departments were cost-effective and worth-while. Despite such discrepancies in reporting, it can be concluded from the table that 100% of the schemes implemented across sectors have been considered to be 'very much' cost-effective and in 5 out of 6 sectors, i.e. 83.34% the line department officials consider the degree of utilization of assets as effective. Table 6.4.1.2 summarizes the results.

Table 6.4.1.2: Summary of Results from Section 6.4.1

Karbi Anglong	Cost Effectiveness	Degree of Utilization of Assets
Line Departments	100% - Very Much	83.33%- Effective

6.4.2 Maintenance and Utilization of Assets: Villager's Opinion

The opinions on the status of utilization of assets and the maintenance of assets would clearly indicate the similarities and contrasts in the opinions of beneficiaries and the line departments.

'Maintenance of collective assets' created under HADP is perceived to be poorly utilized in two fifths of the total number of villages sampled, i.e. six villages, in contrast to the general perception of the line departments which varies from 'average' to 'good', in section 6.4.1. It may be also noted that beneficiaries maintain the individual assets in all the villages.

The status of 'utilization of assets, is perceived to be either 'irregular' or 'poor' in almost all villages. Most of the villages states 'irregular' utilization of assets. This is in contrast to the perceptions of the line departments in Karbi Anglong. As per previous discussions on line department reports, except for agriculture, all other sectors have reported 'effective' utilization of assets. Here, in 20% of the cases, the degree of utilization of assets has been 'poor', in 73.34% of the cases, it has been 'irregular' and the rest is 'unsure'. Thus,

there is a definite mismatch on opinions from both ends on 'degree of utilization of assets'.

Table 6.4.2.1: Villagers' Opinion on Maintenance and Utilization of Assets in Karbi Anglong

Village name	Maintenance of Collective Assets	Degree of Utilization of Assets	Cost Effectiveness	Rise in Income
Ranghang Gaon	Poor	Irregular	Barely	Significant
Panegti Gaon	Satisfactory	Irregular	Barely	Marginal
Lekhte Gaon	Satisfactory	Poor	Barely	Marginal
Lense Rangang	Poor	Irregular	Barely	Significant
Dekai Bey	Satisfactory	Irregular	Barely	Marginal
Tokbi Areng	Poor	Poor	Barely	Significant
Desai Rangpi	Poor	Poor	Barely	Marginal
NamTaradubi	Satisfactory	Unsure	Unsure	Marginal
Ninkeeng	Satisfactory	Irregular	None	Marginal
Uttar Barbill	Satisfactory	Irregular	Barely	Significant
Basu Gaon	Satisfactory	Irregular	None	Marginal
Rong Khelan	Satisfactory	Irregular	Barely	Marginal
Mosh Gaon	Satisfactory	Irregular	Barely	Significant
Biothilangee	Poor	Irregular	Barely	Marginal
Rangker tisse Gaon	Poor	Irregular	Barely	Significant

Most assets created have been found to be barely cost effective in twelve villages, not worthy in two villages, namely Ninkeeng and Basing Gaon and of indeterminate worth in Nam Taradubi. Therefore in 93% of the selected villages, schemes implemented have been classified as either 'barely cost effective or not at all cost effective' by the villagers as opposed to the opinion of the line department officials according to whom all the schemes are very cost effective .

Table 6.4.2.2: Summary of Results from Section 6.4.2

Karbi Anglong	Cost Effectiveness	Degree of Utilization of Assets
Villager's Opinions	93%- Combined Percentage of Barely Cost Effective and None	73.33%- Irregular 20%- Poor

This suggests that the villagers have a relatively poorer perception of the overall maintenance, utilization and usefulness of the schemes compared to the perception of the line departments. This difference in perception is general enough to be evident

irrespective of the specific sectoral schemes undertaken in particular villages. ***In case of Karbi Anglong therefore, it can be safely concluded that the hypothesis on degree of utilization and cost-effectiveness is rejected.*** This implies that the perception of the line departments on effective utilization and cost effectiveness of the schemes undertaken is not supported by the villagers.

6.5 North Cachar Hills

6.5.1 Opinion of the Line Departments

Table 6.5.1.1: Line Department Reporting on Sector wise performance of HADP schemes in North Cachar Hills

DEPARTMENT	Quality of Maintenance of Assets	Degree of utilization of Assets	Cost Effectiveness
Social Welfare Dept.	Very Good	Effective	Very much
A.H. & Veterinary Dept.	Very Good	Effective	Very much
Cooperative Dept.	Good	Effective	Barely
Health & Family Welfare Dept.	Good	Effective	Barely
PHE Dept.	Average	Effective	Very much
Forest Dept.	Very Good	Effective	Very much
PWD Dept	Good	Effective	Barely
Information & Public Relation	Very Good	Effective	Very much
Soil Conservation Dept.	Good	Effective	Very much
Education Dept.	Average	Utilized irregularly	Very much
Transport Dept.	Good	Effective	Very much
Agriculture Dept.	Average	Mostly functional, but poorly utilized due to irrelevance to locality	Barely

Rate of maintenance is reported to be varying between ‘average’ and ‘very good’ (as shown in table 3 above) across 12 sectors of North Cachar Hills and the degree of utilization of assets is ‘effective’ except in education and agriculture departments for different reasons. In education, we see that utilization is irregular and in agriculture, it is perhaps because of irrelevance of the assets established in the area. As in case of Karbi Anglong, a similar clarification is therefore needed on the kind of sector-wise facilities that have been established through HADP implemented schemes, especially in agriculture and discuss how the necessity of such facilities have been determined in the pre-implementation phase.

Moreover, in contrast to the reporting in Karbi Anglong, some of the line departments like Cooperative society, Health, PWD and Agriculture have raised concern over the cost-effectiveness and cost-worthiness of schemes in some sectors.

It might be worthwhile to mention here that demographic analysis from previous sections clearly indicate the importance of agriculture in both the districts in Assam and the fact that schemes implemented in this particular sector under HADP have been recorded as barely cost effective coupled with the finding that the maintenance standard of assets have been perceived as “average”, and degree of utilization has been recorded as “Mostly functional, but poorly utilized due to irrelevance to locality”, by the Department officials themselves, suggest that the schemes require a thorough review and reconsideration of underlying factors.

Furthermore, it is also surprising that the degree of utilization of assets for the schemes under Health and PWD have been stated to be ‘effective’, although the cost worthiness of the facilities have been undermined as ‘barely’. This might suggest that although facilities provided under such departments have been very useful, consequent expenditures incurred may have been heavy with respect to the overall funds allocated to these departments.

Expressing the collective opinion of the Line Departments it may be said that in 83.34% of the cases, assets created across all the sectors have been effectively utilized, and about two-thirds of the line departments reported that the assets created have been cost-effective.

Table 6.5.1.2: Summary of Results from Section 6.5.1

North Cachar Hills	Cost Effectiveness	Degree of Utilization of Assets
Line Departments	66.67% - “Effective” 33.33% -“Barely”	83.33%- Effective

6.5.2 Maintenance and Utilization of Assets: Villager's Opinion

Table 6.5.2.1: Villagers' Opinion on Maintenance and Utilization of Assets in North Cachar Hills

Village Name	Maintenance of collective assets	Degree of Utilization	Cost Effectiveness	Rise in Income
Langdisa	Satisfactory	Irregular	Barely	Marginal
Jorai Bhatari	Poor	Poor	Barely	Significant
Saron	Poor	Poor	Barely	Marginal
Baojen	Satisfactory	Irregular	Barely	Significant
N. Dukaling	Poor	Effective	Barely	Significant
P. Hajon	Satisfactory	Poor	Barely	Unchanged
Dihar Phanglo	Poor	Satisfactory	Barely	Significant
Rilai	Satisfactory	Satisfactory	Barely	Significant
Hereido	Poor	Satisfactory	Barely	Significant
Mabao	Satisfactory	Satisfactory	Unsure	Unchanged
Nilan Kalachand	Satisfactory	Satisfactory	Barely	Significant
Sonapur	Poor	Satisfactory	Unsure	Unchanged
Langebra	Poor	Poor	None	Significant
Dijao	Poor	Satisfactory	Barely	Significant
Haflong vill-1	Poor	Irregular	Barely	Marginally

'Maintenance of assets' created under HADP is poor in three fifths of the total number of sampled villages of NC Hills, i.e. in 9 villages, which is much higher than the case of Karbi Anglong. They are satisfactorily maintained in only six villages. Individual Assets are maintained by individual beneficiaries in all the 15 sampled villages. However, the respective Departments also have a role in their maintenance in four (more than a quarter) of the villages.

Degree of utilization of assets is 'effective' in one of the sample villages (6.67%) only, satisfactory in 7 villages (46.67%), irregular in three villages (20%), and poorly poorly utilized in 4 villages (26.67%).

As for 'cost worthiness' of the assets created, 80% of the villagers have reported the same to be 'barely' cost effective. Two of the villages could not assess their cost worthiness and in one case, namely the village Langebra, the villagers have categorized the assets created as 'not cost worthy'. This could mean that villagers are grossly dissatisfied with the schemes in general or the way they have been implemented.

However, we also see that benefits to villagers have significantly contributed to a rise in income in 60% of the villages sampled in North Cachar Hills.

Table 6.5.2.2: Summary of Results from Section 6.5.2

North Cachar Hills	Cost Effectiveness	Degree of Utilization of Assets
Villager's Opinions	86.67% - Combined percentage of 'Barely Cost effective' and 'None'	6.67%- 'Effective' 46.67%- 'Satisfactory' 26.67%- 'Poor' 20%- 'Irregular'

Thus, the villagers in the sampled villages of NC Hills had a much more positive assessment of the maintenance, utilization (although there are still vast differences in perception) and usefulness of the assets created when compared to the villagers of Karbi Anglong. Although there still remains a difference in perception between the villagers and the line departments, the gap on opinions seem to be less wide. ***Nevertheless, the hypothesis on degree of utilization and cost effectiveness of assets is rejected in case of North Cachar hills as well.***

6.6 Darjeeling

6.6.1 Opinion of the Line Departments

Table 6.6.1.1: Sector wise performance of HADP schemes in Darjeeling

	Quality of Maintenance of Assets	Degree of utilization of Assets	Cost Effectiveness
Eng. Dept., Kalimpong	Good	Effective	Very much
Eng. Dept., Kurseong	Good	Effective	Very much
Eng. Dept., Darjeeling	Average	Effective	Barely
ECC Dept.,	Good	Effective	Barely
Rural Electrification Dept.	Good	Effective	Very much
Parks & Garden Dept.	Good	Effective	Barely

In Darjeeling, the opinion of the line departments on maintenance of assets has been reported to be similar to Karbi Anglong and North Cachar Hills, varying between average and good. However, it is also worthwhile to note here that Kurseong & Kalimpong have a "good" reporting on the schemes implemented under the Engineering department while

the standard in Darjeeling is considered to be 'average'. In addition, it may also be noted that under the same department, the cost-effectiveness of the schemes has been recorded as very high in Kurseong and Kalimpong. This suggests that although the performance of the Engineering department has been quite satisfactory there, the implemented schemes under the Engineering department need improvement in all areas of the Darjeeling district. Degree of utilization has however been 100% effective according to the line departments.

Table 6.6.1.2: Summary of Results from Section 6.6.1

Darjeeling	Cost Effectiveness	Degree of Utilization of Assets
Line Departments	50%-"Barely cost effective" 50% - Very Much	100%-Effective

On the positive side, the impact of the schemes under the department of Rural Electrification and Parks and Gardens have been reported to be 'significant', but departmental expenditures incurred by the latter might have proven to be quite high as cost-worthiness has been considered to be inadequate (or 'barely' as shown in the table above). For such reasons, the allotment of funds to the department of Parks and Gardens perhaps need reconsideration to improve on the services of the facilities in the future. The department of Emergency Construction Cell shares a similar status of inadequate cost-worthiness which suggests that schemes implemented under this department have to be revised and altered for higher benefits.

6.6.2 Maintenance and Utilization of Assets: Villager's Opinion

Table 6.6.2.1: Villagers' Opinion on Maintenance and Utilization of Assets in Darjeeling

Village name	Maintenance of Collective Assets	Degree of Utilization	Cost Effectiveness	Rise in Income
Sukhia(rahji)	Poor	Poor	None	Unsure
Surni Busty	Poor	Effective	Barely	Unsure
Singbuli	Satisfactory	Effective	Unavailable	Unavailable
Kharey Gaon	Poor	Poor	None	Unavailable
Yanku Basti	Poor	Effective	Unsure	Unavailable
Baraging	Poor	Effective	Unsure	Unavailable
Bunklung	Satisfactory	Effective	Unavailable	Unavailable
Nigaley gaon	Poor	Effective	Unavailable	Unavailable
Toklang	Satisfactory	Effective	Unavailable	Unavailable
Chotta Tingling	Poor	Effective	Unavailable	Unavailable
Dudhia	Satisfactory	Effective	Unavailable	Unavailable
Mahakal dara	Poor	Effective	Unavailable	Unavailable
Bada Bhalu Khop	Poor	Effective	Unavailable	Unavailable
Tripai	Satisfactory	Effective	Unavailable	Unavailable
Sindebung busty	Satisfactory	Effective	Unavailable	Unavailable

In Darjeeling, the program is designed to create only collective assets and there are no individual beneficiaries. In the perception of the villagers, maintenance of collective assets created under HADP is poor in nine villages and satisfactorily maintained in six villages. Again this perception is relatively more negative as compared to that of the line departments. The collective assets are maintained by the Department in thirteen villages. In two villages, villagers were of the opinion that no mechanism of maintenance existed. In 87% of the cases, the schemes have been perceived to be effectively utilized.

Table 6.6.2.2: Summary of Results from Section 6.6.2

Darjeeling	Cost Effectiveness	Degree of Utilization of Assets
Villager's Opinions	Incomplete Information	87%-'Effective'

Except for the villages, Kharey and Sukhia (Rahji), the villagers perceived the assets as useful. This suggests that *hypothesis is accepted in case of Darjeeling as far as the degree of utilization of assets is concerned as assets have proven to be extremely beneficial to the villagers*. No specific conclusion can be drawn upon the cost worthiness of the schemes due to lack of information.

6.7 Conclusions on Comparative Study: Assets Utilization and Cost Effectiveness

The table 6.7 is based on results from tables 6.4.2, 6.4.2.2, 6.5.2, 6.5.2.2, 6.6.2, 6.6.2.2 wherein the responses from line departments and villager's opinions on the degree of utilization and cost-effectiveness of assets provided under each sector and in each village have been compared. The non statistical hypothesis was that responses from the line departments and those of the villagers would indicate the same levels of usage or condition of the assets (since there is no data that can be used to exactly measure or quantify the responses). A percentage value was calculated on their responses that ranged from 'effective' to 'poor' and the results from the sections have been summarized as follows:

Table 6.7: Results of the non-statistical hypothesis on utilization of assets and cost effectiveness

HYPOTHESIS	North Cachar	Karbi Anglong	Darjeeling
<u>Utilization of Assets</u>			
The perception of the line departments that there has been effective utilization of assets created under HADP, is supported by the users	Rejected	Rejected	True
<u>Cost Effectiveness</u>			
The perception of the line departments that the performance of HADP schemes is cost effective (in the two districts of Assam), is supported by the users	Rejected	Rejected	Inconclusive

It is clearly evident from the table that in the hill districts of Assam, villagers' opinions vary from those of the line departments on issues of both the utilization of assets and cost effectiveness. While line departments in both Karbi Anglong and North Cachar hills classify assets as 'effective' in about 83.34% of the cases, the villager's opinions vary significantly in the districts and is about 6.67% in North Cachar and zero percent in Karbi Anglong. In terms of cost effectiveness, while Karbi Anglong line departments suggest 100% cost effectiveness and 66.67% in North Cachar, the villager's opinion are quite different (80% 'barely cost effective in North Cachar and Karbi Anglong). **In Darjeeling however, as far as utilization of assets is concerned, the villager's opinion match with the opinions of the line departments (100% degree of effective utilization of assets as per line departments and 87% as per villager's opinions) and we see that the hypothesis may be accepted.**

6.8 Physical Verification of Assets created under HADP

An effort was taken by the research team to physically verify the assets at all the three districts of the study during their field visit.

Physical condition of HADP assets in the three districts have been tabulated as follows:-

Tab: 6.8 Physical condition of HADP assets in the three districts

Districts	Types of Assets	Status
Karbi Anglong	Pucca road in Ranghang gaon	Good condition
	Small bridge between the village of Lekhte and Lekhte Gaon	Its broken and needs repair
	Renovation of culvert in Lense Rangang	Good condition
	Repaired road in Dekai Bey	Again needs repair
	Metal road in TokbiAreng	Metal road exist though tars and pebbles are loosened
	Repairing of school toilet in Desai Rangpi	Good condition
	Road embankment in NamTaradubi	Bad state
	Plastering of panchayat building in Ninkeeng	Very good state
	Road repairment in Uttar Barbill	Again needs repair
	Renovation of culvert in BasuGaon	Poor condition
NC Hills	Installation of tube well in Langdisa	Very good condition
	Road repaired in Jorai Bhatari	Again needs repair
	Metal road in Saron	Good condition
	Construction of compound wall in Govt school in Baojen	There was no wall during the visit
	Road repair in N. Dukaling	Road needs repair
	Installation of tube well in P. Hajon	People are benefitted
	Construction of road in Dihar Phanglo	Road needs repair
	Culvert repair in Rilai	Very good condition
	Road renovation in Hereido	Poor state
	New road in Mabao	Road is in good state
	Road repair in Nilan Kalachand	Good condition
	Road repair and renovations in Sonapur	Again needs repair
Darjeeling	Construction of community hall in Mirik	Good condition
	Development of Tourist Spots on Kalimpong road	Good condition
	Construction of footbridge in Karseong .	Needs repair
	Construction of protection wall, primary health care centre in Darjeeling	Almost good state
	Restoration of road after landslides in Between Darjeeling and Mirik	It is in good condition
	Setting up of Momo shops on the hills of Kalimpong	Very good condition
	Decorative flooring work of restaurant in Kalimpong	Good condition
	Renovation of park and garden in Mirik	Good condition

7. Impact on Livelihood of Beneficiaries

7.1 Benefits

This section reports the perception of the beneficiaries on individual schemes in the two hill districts of Assam. Since there were no beneficiary oriented schemes in Darjeeling, similar information could not be presented for Darjeeling. In Districts of Karbi Anglong and N.C. Hills of Assam, information was collected from sample beneficiaries based on beneficiary level questionnaire.

Table 7.1: Source of information on HADP

Information Source	Number of Beneficiaries	%
Information Received From Official Sources	187	62
Neighbors and Friends	88	29
Other local sources	13	5
Others	12	4
Base:	300	100

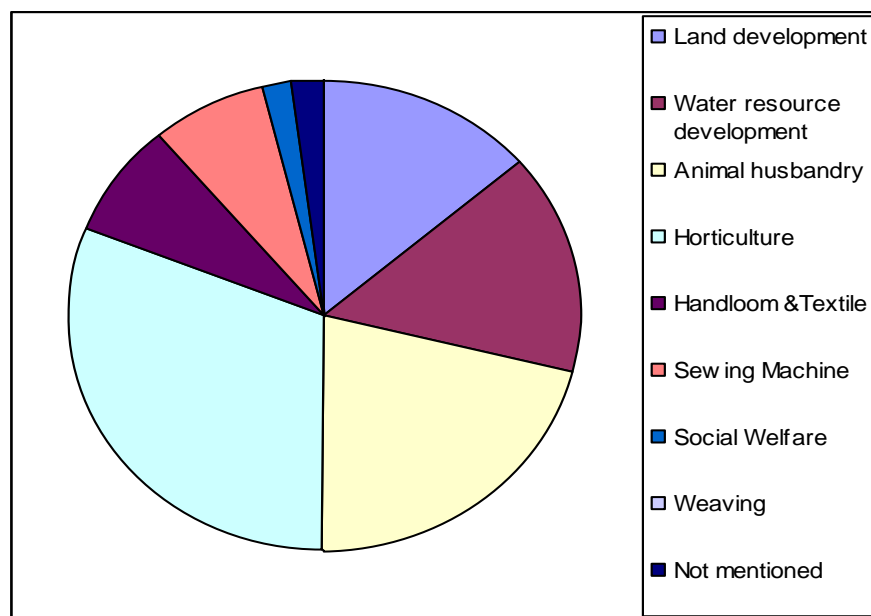
Data Source: Beneficiary Schedules

Primarily, the beneficiaries (62%) have received information about HADP schemes from official sources, as is evident from the table above, irrespective of their educational background. The other most prominent source from where the 29% beneficiaries received information was from neighbors and friends.

7.1.1 Types of Benefit

From the table 7.1.1, it is evident that among the sample of beneficiaries, maximum benefits were available from horticulture and animal husbandry sectors. Land and water resources development proved to be the next important sectors. A few received assistance from weaving, handloom activities and social welfare schemes. This picture also holds true even where we classify the beneficiaries according to their educational background.

Table & Chart 7.1.1.1: Quantifying the kinds of benefit available under each sector



Benefit	Number of Beneficiaries	%
Land development	42	14
Water resource development	45	15
Animal husbandry	64	21
Horticulture	92	31
Handloom & Textile	24	8
Sewing Machine	21	7
Social Welfare	5	2
Weaving	1	0
Not mentioned	6	2
Base: All		

Table 7.1.1.1 suggests that in the sample of beneficiaries considered, both the literate class and the illiterate class finds employment and/or benefits from animal husbandry, horticulture and water resource development being part of HADP fund. Land Development sector is another important source of employment for the illiterate. HADP in real terms have helped in generation of additional livelihood measures thereby increasing the 'standard of living' of the beneficiaries.

Table 7.1.1.2: Receipt of the Benefits by level of education in the hill districts of Assam

	Illiterate	Literate	SSC/HSC & upper
	%	%	%
Land Development	15	11	11
Water resource Development	23	22	11
Animal husbandry	23	36	24
Horticulture	23	31	27
Handloom and Textile	4	0	2
Sewing Machine	8	0	16
Loom	0	0	0
Social Welfare	4	0	2
Weaving	0	0	0
Not mentioned	0	0	7
Base: All			

7.1.2 Difficulties in Receiving Benefits

Table 7.1.2: Percentage of Beneficiaries having no problems in receiving Benefits

	Districts in Assam			
	Karbi Anglong		NC Hills	
	N	%	N	%
Yes	78	52	69	46
No	72	48	81	54
Base	150	100	150	100

An interesting observation that was made in the districts of Assam was that nearly 52% of the villagers/beneficiaries in Karbi Anglong and 46% in North Cachar hills suggested no issues or difficulties in receiving the benefits.

7.1.3 Kinds of Difficulties

Table 7.1.3: Kinds of Difficulties in Receiving Benefits

Difficulties	Male	Female
	%	%
Difficult Procedure	20	64
Delays in receiving the benefit	77	33
Demand of money by Officials or others	3	3
Base in absolute values:	210	90

The kinds of difficulties faced in receiving benefits have been listed in the table above. Interestingly, majority of the male beneficiaries faced the problem of procedural delays in receiving the benefit while their female counterpart faced problems due to the difficult procedures. In terms of numbers, about 162 male members have reported to have problems with receiving the benefits compared to 30 female members.

7.2 Value of Benefits Received

Table 7.2: Monetary value of the benefits received (%)

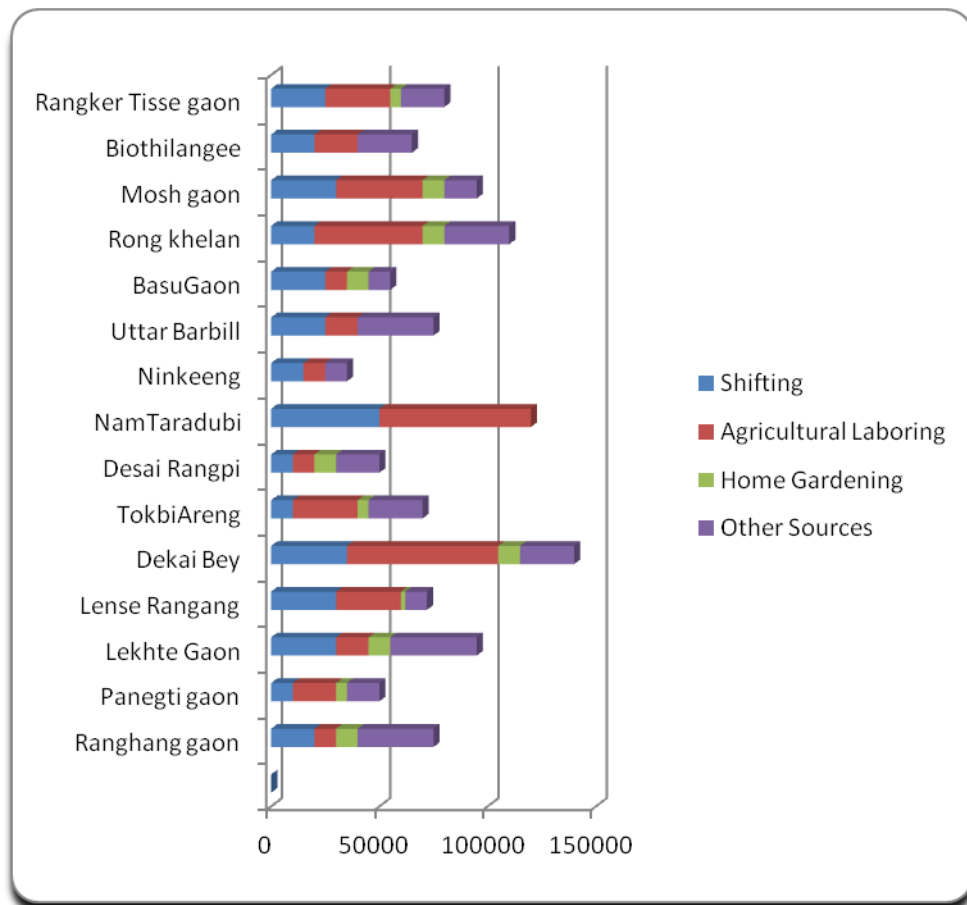
Money Value (Rs)	Districts	
	Karbi Anglong	NC Hills
	<i>(Percentage of beneficiaries in each slab)</i>	
1000 – 1999	21	20
2000 – 3999	25	17
4000 – 4999	18	19
5000 and above	15	40
Not Mentioned	21	4
Mean	2957.14	5420.14

The direct monetary value of the benefits received under this scheme is shown in the above table 7.2 and has been directly stated by the beneficiaries as the total monetary earnings they have received from the benefits provided under HADP. The monetary value of the benefits received is substantially higher in NC Hills where 40% of the beneficiaries received benefits of value greater than Rs.5000 compared to only 15% in Karbi Anglong. As a result, the mean value of the benefits received has also turned out to be much higher in case of N.C. Hills.

7.3 Annual income of Working Population in Sample Villages in Karbi Anglong

A more in-depth analysis of the returns from each high earning sector has been discussed in this section so as to develop an understanding on the annual income of the villagers who are employed. The chart 7.3 shows percentage of the per family annual returns in the sample villages in Karbi Anglong from each sector.

7.3: Graphical Illustration of the Average Family Annual Income of the villagers in Karbi Anglong



by Sector (in Rs.)

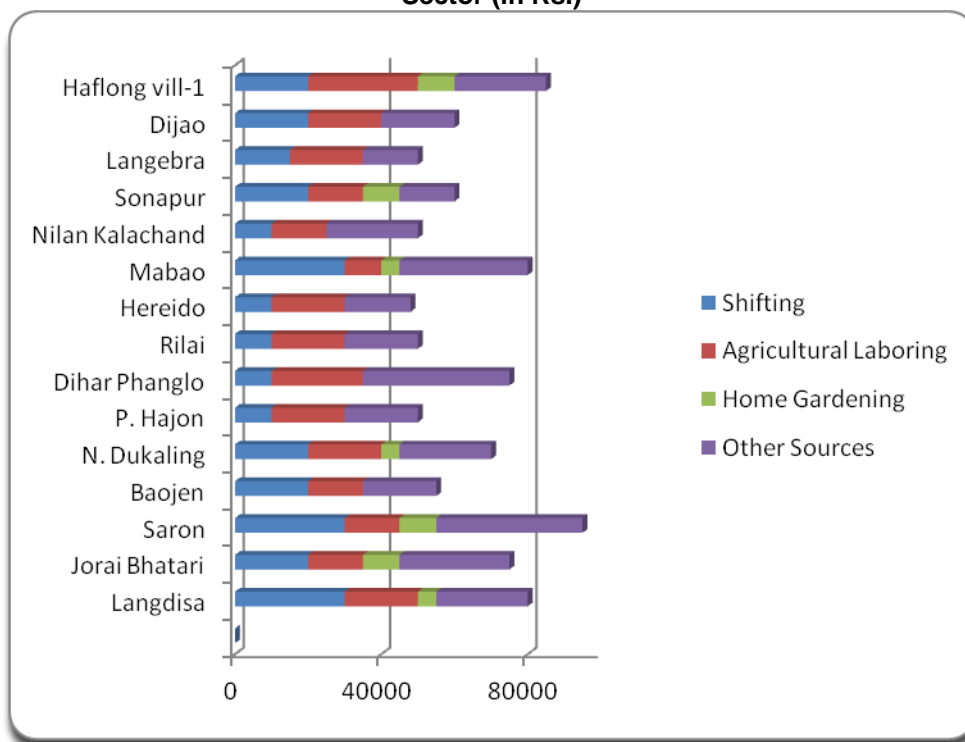
Source: Data provided in Appendix 5

The chart shows that villages like Dekai Bey, Nam Taradubi, Rong khelan and Mosh Gaon have higher annual earnings among villagers among all the villages under study as all the sectors in these villages are yielding higher returns. This shows that the sample of villages in Karbi Anglong are not equally developed. Returns from agricultural produces and farming seem to be dominating the sources of income in the hill areas in Karbi Anglong, in way of agricultural laboring or shifting cultivation. In view of this, it is therefore necessary to find ways of alternative employment and tap resources of income from other sources, so as to reduce dependence on agricultural practices.

7.4 Annual income of Working Population in Sample Villages in North Cachar Hills

The contribution of each of the sectors in annual income generation among villagers of North Cachar (chart 7.4) clearly shows the percentage return from each sector and that shifting cultivation, agricultural labour and income from other miscellaneous sectors have been the primary income generating sectors, just as in the district of Karbi Anglong. Saron, Mabao, Langdisa and Haflong have higher annual earnings among villages that have been sampled. However, it is also noticeable that the allied sectors (e.g. fishing, plantation, fruits and vegetable processing industry, sugarcane refining, tea industry, and jute industry) in North Cachar Hills are highly productive in generating income and is perhaps more developed than what has been found in Karbi Anglong.

Chart 7.4: Graphical Illustration of the Income of villagers (per family) in North Cachar Villages by Sector (in Rs.)



Source: Data provided in Appendix 4

7.5 Additional Income Generated from Schemes and Sustainability

Table 7.5 shows that in both the areas average additional annual income generated from the benefits received from the HADP schemes is around Rs.14000, amounting to Rs 1200 per month approximately. The information was gathered from beneficiary level schedules.

Table 7.5: Additional Annual Income Generated Due to Support

Additional Annual Income (Rs.)	Karbi Anglong	NC Hills
	%	%
4000 -4999	11	7
5000-7999	8	3
8000 -13999	19	12
14000-19999	16	41
20000-20999	30	28
21000 and above	16	9
Base	100	100
Mean	14270	14440
Mode	15000	12000

Source: Beneficiary Schedules

Additional income due to HADP has generally sustained till the date of the survey. 83% of the beneficiaries have reported that sustenance is not an issue as can be seen from table 7.5.1.

Table 7.5.1: Sustenance of Additional income from Beneficiary Schedules

Period	N	%
Only for few days	5	2
Less than two months	3	1
Less than one year	10	3
Less than two year	32	11
Sustained till now	250	83
Total	300	100

With respect to agricultural income, the table 7.5.2 shows that the agricultural yield per hectare increased by a considerable amount and is sustained till the date of the survey for about 47% for the beneficiaries in NC Hills as compared to only 41% in Karbi Anglong. However, a sustained rise in yield per hectare occurred in 82% of the cases in

Karbi Anglong (includes 41% of cases where the agricultural income 'increased marginally till date' and an additional 41% where the same 'increased considerably till date'). As for NC Hills, the proportion varies and the total is 72% (25% for 'increased marginally till date' and 47% for 'increased considerably till date').

Table 7.5.2 Agricultural Yield per Hectare from Beneficiary Schedules

Status of yield	Karbi Anglong	NC Hills
	%	%
Increased marginally for some time	11	6
Increased marginally till date	41	25
Increased considerably for some time	7	22
Increased considerably till date	41	47
Base: 300 Beneficiary schedules		

7.6 Additional Area Brought Under Cultivation due to HADP

It is worthwhile to note that additional area brought under cultivation is similar in North Cachar hills and Karbi Anglong as a result of HADP implemented schemes. In maximum number of cases, the land that has been included for cultivation is in the range 81 to 90 cents (0.32 to 0.36 ha) in both the districts.

Table 7.6: Area brought under Cultivation from Beneficiary Schedules

Areas (in Cents)	Districts			
	Karbi Anglong		NC Hills	
	N	%	N	%
40-50	1	0.7	0	0
51-60	0	0.0	0	0
61-70	1	0.7	1	0
71-80	34	22.7	16	10.7
81-90	52	34.7	48	32.0
91-100	15	10.0	5	3.3
Not Mentioned	47	31.3	80	53.3

Source: Beneficiary level Schedule

7.7 Number of New Variety of Crops Introduced

Another achievement of HADP is the introduction of new crops in the area in both the districts of Assam. As the table below suggests both in Karbi Anglong and North Cachar Hills, two new crops named Manoharsali and Rangilee variety of paddy have been added to agriculture in 84% and 63% of the cases of beneficiaries.

Table 7.7: Number of new variety of crops introduced

New Crops	District			
	Karbi Anglong		NC Hills	
	N	%	N	%
1	15	21	13	12
2	45	63	89	84
3	10	14	3	3
4	1	1	1	1

7.8 Performance of HADP

Over and above, it can be inferred that HADP has been a 'boon' to the local residents of the villages being surveyed during the study.

Additional income amounting to Rs 1200 per month approximately was noted due to HADP. With respect to agricultural income, the yield per hectare increased by a considerable amount however with a difference in percentage in the two districts of Assam. The other benefits of HADP were better roads, culverts, school buildings, installation of tube-well, minor irrigation works, purchase of loom-as individual assets, livestock, plants and saplings in their homestead and in the community. People have better communication, access to transportation and safe drinking water were the other important benefits of HADP though it cannot be quantified in the present context.

In the hilly district of Darjeeling, the benefits were judged on an individual level. The impact of HADP can be overseen by creation of various parks & gardens, better hilly roads, parapets across the hilly roads in Kalimpong, Mirik and Darjeeling. Installation of tube-well in one of the schools, repairing and construction of toilets on the hilly roads were covered under HADP.

8. Eco-Restoration and Eco-Preservation

8.1 Shifting Cultivation and Life of People in the Hill Districts of Assam

Unlike many other parts of India, where even villages are in some way or the other connected to the capital markets, albeit through informal means, people in the rural hills of Northeast India for the most part still engage in pre-capitalist sustenance activities, with surplus produce sold in nearby bazaars. The most important and widespread activity is shifting cultivation, of primarily the slash-and-burn variety along the hill slopes. This practice, called jhum, usually ensures enough grains and vegetables for the entire year.

In this form of cultivation, men and women play equally large roles, with women often even playing a dominant role especially in deciding the distribution of the produce and the selling of the surplus. Jhum is a livelihood generation activity for food sustenance, and constitutes a large chunk of the labour performed by rural folk in the hilly regions of the Northeast. Jhum requires chopping firewood along a tract of hill-land, clearing that tract through controlled fires for cultivation, cultivating on the land as per a tight seasonal schedule, and then carrying large bundles of firewood back to one's village in the evening for cooking fire.

The time period for Jhum is fairly strict, especially keeping in mind that there is heavy rainfall in the area, requiring the land to be cleared and seeds sowed in time for the monsoons. The forest land is usually cleared in December and January by slashing at shrubs, and cutting trees, while leaving tree stumps and roots. The slashed vegetation is then allowed to dry for a month or two before burning the tract of land in March. In addition to clearing the land, the burning of the leftover vegetation returns nutrients to the soil through ash and the killing of microbes allowing relatively higher yields. Seeds are then sowed, which mainly consist of cereals, vegetables and oil seeds.

The practice is usually driven by sustainability. The village or group of villages practicing Jhum on one particular tract of land continue to do so until the soil is depleted of

nutrients and then move on to another tract allowing the former tract of land to regenerate. In earlier times, with lower population numbers, the land would be cultivated on for 10-20 years, but now it rarely goes beyond three to five years, due to greater pressures on the land for food. The acute time-sensitivity of the cycle is important to note as this feature of the practice is most affected by the various ongoing conflicts in the region. According to certain environmental experts, ecologically, the practice of jhum, has a deleterious effect on the local environment causing landslides.

It is, therefore, very important to study the impact of jhum cultivation in the hill districts of Assam from the ecological point of view. In Darjeeling, this form of shifting cultivation is not predominant and hence, shall not be discussed in this section. There is little doubt that as one of the most highlighted goals of HADP, eco-preservation and eco-restoration efforts need to be encouraged in the hill districts of Assam and West Bengal. Thus, all kinds of known and unknown livelihood practices that have the potential to challenge sustainability of the environment in these ecologically vulnerable areas need to be researched upon and alternative options for sustenance identified. Future considerations for a possible alternative means of occupation for villagers practicing jhum in Assam would only be possible when their dependence on jhum is known along with their returns from this form of cultivation, the constraints they face while practicing jhum and other related issues. This chapter makes an attempt to assess the importance of Jhum in the two districts of Assam with 'opinion charts' on matters such as "possibilities of rise in income" among villagers from jhum, their perceptions on the harmful effects it has on ecology and the "possibilities of shifting to plantation crop" in the area given the soil quality and climate variations. A similar attempt to identify eco-preservation related efforts in Darjeeling have yielded some facts on 'soil conservation' that shall also be discussed in the latter part of this chapter.

In our study area of N.C. Hills and Karbi Anglong in the district of Assam, we find Jhum is still quite popular. The following data explains that in different study villages, villagers derive substantial proportion of their income from the Jhum cultivation. The component of income due to Jhum varies from 20% to 40% in both the districts.

8.1.1 Opinion Chart on Jhum Cultivation in Karbi Anglong

Opinion charts were designed for villagers and based on the participation in group discussions from 15 different villages, villagers' opinion on the income potential of jhum, the eco-fragility of jhum and the potential of settled cultivation was gathered. The tables below are showing the proportion of three different opinions about three different issues relating to jhum

The qualitative data below reveals that in 80% of sample villages studied in Karbi Anglong, villagers have raised their doubts about the potential of rise in income by jhum cultivation. Only a few believe that it is possible to have sustained income from jhum. More than 70% of the villagers in group discussions shared the view that "jhum may have partially harmful impact on conservation of ecology." It is a noteworthy finding that majority of the village people think that settled cultivation of cash crops and plantation crops is acceptable if a higher income is ensured in short and long term. Only 2 out of 15 villages under study mentioned that settled cultivation is acceptable if it is introduced as a supplement to Jhum and not as a substitute and only 1 village, the general consensus appeared to be that possibility of shifting to settled cultivation was not acceptable to them since this was against their tribal practices. ***Thus, the majority of them are willing to substitute plantation crops to jhum in Karbi Anglong if guaranteed returns are ensured from the earlier. Hence, it is clear that lack of options is actually compelling the villagers towards jhum cultivation.***

Table 8.1.1: Opinions on the Acceptability of Jhum Cultivation with regard to Eco-preservation in Karbi Anglong

Village name	Possibilities of Rise in Income	Impact on Conservation of Ecology	Possibility of Settled Cultivation of Cash and Plantation Crop
Ranghang gaon	High	Partially Harmful	Acceptable
Panegti gaon	Low	Partially Harmful	Acceptable
Lekhite Gaon	Low	Greatly Harmful	Acceptable
Lense Rangang	Low	Partially Harmful	Acceptable
Dekai Bey	Low	Partially Harmful	Acceptable
TokbiAreng	Low	Greatly Harmful	Acceptable
Desai Rangpi	High	Partially Harmful	Not Acceptable (against tribal practices)
NamTaradubi	Low	Partially Harmful	Acceptable
Ninkeeng	Low	Partially Harmful	Acceptable
Uttar Barbill	Low	Greatly Harmful	Acceptable, only if used as supplement to Jhum
BasuGaon	None	Greatly Harmful	Acceptable
Rong khelan	Low	Partially Harmful	Acceptable
Mosh gaon	Low	Partially Harmful	Acceptable, only if used as supplement to Jhum
Biothilangee	High	Partially Harmful	Acceptable
Rangker tisse gaon	Low	Partially Harmful	Acceptable

8.1.2 Opinion Chart in North Cachar Hills

As the table below suggests, in case of N.C. Hills, villagers in 60% of the sample villages were willing to engage in settled cultivation of cash and plantation crops as a supplement to Jhum for income generation. Only 20% of villagers were of the view that Jhum has high to limited future potential based on possibilities of 'rise in income'. Villagers from 40% of the villages expressed that Jhum is 'greatly harmful to conservation of ecology', which is a significantly high number. This shows that villagers from both N.C. Hills and Karbi Anglong are willing to consider plantation crops to jhum if they are assured of guaranteed returns from such practices.

Although initial perception was that plantation crops should be a *supplement to jhum* cultivation, a further more specific conclusion derived through deep probing was that villagers might agree to replace jhum in the long run if their

returns from alternative sources are adequate. As mentioned above, this has been noticed in Karbi Anglong as well.

The above opinions, therefore, leave substantial room for policy makers to balance eco-preservation objectives and introduce agricultural practices that eventually shall displace Jhum, if possibilities of higher returns from plantation crops are ensured for the beneficiaries.

Table 8.1.2: Opinions on the Acceptability of Jhum Cultivation with regard to Eco-preservation in North Cachar Hills

Village name	Possibilities of Rise in Income	Impact on Conservation of Ecology	Possibility of Settled Cultivation of Cash and Plantation Crop
Langdisa	High	Greatly Harmful	Acceptable
Jorai Bhatari	High	Greatly Harmful	Acceptable, if introduced as supplement to Jhum
Saron	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Baojen	None	Partially Harmful	Acceptable
N. Dukaling	None	Partially Harmful	Acceptable
P. Hajon	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Dihar Phanglo	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Rilai	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Hereido	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Mabao	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Nilan Kalachand	None	Partially Harmful	Acceptable, if introduced as supplement to Jhum
Sonapur	None	Greatly Harmful	Acceptable
Langebra	None	Greatly Harmful	Acceptable
Dijao	Limited	Greatly Harmful	Acceptable
Haflong vill-1	None	Greatly Harmful	Acceptable, if introduced as supplement to Jhum

8.1.3 Aspects of Jhum

The question of ecology in certain hill areas like those of the North-East will defy solution unless a viable alternative to shifting cultivation is evolved. The planning frame even for those hill areas which depend primarily on shifting cultivation is the same as that of the national plans or the state plans. The result is that even though there is great concern for shifting cultivation and special programs are launched, in many cases they are unable to go beyond the pilot phase. But small programs, which have no

significance in the overall agricultural development of these areas, may claim unduly exaggerated attention simply because they may happen to be the main thrust for economic development in the region or the country. The basic issues of shifting cultivation are, therefore, by-passed. Such an approach will continue to yield illusory results so far as the question of providing a strong economic base to the hill areas is concerned. It is necessary that in all such hill area, the plans of development are built around shifting cultivation and all other programs including those of agriculture, forestry, infra-structural development, socio services etc. should be supportive to the basic issue of solving the problem of shifting cultivation.

8.2 Soil Conservation in Darjeeling

An important aspect of eco-preservation practiced very dominantly in Darjeeling is soil conservation. Since the DGHC has been implementing all programs in this area and there is no clear distinction between HADP and DGHC sponsored schemes, soil conservation efforts practiced in Darjeeling by the DGHC would involve HADP funds as well and hence we have devoted some space to the study of soil conservation in Darjeeling.

Agriculture in Darjeeling is grossly rain dependent and distributed within pre-kharif and kharif seasons. Cultivation in dry months is practiced in patches where residual moisture prevails and/or limited irrigation from hilly streams or jhoras exist. Almost all the arable lands have a slope of more than 8% gradient. In some cases poor farmers are usually seen cultivating very steep slopes of 25% or even more. The distribution of annual rainfall is uneven – more than 805mm of the precipitation falls within June to September. So, the farming community faces surplus water for about five months and scarcity of water from February to May. These conditions necessitate aggressive intervention in conserving soil during the monsoon and harvesting precious life saving irrigation water for the dry seasons. This could be successfully done by covering the farmlands with permanent fruit plants and by constructing suitable water harvesting structures in marginal lands. Preserving the bio-diversity is also an important aspect of natural resource management – which has been consciously included under the work item of Agro Forestry.

The seasonal streams annually wash out considerable chunks of exposed banks. People living in remote villages cannot afford to control this loss on their own, as it entails huge expense as also technical expertise. So, treating the vulnerable stream banks and diverting surplus flow of rain water to needy areas will serve the purpose double fold.

Table 8.2: Area under Different Crops in DGHC area, Darjeeling

Crops	Area (Ha)	Average Yield Quant / ha	Production during 2005-06 (in 000 MT)
Aman Paddy			
High Yielding variety	3,337.00	17.54	5.85
Local	6,660.00	15.95	10.62
Maize	25,343.00	24.00	60.82
Millet	11,255.00	12.00	13.50
Kharif Pulses			
1. Mashikalal	625.00	6.25	0.39
2. Soyabean	490.00	6.00	0.29
Wheat			
1. High Yielding variety	678.50	15.46	1.04
2. Local	7.00	11.78	0.0082
Buck Wheat	500.00	15.00	0.75
Cardamom	2,874.00	2.45	0.70
Winter Potato	1,736.00	122.55	21.27
I. Summer Potato	2395.00	100.00	23.95

Source: Darjeeling Gorkha Hill Council, Annual Action Plan for the Year 2006-2007

Since efficient use of irrigation water is the need of the day – attempt has been made in the recent past to introduce use of sprinklers and drip irrigation methods. This approach has been readily accepted and adopted to some extent by progressive farmers of Darjeeling hills. If adequate support system is established in future, water requirement of the farming community could be fulfilled to a great extent through this approach.

Policy makers need to emphasize on irrigation efforts in order to enhance soil preservation efforts in Darjeeling. Although, a lot has been achieved in this regard, it is easy to identify from the table below that plantation crops in Darjeeling are very common and better facilities of irrigation would help in sustainability of livelihood among villagers in these areas ensuring sustainability of the environment.

9. Financial Progress

9.1 Mechanism of Flow of Funds

Currently, funds under HADP flow from the Government of India to the consolidated funds of the State Governments and are released to the departments concerned.

Funds are released in two installments – first, 80% on the receipt of the plan proposal and the remaining after 60% of the first installment has been utilized. In subsequent years, the unspent balance of the previous year would be deducted while releasing the second installment.

The assistance given for HADP is on 90:10 basis i.e. 90% grant and 10% loan. The States have been asked to raise a portion of 10% loans from the market. However, this portion of the loans may be difficult to raise. In case of West Bengal, the loan portion was not released to DGHC during 2006-07. Therefore, the entire SCA should be on 100% grant basis as is being done for BRGF, BADP, etc.

9.1.1 Flow of fund from Government of India to State Nodal Department

Funds are released in two to three installments from Planning Commission, GOI to the state governments which in turn releases the funds in half yearly installments that goes to the Autonomous Council accounts.

In the districts of Assam, in the matters of preparation and finalization of Annual Plans, powers have been entrusted to the Council and a suitable mechanism has been evolved for adequate and prompt release of fund to councils by the State Government. Before the beginning of the financial year, the Planning Commission of India indicates the size of the State Plan and the allocation is communicated to the councils for preparation of their budgets. Subsequently, after the passing of their own budgets by the two councils, copies are sent to the State Government, for inclusion in the State Budget. Various State Government departments release their funds in half yearly installments, as per the budget allocations, which are deposited in the P.L. Accounts of

the Councils. The Councils then sanction and release the funds for salary and development activities through the treasuries. In each Autonomous Council, there is a District fund to which all funds received by the Autonomous Councils are credited.

In the district of West Bengal, at the time when the study was being conducted, the DGHC handled the matters relating to HADP and SCA. Funds under HADP flow from the Government of India to the Consolidated Funds of the State Governments and are released to the departments concerned. It has been noticed that in some of the cases, there is considerable delay in the release of funds to the implementing agencies. It has also been reported that over the years, since the formation of DGHC, the flow of funds whether out of State Plan or SCA has not been on a definite pattern.

Ideally, funds should be released in two installments – 80% on the receipt of the plan proposal and the remaining after 60% of the first installment has been utilized, which was not found for the period of the study. In subsequent years, the unspent balance of the previous year would be deducted while releasing the second installment.

Deviations with regard to the above were found in all the three districts under study.

Table 9.1.1: Flow of Funds from State to District Nodal Office in Assam

Year	Month of submitting UC for Previous Year	Total Release (lakh Rs). from the Center during the Year	Month of Submission of Annual plan	Month of release of first installment	Month of Submitting progress report of 1st Quarter	Month of Release of 2 nd installment	Submitting progress report of 2 nd Quarter
'02-03	April,03	5111	Feb'03	May'03	July'03	Sep'03	Nov'03
'03-04	April' 04	5111	Feb'04	May'04	July'04	Sep'04	Nov'04
'04-05	April '05	5111	Feb'05	May'05	July'05	Sep'05	Nov'05
'05-06	April '06	5111	Feb'06	May'06	July'06	Sep'06	Nov'06
'06-07	April '07	8267	Feb'07	May'07	July'07	Sep'07	Nov,07

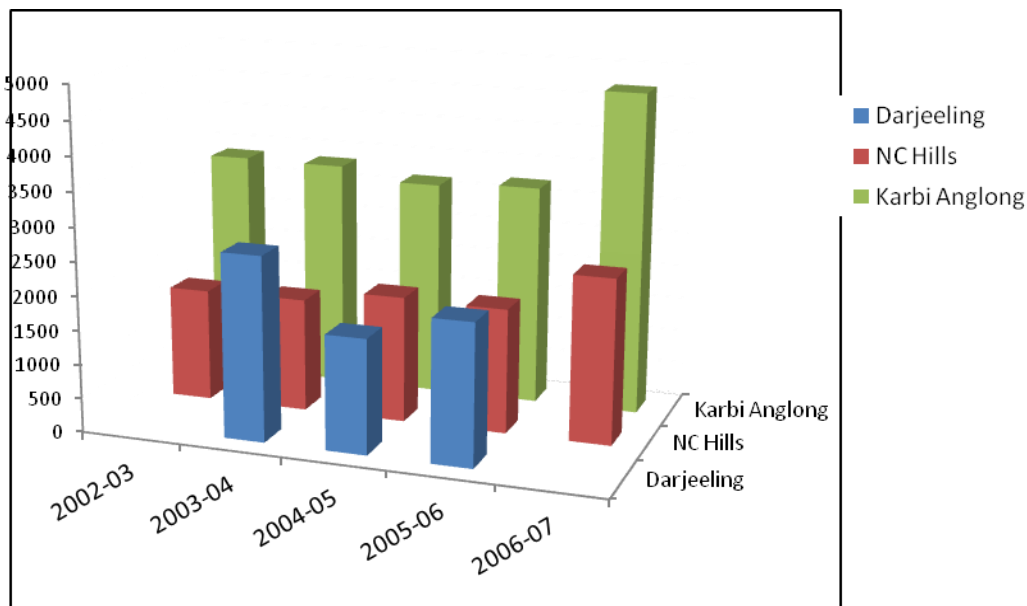
Note: 'UC' stands for Utilization Certificate

Funds received by the state government are released by the state government to the respective Autonomous Hill Council. In Assam, the funds are released to the Karbi Anglong and N.C. Hills Autonomous Hill Councils in two installments. In West Bengal,

the Secretary, Hill Affairs Department releases the funds to the Principal Secretary, DGHC, usually in three installments annually.

It has been noticed that in some of the cases, there is considerable delay in the release of funds by the state government to the implementing agencies occurring mainly due to the delay in submission of the utilization certificates by the various line departments from the districts of Assam and Darjeeling. The reason for this backlog can be attributed to absence of officers being available to make the submissions on time or documents being unavailable when needed. The delay in release of the same was frequently experienced by all the districts. It has been seen that there were discrepancies in the allocation of funds released to the departments by the council. This is a frequent practice in N C Hills over Karbi Anglong. Noticeably, in N C Hills district, the release of funds to departments has been more often less than what was sanctioned.

Chart 9.1.2: Comparative Analysis on Pattern of Release of funds in the districts under study 2002-2007



As the figure 9.1.2 indicates, the state has released HADP funds for all the five years for both the districts in Assam but only for three years in Darjeeling. In the two Assam districts, there has been substantial increase in the funds released in

the fifth year. Among the three areas, the Karbi Anglong has been the largest recipient of HADP funds. Details of fund allocations have been provided in the Appendix (Nos. 1, 2&3) for the three districts considered under study.

9.1.2 Flow of funds from Level of Nodal Department to the Implementing Agencies

9.1.2.1 Karbi Anglong

KAAC (Karbi Anglong Autonomous Council) releases funds to the implementing agencies in three to four installments. The condition for release of installment is submission of proposal along with plans, estimates and project proposal.

9.1.2.2 North Cachar Hills

Funds are provided in two installments From District Nodal office to implementing departments such as the PWD, PHE, Irrigation, Water resources, Agriculture, Social Welfare. The pre-requisite for the timely flow of funds is the level of progress on program works.

9.1.2.3 Darjeeling

The line departments submit their requirements and utilization of previously released funds to the finance department which in turn scrutinizes the utilization, bills and the requirements of DGHC before releasing the funds to the line departments. The departments then make payments to the working agencies.

9.2 Financial Allocation and Utilization of funds

The financial allocations made from the district (or Hill Council) level to the line departments is the most crucial stage of the flow of funds because it is at the sectoral or departmental level of the districts where the funds are ultimately transformed into physical projects. The allocation of funds to the departments was obtained from both the district level schedules as well as the line department schedules. While the district schedules give specific break up on department-wise allocation of the funds obtained through Special Central Assistance (SCA) / HADP along with all other sources of funds, such clear distinction on HADP fund utilization has not been available in Karbi Anglong and North Cachar Hills from line department schedules. Financial allocations in North

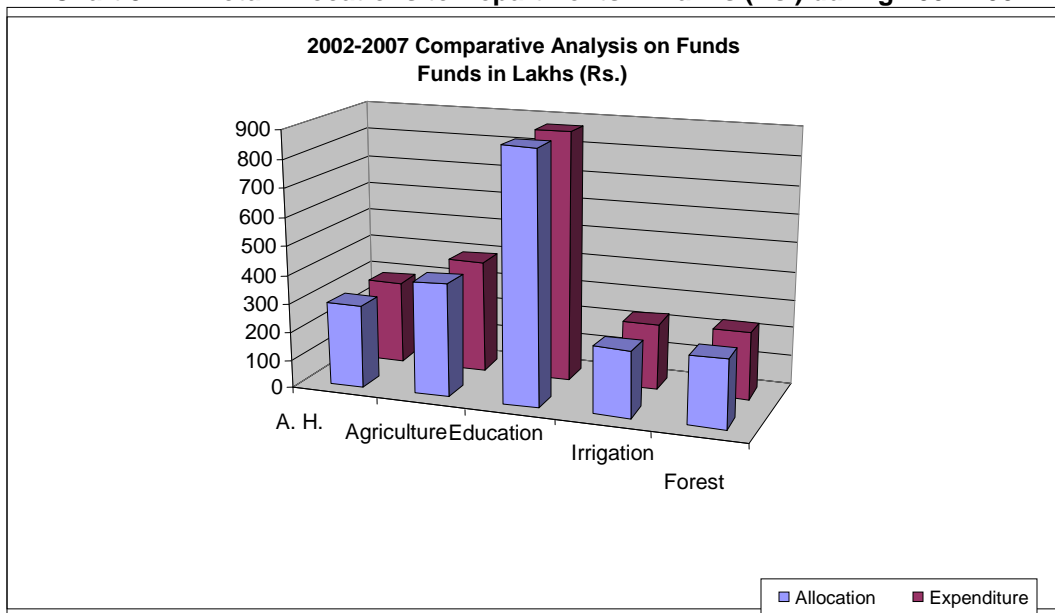
Cachar hills and Karbi Anglong have been provided for the period 2002-2007 and for DGHC, Darjeeling, for the period 2006-2007 in the appendices given at the end of the Report. Data on the sectoral allocation of funds alongwith the expenditures made in each of the five years between years 2002-2007 was obtained from the line departments. Information gathered from individual line departments, however, do not have the same break up on fund utilization (as in the case of the state schedules) and as such there is no clear distinction of amounts received and disbursed for HADP.

Consequently, in the following section, we have concentrated mainly on total expenditures and allocations as received from line departments without specific information on HADP funds.

9.2.1 Karbi Anglong

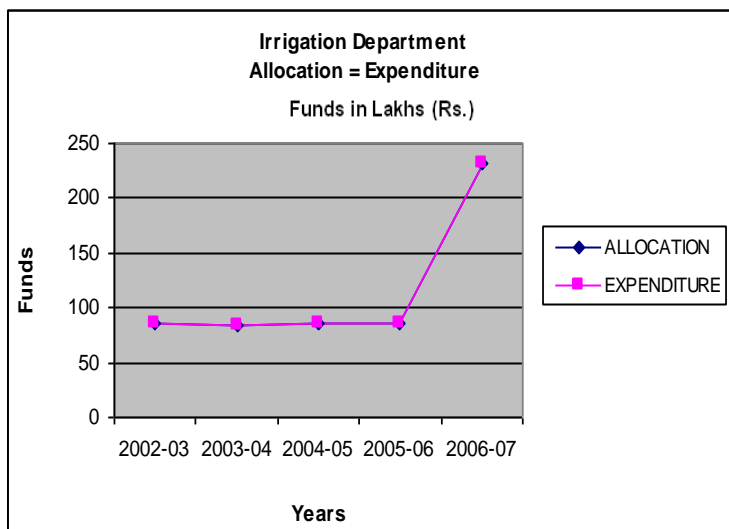
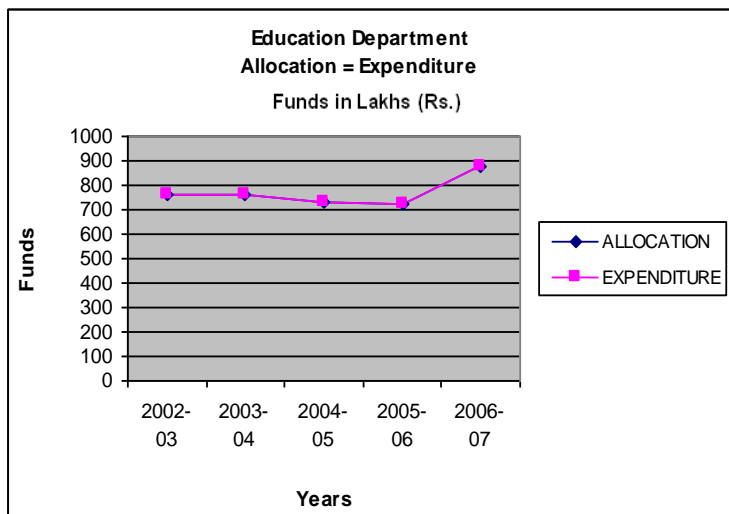
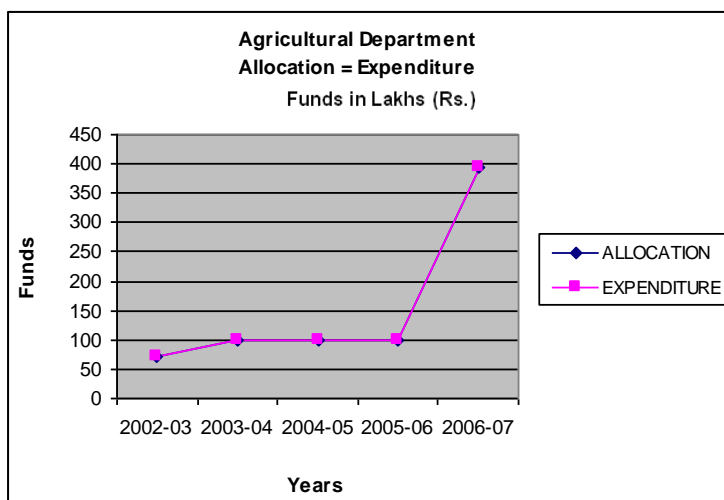
Referring to the chart below, it can be concluded that the largest allocations were made to the department of Education in Karbi Anglong with Agriculture and Animal Husbandry occupying the second and third spots. It, therefore, remains to be debated whether disbursements to the department of education have been made considering the initial objectives of HADP. Further analysis with data on expenditure and allocations reveal the relation between allocation and expenditure of funds in each department.

Chart 9.2.1: Total Allocations to Departments in Lakhs (Rs.) during 2002-2007



9.2.1.2 Total Departmental Allocations vs. Total Expenditure in Karbi Anglong

**Chart 9.2.1.2.1 to Chart 9.2.1.2.3:
Agriculture, Education and Irrigation –
Allocation vs. Expenditure: Karbi
Anglong**

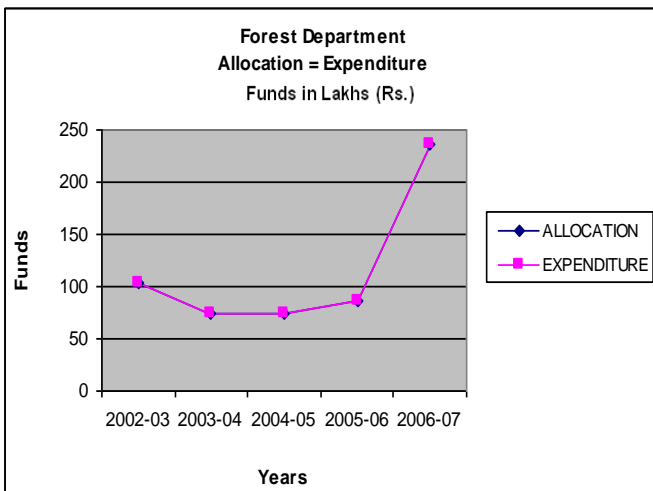


The Department of Agriculture in Karbi Anglong has seen a gradual and steady rise in funds allocated through 2002-2006, and the amounts have increased four times in 2006-2007. Allocations exactly match expenditure.

The Department of Education has always received priority in Karbi Anglong in terms of funds allocated which has always been on the higher side. Yet in 2006-2007, there has been a rise in amount of funds disbursed. As in the other departments, allocations exactly match expenditure in the department of education.

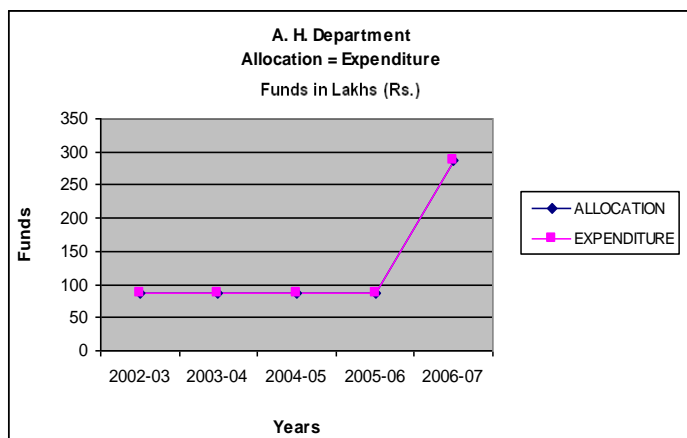
The Irrigation Department has seen a similar rise in allocation of funds as the department of Agriculture, especially in 2006-2007. Allocations match expenditure here also.

Chart 9.2.1.2.4: Forest Department – Allocation vs. Expenditure



The Forest Department shows similar trends in allocation of funds as most other departments. There has been an increase in funds allocated in 2006-2007 as discussed earlier (almost two times). Expenditure also matches allocations throughout the period considered for study between the years 2002-2007.

Chart 9.2.1.2.5: Animal Husbandry – Allocation vs. Expenditure

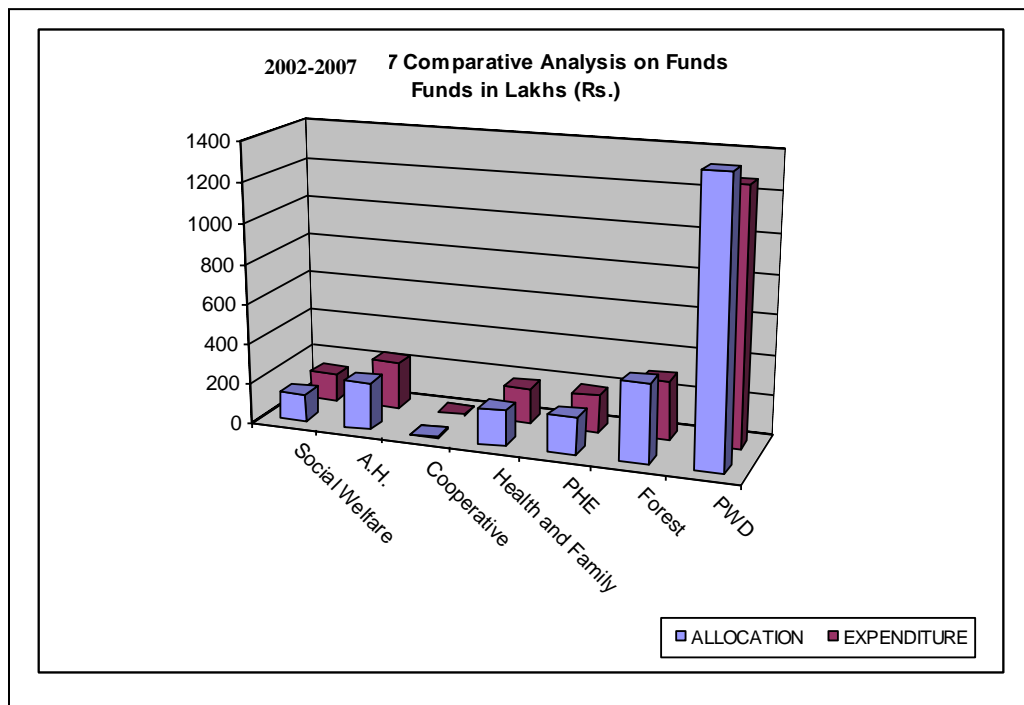


The Animal Husbandry department clearly shows complete parity in allocation and expenditure as exact amounts disbursed have been spent by the department between the annual periods of 2002-2007. However, it is interesting to note here that the department has seen a very high increase in allocation in 2006-2007 as opposed to the other years. It is clear that the department of Irrigation, Agriculture and Animal Husbandry department along with the Forest department has seen sharp increases in funds allocated in keeping with the objectives of sustainability of HADP.

9.2.2 North Cachar Hills

The largest allocations have been made in PWD, Forests, PHE and Animal Husbandry. The greater importance to PWD is presumably due to the rugged and hilly terrain.

Chart 9.2.2: Total Allocations to Departments in Lakhs (Rs.) during 2002-2007 in N.C.Hills



9.2.2.1 Total Departmental Allocations vs. Total Expenditure in North Cachar Hills

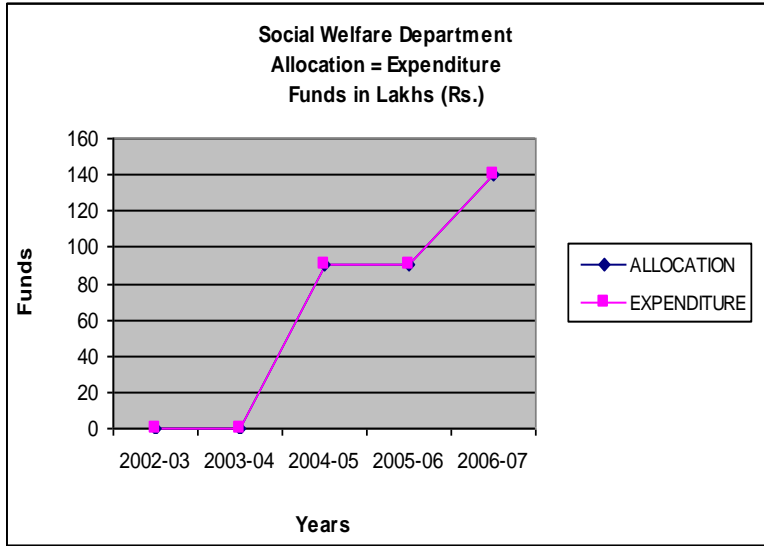
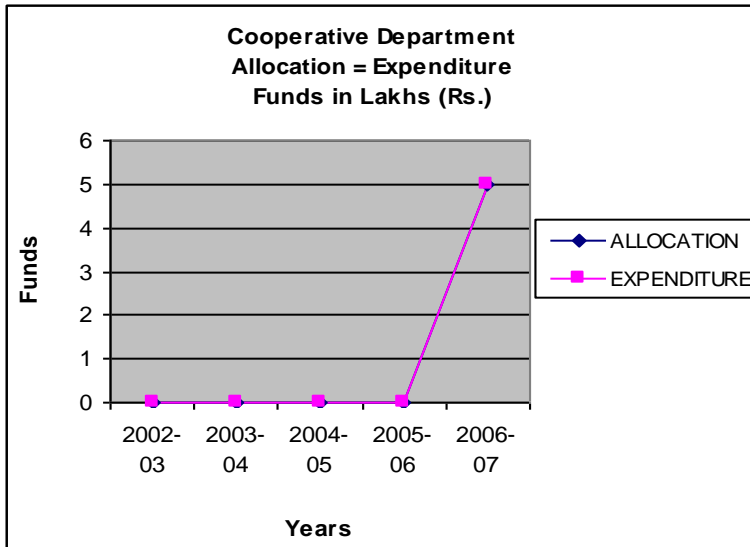


Chart 9.2.2.1.1 to 9.2.2.1.3: Social Welfare Department, Cooperative Department and Health and Family Department– Allocation vs. Expenditure: N.C.Hills

The Social Welfare Department has seen a rise in funds allocation once in 2004-2005 and then in 2006-2007. All allocations match expenditure in this department throughout the period of 2002-2007.



In the Cooperative department there is an interesting fact to note. The department has received no financial allocations until 2005-2006. And in 2006-2007, there has been an allocation of Rs. 5,00,000.

The Health & Family department is one example in North Cachar Hills where allocations actually declined sharply between periods 2004-2006. The department has seen an increase in funds lately in 2006-2007. As noted in other departments, allocations match expenditure levels.

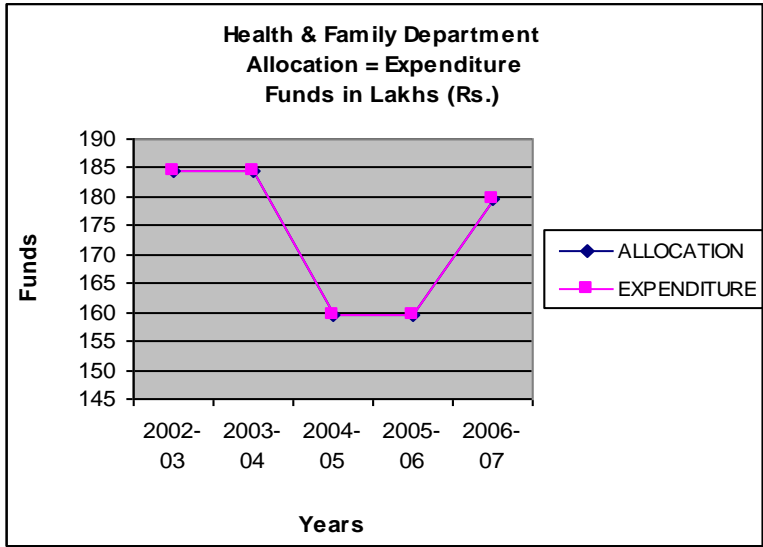
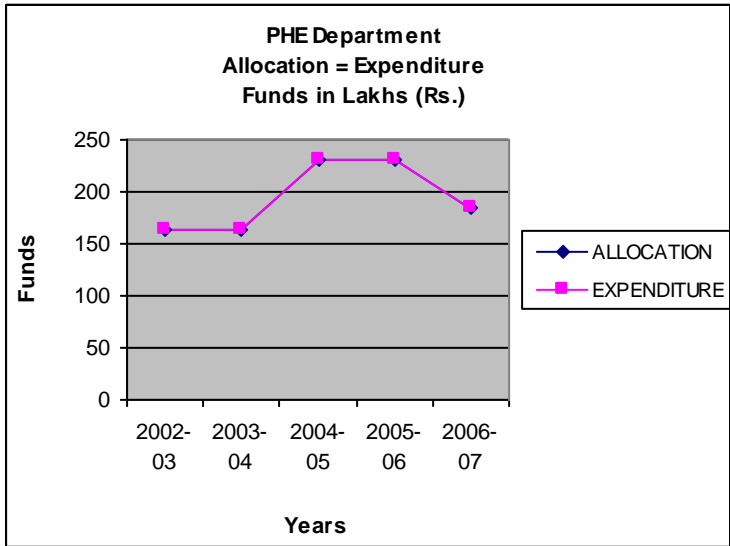


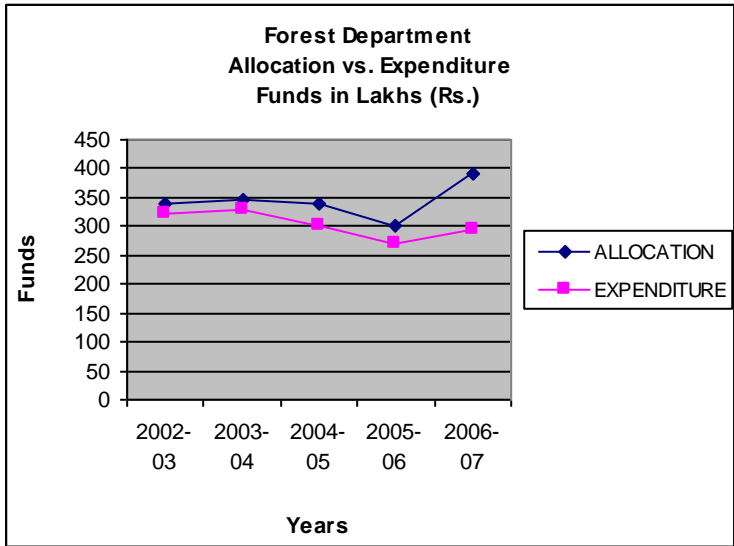
Chart 9.2.2.1.4 to 9.2.2.1.6: PHE, Forest and PWD– Allocation vs. Expenditure

The department of PHE has also seen a decline in the allocation of funds since 2005-2006.

The most interesting fact that needs to be noted in the Forest department is that allocations donot match expenditure levels throughout the period 2002-2007. Expenditure has always been lower than allocations. In general after the period 2005-2006, there has been a rise in allocation of funds in the department.



The PWD department also has similar discrepancies in allocations and expenditure with expenditures exceeding allocations (this could be possible if funds were utilized from non-SCA sources for covering deficit.) After the huge discrepancy in funds in the period 2003-2004, allocations have been made as needed by the department. In recent years, allocations have been declining.



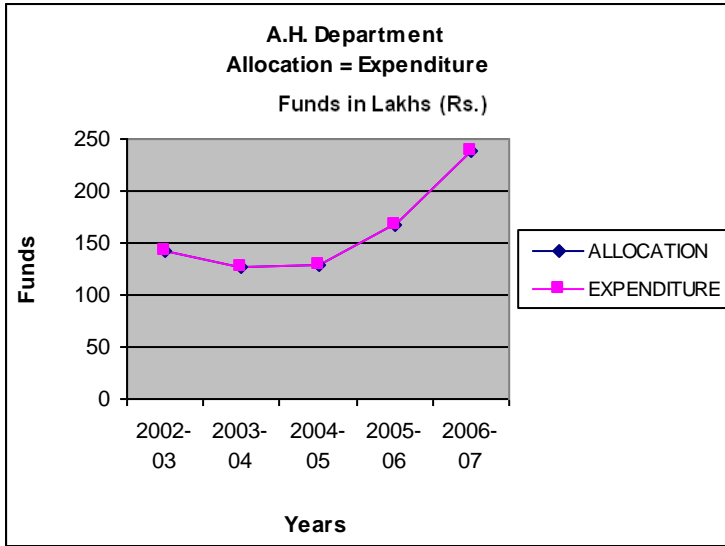
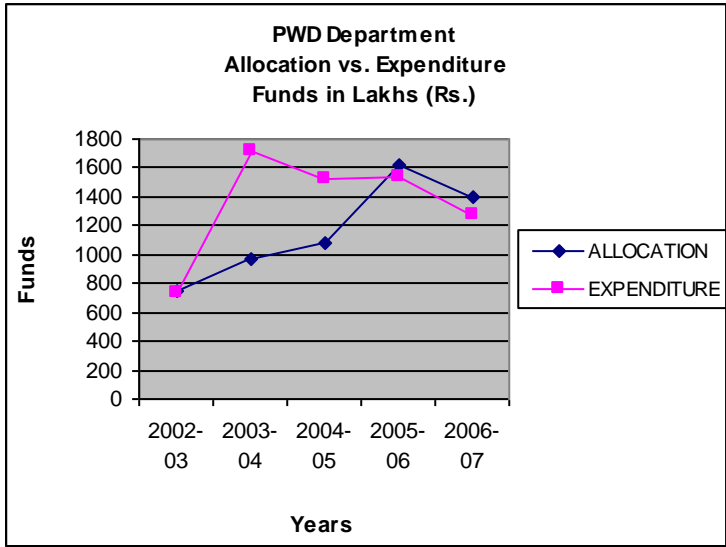


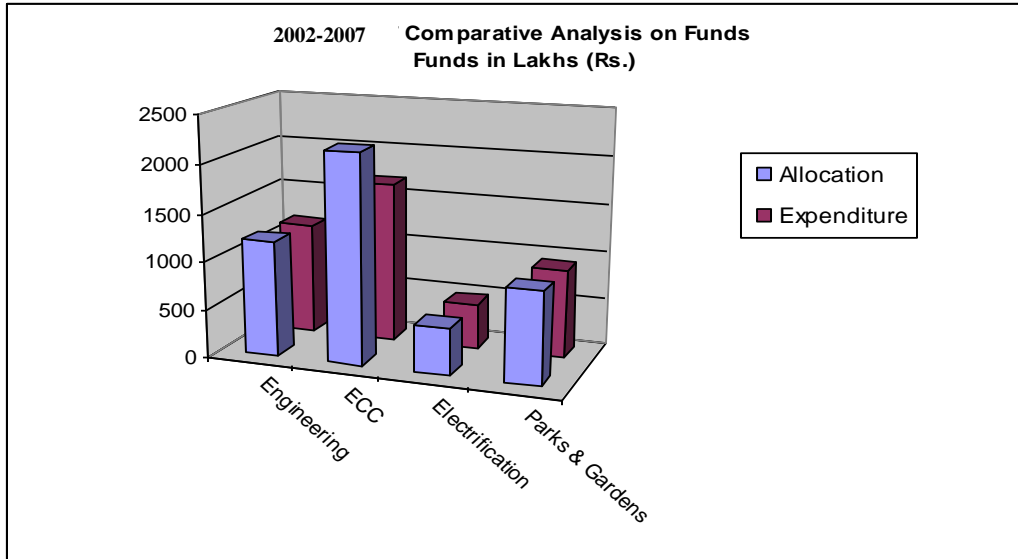
Chart 9.2.2.1.7: A. H. Department- Allocation vs. Expenditure

The Department of Animal Husbandry has seen a gradual and steady rise of funds between periods 2002-2007. Allocations match expenditure within this period.

9.2.3 Darjeeling

In the case of Darjeeling, the allocations for Communications and Education were obtained from the district schedule as there was no response from the respective departments and hence these departments have not been included in the analysis below. The largest allocations were made to ECC (Emergency Construction Cell), Engineering (PWD) and Parks & Gardens.

Chart 9.2.3: Total Allocations to Departments in Lakhs (Rs.) during 2002-2007



9.2.3 Total Departmental Allocation vs. Total Expenditure in Darjeeling

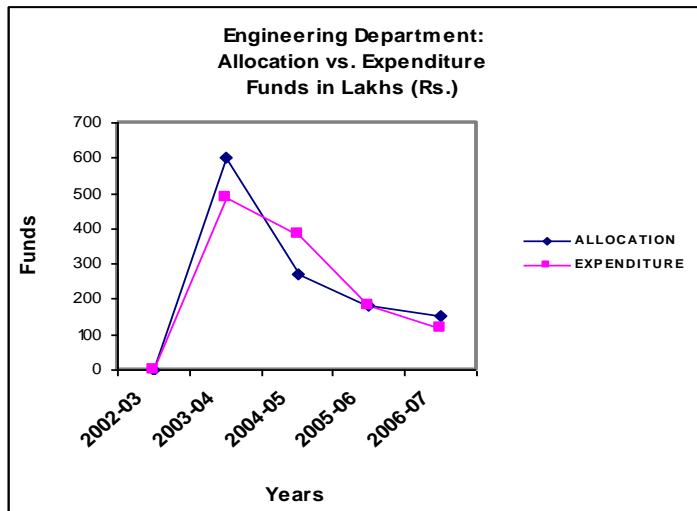


Chart 9.2.3.1 to 9.2.3.3: Engineering, Rural Electrification and Parks and Gardens Department– Allocation vs. Expenditure

As opposed to the departments in Assam, in Darjeeling, there has been discrepancies in allocation and expenditure in the departments who have responded with data.

The Engineering department shows a clear decline in allocation of funds in recent years. Similar is the trend in the Departments of Rural Electrification and the Parks & Gardens. The department of Parks and Garden has however seen the highest variation in the funds allocated through the period 2002-2007.

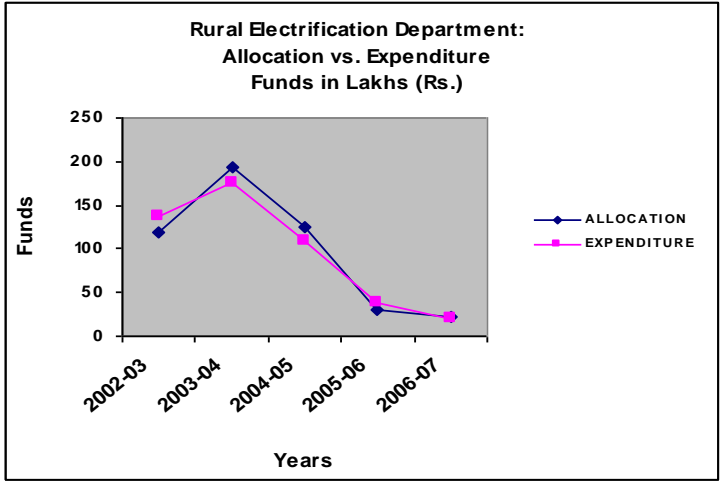
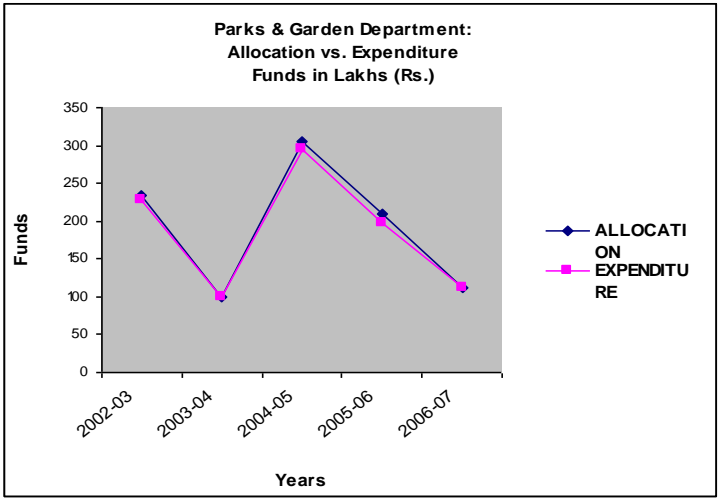
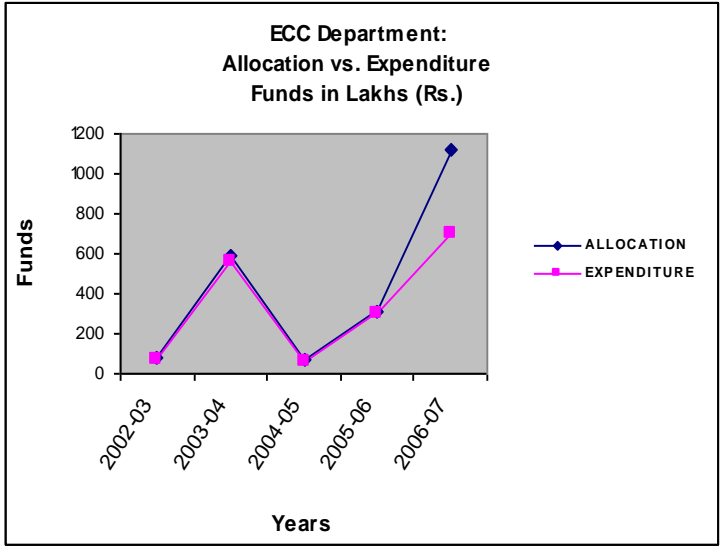


Chart 9.2.3.4: ECC Department– Allocation vs. Expenditure



The department of Emergency Construction Cell has however seen a rise in funds allocated. Funds had almost declined to zero in 2004-2005 and thereafter there has been a steep rise till 2006-2007.



9.3 Conclusions

- Education has received a priority in Karbi Anglong in terms of allocation of funds throughout the period 2002-2007. It remains to be decided however whether funds from HADP can be utilized for this particular sector as a priority when other sectors like Animal Husbandry, Irrigation and Agriculture need to be supported as well (especially when dedicated schemes like SSA are already in operation). Till the year 2006-07, other departments had very low allocation of funds.
- While education has received a priority in Karbi Anglong, funds in Darjeeling and North Cachar hills were directed more towards building of infrastructure through various line departments.
- In North Cachar hills, PWD and PHE departments have seen a decline in allocation of funds in 2006-07 in contrast to the other departments. The Cooperative department has received the first disbursement of funds as late as in the year 2006-2007. For Forest and PWD departments, the allocations have also not been matching the levels of expenditure. In aggregate, highest allocation has been made to the department of PWD within the period 2002-2007.
- In Darjeeling, the Parks and Garden department, the Engineering department and the Rural Electrification department has seen an overall decline of funds during the years under study. The ECC department has however received higher funds during the latter years.
- Apart from Special Central Assistance (SCA) given by the Planning Commission, HADP districts of Assam and Darjeeling have received additional funds from Sarva Shiksha Abhiyan(SSA), Pradhan Mantri Gram Sadak Yojana (PMGSY), National Rural Health Mission(NRHM), Integrated Child Development Services(ICDS), National Rural Employment Guarantee Act (NREGA)etc. Darjeeling in addition receives fund for Agriculture, Social Forestry, Horticulture, West Bengal Rural Energy Development Corporation (WBREDC)etc.VY
- An important point to note here is that, barring a few cases, total expenditure has in general always matched the total allocations to various respective departments in all three districts, reflecting that annual targets on expenditure might have not been preset.

- Although there has been clear distinction of HADP fund allocation and utilization at the state level in all three districts, the same has not been retrievable at the line departments. Clarity on break up of the HADP funds has not been found in the line department schedules.
- **Utilization pattern of funds in Darjeeling is very different from that of districts of Assam. It has been noticed that large funds remained un-utilized during the reference period in Darjeeling. Substantial SCA funds were also allocated to other state government departments in Darjeeling. These funds were also underutilized as large balance of sanctioned funds remained in Collector`s personal ledger (PL) account. It is surprising to note that there has been almost 100 per cent utilization of funds released to various departments in both the districts of Assam. More than 60 per cent of total funds allocated to the departments were spent on salaries and wages. Poor co-ordination among state government department and DGHC has resulted in duplication of some of the schemes in Darjeeling.**

On reviewing the financial and physical progress of various departments it is suggested that a priority of five departments are prepared for each district considering the local need, local resources, ecology, terrain and sustainability of programme.

Tab: 9.3 Proposed Departments for HADP

Karbi Anglong	North Cachar Hills	Darjeeling
Flood Control	Land Development	Transportation
Agriculture	Terrace & Water harvesting	Forest
Forestry & Wild life	Road & transportation	Horticulture
Minor Irrigation	Command Area Development	Tourism
Handloom & textile	Sericulture	Minor irrigation

10. Accomplishments of HADP & Recommendations

This chapter reviews the accomplishments of each sector included under HADP and reviews the possibilities for improvement, if any, based on the 'feedback' of the villagers/beneficiaries along with recommendations for improvement for policy makers. Discussions in the chapter therefore bring forth some important conclusions on possibilities of changes in each of the sectors, combining the suggestions of the line departments and the villagers who state their opinions on the services and facilities of HADP. Based on these, an attempt has been made to put forth some observations that may provide some insight in deciding the future course and policy changes for HADP. At the end, the chapter also provides two tables (10.6.1 & 10.6.2) that summarize the conclusions made from the opinions of the line departments and those from the villagers. The contrast of opinions shows gaps in implementation of HADP and avenues where the policy makers can devise policies for sustainable development.

10.1 Karbi Anglong

10.1.1 Infrastructure:

Physical Achievement: The Department has made new additions such as construction of new roads in 10 villages, new bridges in 4 villages and drains and culverts in 1 village

Villager's Feedback: Villagers from 9 villages have said that the infrastructure built was useful. However villagers from 4 villages have also stated that the 'quality of the construction has been poor'. (Source: FGD)

Recommendations: There is a need for improvement in terms of the numbers and quality of facilities provided keeping in mind the local needs.

10.1.2 Education:

Physical Achievement: Under HADP, there has been construction of high school & LP School buildings in 2 villages.

Villager's Feedback: Appreciated. In 2 villages, there has been improvement of school furniture and building. In 3 villages free textbook up to class VII has been supplied.

Physical Achievement: ME scholarship has been awarded to the meritorious students in two villages

Villager's Feedback: Very supportive for the poor families

Physical Achievement: In 2 villages, boundary wall of the school buildings have been made.

Villager's Feedback: There has been contrasting opinions. Villagers of 1 village have stated that it is safe for the children while some of from other villages have warned that height of the boundary wall is very short and not enough for the safety of children.

Physical Achievement: In 2 villages, drinking water facility to LP /Me/High School has been provided.

Villager's Feedback: Again there has been contrast in opinions. According to the villagers in 1 village, drinking water provided is not pure. While another has stated that the facility is good for children.

Physical Achievement: Excursion funds to the school and college have been provided to one of the sample schools.

Villager's Feedback: Not adequate.

Physical Achievement: In another village, money has been spent on development of playground.

Villager's Feedback: Villagers are happy with that, as there were no playgrounds in villages earlier.

Physical Achievement: Money of HADP was spent on extension of the College/ School building in one village.

Villager's Feedback: The villagers have stated that the school has been very useful it as there is only one school and college in the whole area.

Recommendations: School infrastructure such as school buildings, walls, playgrounds, water outlets, furniture and sanitation facilities for children definitely need more emphasis for development in the upcoming plans for approval. While facilities need to be provided, maintenance has to be one of the priorities in the education sector. The contrast of opinion among villagers where such facilities have been provided suggest that schemes implemented under this sector need more monitoring and evaluation after the implementation phase. If funds are a constraint, then that needs to be identified and informed state level agencies. It might be useful to do a more in-depth study on number of schools that are in operational phase across villages with needs for development and an estimated request for funds put through to the state agencies accordingly. Targets have to be set for successful implementation of village oriented plans for better education among children.

10.1.3 Portable water:

Physical Achievement: Under HADP, Portable water, has been supplied through pipeline in all the fifteen villages.

Villager's Feedback: For people of 8 villages, supply of water has not been sufficient for the villagers. As per the villagers in 2 villages, it has been very good because water was very scarce in these prior to the establishment of pipes. In 1 village, villagers have suggested that there is poor management and impure water. In 4 other villages, natural water has not been pure and sufficient; hence this particular source of pure and protected water has been good.

Recommendations: Portable water seems to be a necessity in most of the villages and pure and drinkable water has been scarce in general. Given this fact, there may be need for additional sources of water made accessible to the villages, either through separate pipelines and/or alternative means. In addition, there needs to be 'quality' checks on the water being supplied and water quality standards set for monitoring and evaluation.

10.1.4 Water for irrigation:

Physical Achievement: To provide water and irrigation facility, water has been supplied to the fields in villages covered under HADP schemes through pumps from bore well.

Villager's Feedback: According to people of 7 villages, good cultivation practices have been satisfactorily implemented & more crops could be produced due to irrigation facilities. Villagers in 3 villages have stated that crops being raised successfully on the irrigated land. According to the rest of the villages, water made available has been insufficient for their agricultural practices.

Recommendations: While irrigation facilities provided under HDAP schemes have proved to be a boon to the villagers, there is also definite need for additional pump facilities for greater water supply as more than 50% of the sampled villages have remarked that water supply is inadequate for agricultural practices. However, this seems to be a positive effort in addressing constraints being faced in agriculture for sustainable development as agriculture is one of the highest income generating sectors in areas covered under HADP.

Agricultural Issues:

- Under HADP works, 2 villages have been harrowed. Additionally on another 7 villages, cutting and leveling by a dozer of the hilly area has been done. 1 village has reported Ploughing of paddy field by a tractor has been done.

Villager's Feedback: According to the villagers of all these villages, the steps have been very helpful to the farmers for cultivation.

- Paddy and fruit seeds were distributed to 3 villages.

Villager's Feedback: Villagers of one village said it is good because it solved the problem of quality seeds. The people of other two villages complained that, all people did not receive seeds.

- It has been noted that fertilizer has been supplied in one village only.

Villagers' Feedback: Useful for farmers

Recommendations: It might be worthwhile to note here that in the hilly terrain, ploughing of fields is a very cost-worthy and useful practice for farmers and hence a certain number of dozers or tractors could be made available to villages (or at the district level for use in the villages based on the number of inhabitants in the village). Supply of seeds and fertilizers, following traditional guidelines for improving agricultural productivity seem to be equally worthwhile but the supply chain for these goods have to be established more effectively so that the villagers from all villages have equal or convenient means of acquiring them. A very small number of villages have been provided such services through HADP programs. There is a definite need for enhancement of services in irrigation.

10.1.5 Afforestation:

Physical Achievement: Plantation has been done in hill areas and in village areas in 11 villages under HADP.

Villager's Feedback: Villagers in 4 villages have greatly appreciated plantation efforts as it has contributed to better organization of the areas (particularly as they have stated in 'beautification of the area') and villagers in 3 villages believe that it has led to betterment

of climatic factors. However people of 2 villages complained about the lack of awareness of the villagers regarding benefits from plantation.

Recommendations: From the above reports, it is evident that there is lack of knowledge among villagers on the disadvantages of deforestation in the Hill areas. Specific training and awareness efforts from the Forest Department are needed to educate people on the drawbacks of deforestation and the long term effects it has on climate patterns. The fact that many villagers consider “plantation” to be useful only for “beautification of the villages” show how meagerly informed they are on the actual benefits of the effort.

10.1.6 Ecological Degradation

- o Forest cover: No work has been done in 14 sample villages on this aspect. Only in one village there is good coverage by the forest Department.

Villager’s Feedback: Lack of awareness of the local people is predominant

- o Loss of indigenous plant varieties: Under HADP work, planting of plants of indigenous plant variety has been done in 11 villages.

Villager’s Feedback: Different villages have different opinions about this work. According to 1 village, planting has not been sufficient in comparison to the village area. Other 2 villages have however said that it is suitable for the hill area. People of 2 other villages have added that cutting of bamboo trees and planting other unknown varieties may not be suitable for the village area. Villagers in 3 villages have stated that it is good to maintain ecological balance and try and preserve the environment via such means. However lack of awareness among local people continues to be a major problem in most villages and villagers themselves acknowledge this problem.

- In 2 villages steps have been taken for preservation of the Flora & Fauna.

Villager's Feedback: However villagers state that it was not sufficient and that more steps should be taken to maintain ecological balance. In addition, there should also be individual and community efforts.

Recommendations: Since the 10th Five year plan, ecological preservation has been made a priority in the goals outlined under HADP efforts in all three districts under study. Considering this and the lack of knowledge among villagers regarding need for such preservation, community and village based awareness programs, training and efforts have to be encouraged and sponsored by the respective departments. It is quite evident from the villagers' remarks and opinions that forest work and plantation efforts have been far from adequate. Furthermore, uncontrolled felling and cutting of essential trees such as the 'bamboo' may have long term impact on the ecological balance of the area. So there has to be regular and short monitoring on cutting and felling of trees by the concerned departments as well.

10.1.7 Animal husbandry:

Physical Achievement: In nine villages birds and animals have been distributed to the beneficiaries of animal husbandry. Training has been given on rearing of animal husbandry in 1 village.

Villager's Feedback: Villagers in 8 villages have claimed that the scheme has helped in reducing unemployment. In other villages, people have viewed this as more of a monetary benefit. Training on animal husbandry has also been beneficial to the unemployed people according to villagers.

Recommendations: There seems to be a considerable need for generation of employment in this sector. Previous analysis has provided a snapshot on the most income generating sectors in Karbi Anglong and 'animal husbandry' was clearly not one of the sectors that was developed to provide sufficient employment. So there may be

need for allocation of higher funds in the department for greater distribution of animals and birds for rendering direct benefits to the people seeking employment and/or support in this sector. Specifically, this sector may play an effective role in discouraging Jhum.

10.1.8 Source of fuel

- LPG Gas has been supplied in 5 villages and both LPG gas and kerosene has been supplied in 3 villages. In other two villages LPG gas supply has been improved.

Villager's Feedback: From villages with LPG gas supply only - Only villagers of 3 villages have said they are not getting LPG gas timely, but people of 2 villages have said that it is good for our village. From villages with LPG gas and Kerosene supply only - People from 1 village have claimed that it has been good for their village. Other 2 villages have complained both about the quantity of supply and high price of the fuel.

- Kerosene is being supplied in 5 villages under HADP.

Villager's Feedback: Villagers of these villages have complained both about insufficient supply of kerosene and also for not being supplied LPG gas. Villages have also complained about high price of LPG gas.

Recommendations: The villagers clearly need cooking gas and kerosene more conveniently delivered to them. The "high price of fuel" is also a major issue that needs to be considered and hence the transport costs of cooking gas may be subsidized or price ceilings introduced to control the price of fuel. There might be a need to do the same for kerosene as introducing efficient and economic kerosene stoves are highly necessary to replace 'chullas' causing smoke & pollution.

10.2 North Cachar Hills

10.2.1 Infrastructure:

Physical Achievement: Infrastructure Development received great importance under HADP. In 13 villages of the total 15 that were sampled, new roads, waterways and bridges were constructed under HADP program. In 2 villages there was investment on health service improvement leading to better health infrastructure and construction of a hospital and as a result health services improved.

Villager's Feedback: In general, development in infrastructure has improved road conditions and health facilities and feedback from villagers have been highly satisfactory in this regard for the facilities provided. New roads have made their lives easier through better transport and communication. On the negative side however, it was also found that villagers from only 2 villages were satisfied with the quality of work done, and the rest were reported to be dissatisfied. In many cases, villagers have also thought that planning was poor. The width of road was sometimes narrower than required and hence quality of construction in general needed more attention.

Recommendations: As the above feedback suggests, quality of construction needs improvement in this sector. Effective planning should be focused on construction efforts. Road planning involves various factors that need consideration. For example, when hill sides are cut for construction of new roads, fillings are not done on the sides that make roads seem narrower and prone to damage in the future. The land strip alongside roads should also be well protected for ecological reasons.

10.2.2 Education:

Physical Achievement: To provide better education facility under HADP schemes in North Cachar Hills, six villages had new school buildings constructed. In 8 other villages, new textbooks have also been provided till Class VII.

Villager's Feedback: Villagers are generally satisfied with implementation of schemes under this sector. However as in case of Karbi Anglong, maintenance of school buildings and assets such as furniture are still a major concern for people in the North Cachar Hills. Supplies of text books to needy families have proved to be a really supportive measure for villagers having affordability issues.

Recommendations: Similar opinions to those suggested in Karbi Anglong.

10.2.3 Portable water:

Physical Achievement: In 14 villages drinking water is supplied through pipeline. Only in one village no provision has been made for potable water.

Villager's Feedback: People from 8 villages are glad to have access to pure drinking water, primarily because such outlets were completely missing earlier. 6 villages have been identified to be dissatisfied with the water quality standards and quantity of water. Supplied water is not only scarce but also unhealthy for drinking purposes.

Recommendations: Similar opinions to those suggested in Karbi Anglong.

10.2.4 Water for Irrigation:

Physical Achievement: Water for irrigation is supplied to all 15 villages by means of established pump from bore wells.

Villager's Feedback: Villagers of 8 villages are grossly happy with irrigation water in their fields, as they have the choice of growing more crops successively in the irrigated field. Other 6 villages have complained that irrigation facility provided by HADP is not sufficient for their villages. 1 village has specifically complained about the maintenance of the irrigation facility.

Recommendations: Similar opinions to those suggested in Karbi Anglong.

10.2.5 Agricultural Issues:

Physical Achievement: Seeds and crops have been provided to villagers of 6 villages.

Villager's Feedback: Feedback: Villagers from 4 villages have informed that the seeds were helpful for poor farmers. Villagers from 1 village have however complained that supply of seeds were not sufficient for the farmers. Yet in another 6 villages paddy fields have been harrowed to make Ploughing easier.

Recommendations: Similar opinions to those suggested in Karbi Anglong.

10.2.6 Afforestation:

Physical Achievement: HADP for afforestation undertook plantation of trees on roadsides, fields and in villages in 11 of the sampled villages. Four villages however lacked such plantation efforts.

Villager's Feedback: Unlike the issue of "lack of awareness" among the villagers in Karbi Anglong, villagers from North Cachar Hills have acknowledged the benefits that could possibly accrue from afforestation namely reduced soil erosion, ecological balance, good climate etc.

Recommendations: Plantations need to be stepped up in villages of North Cachar Hills. If funding is a constraint for the department, then financial needs have to be identified on a per village basis for district level knowledge on the span of areas/villages covered.

10.2.7 Ecological Degradation

Work on forest cover remains one of those areas that yet to be initiated. Introduction of indigenous plant variety: In 11 villages, plantation of a variety of trees has been done.

Villager's Feedback: People of 6 villages believe that sufficient work has been done in comparison to the levels of necessity; many have also suggested that it has contributed in reducing soil erosion and maintenance of ecological balance.

Recommendations: Villagers seem to have positive opinions on efforts related to promote ecological preservation in North Cachar. Work on forest covers have not been initiated in any of the villages, suggesting that one or more programs may either have insufficient funds for implementation or reduced emphasis on them. However, plantation has been amply done and unto the villager's satisfaction. The fact that despite no works have been undertaken in increasing the forest cover, the villager's have not expressed any dissatisfaction on that score indicating their lack of awareness.

10.2.8 Animal Husbandry:

Physical Achievement: Scientific training method on livestock and bird rearing has been imparted in 3 villages. Livestock has been distributed to the poor and needy families.

Villager's Feedback: Training efforts have been highly appreciated by the village people as it has contributed to livelihood opportunity for some unemployed people. Yet such efforts have been lacking in about 7 villages which have received no benefits in this sector.

Recommendations: Training and livestock distribution has been very effective in growth of this sector but it is also evident that much is yet to be done as 'animal husbandry' is an important pillar of the hill area economy. As shifting cultivation has been discouraged for ecological disadvantages, alternative rearing can be encouraged, as for example sheep could be reared with advantage in many areas or piggery be an alternative source of income. The sector can offer employment, through training and incentives, as an alternative to shifting cultivation. Generally, it has also been noted that 'animal husbandry' models in the hilly areas follow models of plain areas, not following rules of optimal utilization of extensive pastures. Rational grazing based on community consent should, therefore, be adopted to protect the cultivable area. .

10.3 Darjeeling

The departments from which feedbacks have been received are listed here.

10.3.1 Engineering

Physical Achievement: In 12 sampled villages, there has been construction of roadways, culverts, community halls and bridges, mainly for improved services in tourism.

Villager's feedback: Additional employment and income has been generated for improved services in the tourism sector leading to betterment of livelihood, eg. transportation of local produces to nearby markets for sale, inclusive of establishments of local hawker stalls for momo and other snacks as a direct benefit from HADP funds.

Recommendations: There is a need for monitoring of fund utilization by PWD so as to ensure proper fund utilization.

10.3.2 Parks and Gardens

Physical Achievement: Between the years 2002-2004, several new parks have been created in the sampled villages for improved facilities in tourism.

Villager's feedback: Villagers are however not satisfied with the maintenance of the facilities created. Infact maintenance has been reported to be poor and average in most of them.

Recommendations: There is need for improvement in maintenance efforts in this particular sector and report generation on status of maintenance achieved once the facilities have been created.

10.4 Constraints and Suggestions

This section presents the main constraints faced by the departments in implementing the schemes.

10.4.1 Karbi Anglong

- *Agricultural Sector*: Location of the target villages and poor transport facilities are the main constraints in implementing HADP in the agricultural sector in the district.
- *Education Sector*: There is insufficient flow of funds in remote hilly areas and a guideline provided by the Government does not provide flexibility in implementation.
- *Irrigation Sector*: Some of the main constraints are the frequent strikes in the different organizations and the existing law and order situation. In addition, funds required for frequent maintenance of earth made canal systems are scarce causing damage of the system very regularly.
- *Animal Husbandry*: This sector suffers from communication issues, insurgency problems, unrest and strikes that need to be resolved. Lack of adequate knowledge among villagers and officials who impart training to the villagers for adoption of improved scientific methods prove to be major drawback in implementation of HADP.
- *Forest Conservation*: The hilly terrain makes forest conservation a more challenging issue in remote areas. There are law and order issues that need proper implementation as well.
- *Flood control*: No major constraint has been reported by the officials of the concerned department.

Table 10.4.1: Department-wise perceived constraints in Karbi Anglong

DEPARTMENT	PERCEIVED CONSTRAINTS
Animal Husbandry Dept.	Inadequate knowledge of villagers
Agriculture Dept.	Illiteracy
Education Dept.	Far-flung hilly areas
Forest Conservation	Hilly Terrain, Law and order situation
Irrigation sector	Frequent strikes, Law and Order Situation. Inadequate funds

The above table lists the primary constraints faced by the line departments while implementation of schemes.

10.4.2 North Cachar Hills

- Education: There was no constraint reported by officials in implementing HADP schemes in the district for education
- *Cooperative society*: Poor condition of roads and high transportation cost offer major constraints in implementation of schemes.
- *Social welfare*: Funds are sporadically allocated in this department, not based on the actual needs that exist in the villages, contributing to ineffective results.
- Health: Poor communication, illiteracy, shortage of staff and requirement of more funds against Transport Allowance for staff are the constraints in implementing HADP schemes.
- PWD: Lack of funds, machinery and inadequate planning has been the major hurdles in this department.
- *Forest Department*: Non-timely release of funds, disrupted communication services and ineffective law & order situation has been the reasons for inadequate performance in the department.
- *Animal Husbandry & Diary Department*: Insufficient fund allocation, scarcity of constructional materials and scarcity of water supply were reported to be few of the constraints faced by the department.
- *Agricultural sector*: Insufficient flow of funds, lack of planning, insurgency problem and lack of transparency among HADP staff posed to be the major issues.
- *Soil conservation*: Inadequacy of fund and infrastructure facilities were few of the problems reported.

Table 10.4.2: Department-wise suggestions based on perceived constraints in North Cachar Hills

DEPARTMENT	SUGGESTIONS BASED ON PERCEIVED CONSTRAINTS		
	I	II	III
Social Welfare Dept.	Increase in fund allocation	Improvement of communication	
A.H. & Vety. Dept.	Increase in fund allocation	Timely approval and release of fund	Modernization of technical equipments & machineries
Cooperative Dept.	Through provision of adequate transportation		
Health & Family Welfare Dept.	Increase in fund allocation for P.O.L. expenditure	Fund for T.A. of field staff	Sanction and filling up of more staff posts
PHE Dept.	Concerned authority may take up necessary measures to improve the overall situation		
Forest Dept.	Increase of allocation	Timely release of fund	Improvement of law & order situation
PWD Dept	Provide required fund	Provide required machinery for T&CP	
Information & Public Relation Dept.	More fund allocation		
Soil Conservation Dept.	More fund allocation	Infrastructure facilities	
Education Dept.			
Transport Dept.	Immediate improvement of road condition	Increase of Fund	
Agriculture Dept.	Should have exclusive HADP staff	Should have appropriate planning	sufficient fund flow

10.4.3 Darjeeling

- Engineering: The department of Engineering faces major issues regarding availability of land & insufficient funds in most areas of the Darjeeling hill district except in Kurseong. In addition, the estimated amounts required for construction purposes are sometimes under stated, leading to discrepancy of funds and pending payments after completion of projects.
- Rural Electrification: This sector has not reported any major constraint.
- ECC Department: There is inadequate compensation due to lack of funds in projects that are undertaken by the ECC. In some cases, there is non-agreement with the forest department on issues of availability of land.

Table 10.4.3: Department-wise suggestions based on perceived constraints in Darjeeling

DEPARTMENT	SUGGESTIONS BASED ON PERCEIVED CONSTRAINTS	
Eng. Dept., Kalimpong	Stick to the estimated cost	
Eng. Dept., Darjeeling	Sufficient compensation for the land losers	Work needs to be phased in accordance with available resources
ECC Dept.	Sufficient funds required.	Land related issues need to be resolved with the Forest Department

10.5 Major Conclusions on the Key Sectors under HADP

It is essential to consolidate information from all previous sections that include information on responses from the line departments, villager's opinions and information on direct beneficiaries, felt needs, suggestions and finally on the mechanism of flow of funds to draw some conclusions. *The tables at the end of this chapter provide insightful information for this comparative study, in addition to what has been derived from the previous sections.*

10.5.1 Agriculture

Agriculture is one of the key income generating sectors in the district of Karbi Anglong. The villagers of Karbi Anglong seem to have a more negative perception on overall maintenance, utilization and usefulness of the schemes in contrast to the reports from the line departments, although the line departments have also acknowledged "average" levels of assets maintenance and impact of facilities as 'marginal'. The major issue identified here as a constraint to effective utilization of schemes are flow of funds (as has been illustrated in graphs earlier). Flow of funds in the agricultural sector has not been a priority in the past years between the years 2002-2007 in both the districts of Assam and no information has been received on Darjeeling. Regularity in adequate flow of funds is, therefore, an essential aspect to consider here for further development of the sector.

Due to changing climatic patterns, it is obvious that farmers would resort to shifting cultivation as means of sustenance, consequently, as discussed earlier, having an undesirable impact on ecological preservation. A viable solution to the problem of

shifting cultivation, particularly in the North Eastern part of the country is yet to be found. Even though special programs under Central and State plans have been launched, many of them have been unable to go beyond the pilot phase. The plans in this context should be based on watershed approach in which the sectoral programs like agriculture forestry, plantation, infrastructural facilities, animal husbandry and social services, animal husbandry etc., are integrated and coordinated to enable the *jhumias* to consider settled cultivation. In areas where introduction of settled cultivation will take a long time, emphasis should be on improving the productivity of Jhum cultivation through better agronomic practices including use of improved varieties. Hence, introduction of improved varieties of crops, better quality seeds and fertilizers are key to development in the agricultural sector. Export markets can also be developed and supply chains established for these markets to operate successfully so that villagers have incentives for higher incomes and lesser dependence on subsidies etc. Previously, it has also been noted that agricultural income has not grown as rapidly in Karbi Anglong as it has grown in the North Cachar Hills. This, therefore, indicates that assured returns from agricultural produce is still vulnerable to socio-economic conditions of the people and the weather patterns in the hilly regions. It is here that proper designing of HADP schemes are required. Development of permanent horticulture and land management system as identified by the line departments is key to solving such issues of ensuring increasing returns in the agricultural sector. A proper land use pattern keeping the socioeconomic and ecological parameters in view needs to be in effect. While self-sufficiency in food grains production may be an objective, stress has to be laid on scientific land-use and spatial specialization aiming at top sequencing of crops with appropriate production and productivity rising technology. Thus, changes in land-use, particularly from annual crops to perennial crops, would necessitate extending and strengthening the scope of the communication facilities, marketing network and a strong public distribution system. The whole purpose is to have a long term vision of enhancing sustainability in the villages.

10.5.2 Irrigation

As has been noted earlier from the responses from the line departments on maintenance and utilization of assets have been 'good' proving that whatever has been done to improve the current irrigational facilities has been highly useful across all villages in Karbi Anglong and North Cachar Hills. The officials of the department urged that villagers should reap maximum benefits from irrigation for multiple cropping. Villagers are also in general satisfied with the performance of the implemented HADP schemes, although more than 50% of the villages in the districts of Assam still await funding for establishment of pumps for adequate supply of water. Unless these facilities are installed, jhum cultivation would continue to be a priority in the hill areas among villagers, and objectives of deterring ecological degradation of these ecologically fragile areas would remain incomplete.

10.5.3 Education

The infrastructure in terms of adequate school buildings and other associated school assets have been lacking in most villages in the hill districts. Lack of skilled manpower has also been a major constraint in the development of this sector. It is, therefore, necessary to undertake manpower planning and to look into the specific needs of the people living in the hill area. Supplementing the efforts of Sarva Shiksha Abhijan, enhancement of the literacy percentage in the remote areas of the hills should be made an annual target through schemes implemented under HADP. The hill communities also need to be involved in the management of schools locally for better feedback on the functionality of the educational centers and their problems.

10.5.4 Animal Husbandry

This is one of the very few sectors where we have distinct reports from the opinions of the line departments and the villagers from the districts of Karbi Anglong and North Cachar Hills ('maintenance' and 'impact' is 'average' and 'marginal' in Karbi Anglong whereas 'good' and 'significant' in North Cachar hills respectively). Although facilities provided have been more or less similar, i.e. distribution of livestock etc., villagers of

North Cachar hills seem to be more aware of the benefits that could accrue from this sector than those in Karbi Anglong, needless to say that the sector in Karbi Anglong is not as developed as in North Cachar hills. It has been primarily for this reason that training sessions among villagers of Karbi Anglong have been introduced for better scientific knowledge on animal rearing techniques who are either seeking employment in this sector or are in need of acquiring the necessary expertise to develop their practices in this field. Employment among youth is a major concern here and so training sessions should remain a high priority as one of the facilities that need attention among HADP. Further development in this sector may be considered through programs that monitor the stock of animals and availability and status of pastures and forest. Suitable local breeds which can graze on the undulating terrains should be introduced through natural or artificial insemination. On the other hand, rearing of goats should be discouraged, keeping sheep rearing, pig rearing and poultry as options. Stall feeding habits will relieve pressure on pastures and forests. The program would therefore scientific breeding approaches, strong protective and curative animal health cover and facilities for processing and marketing of the produce. The key is, therefore, to look at the infrastructural facilities being provided at the district levels under this sector, especially in North Cachar hills where the awareness level among villagers is quite high for adapting such techniques, ensuring their entry into this sector from agriculture which has not been yielding adequate returns in the past to animal husbandry. **From previous analysis, it is evident that animal husbandry is one of the high return sectors and hence focus on developing this sector is absolutely essential in order to ensure sustainable livelihoods among villagers in the hill areas.**

10.5.5 Forest Conservation

Efforts to increase forest cover need to be intensified, as have been indicated before. Hilly terrains, remote areas, and lack of adequate law and order machinery in the villages of Karbi Anglong make the exercise difficult. Lack of regular monitoring of felling, cutting and deforestation has been a major issue primarily in Karbi Anglong, as also in North Cachar hills, to some extent. So, HADP schemes that ensure supervision

and proper communication with law officials have to be introduced. In addition, plantation efforts need to be increased in the villages in these areas. As per data on flow of funds in Karbi Anglong, it may be noted that forest conservation has been receiving adequate funds within the period of HADP implementation in North Cachar hills. Serious efforts are required towards restoration of the degraded vegetation and forest cover constituting the life-support system. Forestry programs should aim at fulfilling the national requirements of forest produce, imperatives of ecological balance and socio economic needs of village communities. Identification of ecologically sensitive and vulnerable areas should be taken up and comprehensive plans for their right treatment implemented. It is advisable to adopt new techniques with employment potential in afforestation aiming at reduction in per hectare cost. To conserve forest resources, use of substitute for forest-based industrial raw material should also be encouraged. Important aspects on introducing new energy policy need to be highlighted here:

- Alternative energy policy: To reduce the pressure on the forest and the drudgery to which women are subjected due to use of smoke producing 'chullas', an alternative fuel policy should be evolved and implemented. It should have two aspects, firstly, providing an alternating source of energy such as electricity, including micro-hydels, kerosene/ coal cooking gas at subsidized rate for household consumption to wean away people from fuel-wood and secondly, use of devices such as fuel-efficient ovens and utilization of sawmill.
- Fuel and fodder: To achieve sustained supplies of fuel and fodder, denuded forest lands needs to be afforested with tree species which can provide both fuel and fodder.
- Pricing of fuel: This is an important aspect in maintaining goals of preventing ecological degradation.

10.5.6 Physical infrastructure created under PWD/ECC/Education and other departments

PWD is the sector that has received the maximum flow of funds in between the periods of 2002-2007 for implementation of HADP schemes in the N.C.Hills district of Assam and similarly, the ECC department in Darjeeling received higher funds. Though in the

district of Karbi Anglong, maximum funds have flown to the department of education, there too funds have mainly been utilized on construction of school buildings etc. Yet as we see, monitoring of the work has been inadequately handled in these districts and the 'quality of work done' has raised major concerns among villagers. Newly constructed roads and bridges have been prone to damage and also not satisfactorily built. The quality of the construction, especially those of roads where large share of funds have been invested, are not up to the mark. Heavy rains and landslides were some of the factors responsible for the poor condition of the roads as expressed by the implementing agencies. The line departments have raised issues on lack of adequate machinery. It seems, however, that more number of villages are connected by roads in Darjeeling than in N C Hills. Emphasis of the PWD has been more on metalling, black topping, and heavy gravelling of the major roads and highways than on rural connectivity. However, such concerns can be sorted out once supervision of schemes becomes a regular practice among policy makers to identify the areas of gaps and improve the quality of facilities provided.

10.6 Summary Tables on Findings

Description of Headings in Table 10.6.1/10.6.2

- Guidelines refer to the guidelines of schemes that have been inadequately provided by the District offices.
- 'Flow of funds' indicates adequacy or otherwise of available fund. Delayed availability has also been indicated with a 'x'.
- Lack of training or awareness of programs is captured in the 3rd column for either the staff implementing the schemes or villagers who are the direct beneficiaries.
- Finally 'channel for communications and infrastructure' refers to the availability of infrastructure required for smooth communication such as presence of proper roads and bridges including within department communication between officials.

Please note that 'x' used in the tables 10.6.1 & 10.6.2 on the following pages indicates presence of 'deficiencies' and ✓ indicates adequacy in the departments corresponding to those listed above as per the suggestions of the Line Departments at the district level and as per villagers' opinion.

SUMMARY TABLE 10.6.1:

Depiction of received suggestions from officials in Line Departments from the districts under study

Sectors	Guidelines	Flow of Funds	Training & Awareness Programs		Channel for Communications & Infrastructure	Suggestions from Officials in Line Departments
			Staff	Villagers		
KARBI ANGLONG						
Agriculture	✓	x	✓	✓	x	Development of permanent horticulture and land management system
Education	x	x	✓	✓	x	
Irrigation	✓	x	✓	✓	✓	Cultivators be motivated for maximum utilization of irrigation benefits for multiple cropping
Animal Husbandry	✓	✓	✓	x	x	Involvement of unemployed youth in programs being designed is highly necessary
Flood Control	No Constraints					
Forest Conservation	✓	✓	✓	✓	✓	Law and order machinery is not well defined
NORTH CACHAR HILLS						
Agriculture	✓	x	✓	✓	✓	Exclusive HADP staff required for planning schemes
Education	✓	x	✓	✓	x	Funds are required for Elementary, Middle and High School Infrastructure and enhancing literacy percentage among backward hill districts
Cooperative Society	✓	✓	✓	✓	✓	Transportation subsidy required
Social Welfare	✓	x	✓	✓	x	
Health	✓	x	✓	✓	✓	Funds required for T.A. and P.O.L. Filling up staff positions is also a major issue
PWD	✓	x	✓	✓	✓	Funds for machinery and T&P
Animal Husbandry	✓	x	✓	✓	x	Modern technical instruments required
Forestry	✓	x	✓	✓	✓	
Transportation	✓	x	✓	✓	x	Increased funds
Information & Public Relations	✓	x	✓	✓	✓	
Soil Conservation	✓	x	✓	✓	✓	
PHE	✓	✓	✓	✓	✓	Steps need to be taken to create a conducive working environment as the district is beleaguered with law and order problems, poor transport infrastructure, etc.
DARJEELING						
Engineering	✓	x	✓	✓	✓	Better land management and fund estimates required
ECC	✓	x	✓	✓	✓	Phasing of work has been emphasized along with compensation to the land losers

✓: Adequacy x: Deficiency

Table: 10.6.2:

Depiction of villagers' opinion on adequacy or otherwise from the districts under study

Sectors	Monitoring & Maintenance	Additional Schemes & Work	Quality of Work Done	Training & Awareness Programs for Villagers	Employment Generation	Infrastructure
KARBI ANGLONG						
Infrastructure	✓	✓	x	✓	✓	✓
Education	x	✓	x	✓	✓	x
Agriculture	✓	✓	✓	✓	✓	x
Irrigation	✓	✓	✓	✓	✓	x
Animal Husbandry	✓	✓	✓	x	x	✓
Forest Conservation (Including Afforestation and Ecological degradation)	x	✓	✓	x	✓	✓
Livelihood	✓	x	✓	✓	✓	✓
NORTH CACHAR HILLS						
Infrastructure	x	✓	x	✓	✓	✓
Education	x	✓	x	✓	✓	x
Irrigation	✓	✓	✓	✓	✓	x
Agriculture	✓	✓	✓	✓	✓	x
Animal Husbandry	✓	x	✓	x	x	✓
Forestry (Including Afforestation and Ecological degradation)	✓	x	✓	x	x	✓
Livelihood	✓	x	✓	x	✓	x
DARJEELING						
Engineering	x	✓	x	x	✓	x
Parks and Gardens	x	✓	✓	x	✓	✓

✓: Adequacy x: Deficiency

11. Conclusions

The present study has been carried out at both micro and macro levels to draw conclusions on the performances of the Hill Area Development programs in the hill districts of Assam and Darjeeling. While the district councils and line departments were approached under macro level study, evaluation at the micro-level level was carried out to know people's perception on HADP implementation.

It may be noted here that while most of the points mentioned below are directly based on the main text of the study as presented above, some of our experiences and observations that emerged during the course of our discussion with various officials have also been recorded below.

11.1 General Observations

1. *HADP Objectives*: The broad objectives of HADP in terms of ensuring development of villages in the hill districts of Assam and West Bengal have been progressing as planned since the 5th Five Year Plan. Performances of the departments in each of the districts vary and avenues for improvement remain for enhancing livelihood options for the villagers living in the area. As far as eco-restoration and eco-preservation is concerned, major steps have to be undertaken to prevent further eco-degradation in the area and ensure sustainability. However, this particular aspect of the objective has been gaining momentum in the last couple of years.

2. *People's participation*: It has been noted that peoples' participation in the implementation of programs in all the districts is lacking. The line departments implement the programs without any participation of the local population; even block development offices are not involved in program implementation in the hill areas.

3. *Transparency of Funds*: Transparency in funding to the Councils by Government of West Bengal and Assam Government is lacking. Governments are responsible for receiving the funds allocated under various schemes for hill areas development and disburse them to the right channel. It has been noticed that at times the state governments divert the funds to meet other liabilities, instead of allocating the same to the Councils for the required purpose.

4. *Fund Utilization by Line Departments*: It has been seen that there were discrepancies in the allocation and expenditure of funds in some departments, PWD Dept, N.C. Hills, (Chapter 9) funds released to the departments by the council. Although, the state budgetary allocation shows clear demarcation on the break-up of funds under HADP/ SCA vis-à-vis state fund allocations and also indicates their head wise break-up, the same is not clear at the level of the line departments in any of three districts under study.

5. Barring a few cases, total expenditure has in general always matched the total allocations to various respective departments in all three districts. One of the important findings is that though targets are set at the Council level (as can be seen from the Annual Plans submitted to Planning Commission) these targets do not necessarily match with that of the line departments. The figures reported by the line departments as their targets are either closer or often same as their reported achievements.

6. *Utilization of funds*: Utilization pattern of funds in Darjeeling is very different from that of districts of Assam. It has been noticed that large funds remained un-utilized during the reference period in Darjeeling. Substantial SCA funds were also allocated to other state government departments in Darjeeling. It is surprising to note that there has been almost 100 per cent utilization of funds released to various departments in both the districts of Assam. Poor co-ordination among state government department and DGHC has resulted in duplication of some of the schemes in Darjeeling.

7. *Other Expenditures*: Expenses under Non-plan heads such as maintenance, rents, etc. were met out of the state plan allocations.

8. *Target on Physical Achievements*:

- It has not been possible to assess physical achievements vis a vis targets for the various departments implementing Hill Area Development Program in all the districts because the targets were not set. Departments who have reported their achievements in Karbi Anglong, have all been successful in achieving 100% of the targets set through 2002-2007 –status of maintenance of the facilities/assets being good. There might be some doubt, therefore, on the information that has been provided by the line departments – the departments have perhaps set their yearly achievements as targets for accomplishment. In N.C. Hills the information was a bit more realistic, as not all departments have reported 100% achievement of targets and status of maintenance of assets varied according to the department. Finally in Darjeeling, the line departments reported 100% achievement of targets as well, but the ‘within department’ maintenance of various assets varied from ‘poor’ to ‘good’ raising some concerns on the consistency of assets maintenance in the departments.
 - The status of maintenance of assets has often claimed to be ‘good’ by the line departments in the districts of North Cachar Hills and Karbi Anglong, although often not supported by the views of the villagers. In some cases, asset utilization was reported to be poor, identified as not due to the ‘condition of the assets’ per se but due to the ‘relative irrelevance of the assets in the localities’. There might be a question therefore as to why schemes that were apparently irrelevant to the needs of the local people were implemented in the districts or perhaps greater efforts need to be made to identify the desired changes on utilities so as to have a viable impact on the lives of the people. It is recommended that introduction of ‘*user charge*’ with a nominal charge of Re.1/- can be an effective initiate for maintenance of HADP assets by formation of ‘Village Committee’ to monitor the status of the same.
9. Coordination between Implementing Bodies: It has been observed that the co-ordination between State Government and both the councils has been poor (Chapter4).

Facts & Figures on Financial Allocations:

- Share of funds: Major share of total allocation to the NCHC (North Cachar Hills Council) comes from State Plan budget, whereas share of state plan allocations to DGHC have been less than the SCA. During the reference period i.e. 2002-03 to 2006-07, SCA share out of total allotment to the Assam was 59.45%, whereas it was 56.14% to West Bengal (source: state level schedules).
- *Financial Allocations to departments in Karbi Anglong:* Education has received a priority in Karbi Anglong in terms of allocation of funds throughout the period 2002-2007. It remains to be decided, however, whether funds from HADP can be utilized for this particular sector as a priority when other sector like Animal Husbandry, Irrigation and Agriculture needs support as well. Till 2005, latter departments had very low allocation of funds.
- *Financial Allocations to departments in North Cachar Hills:* In North Cachar hills, PWD and PHE departments have seen a decline in allocation of funds after 2005-06. The Cooperative department has seen the first disbursement of funds as late as 2006-2007. For Forest and PWD departments, the allocations have also not been matching the levels of expenditure. In aggregate, highest allocation has been made to the department of PWD within the period 2002-2007.
- *Financial Allocations to departments in Darjeeling:* In Darjeeling, the Parks and Garden department, the Engineering department and the Rural Electrification department has seen an overall decline of funds in 2006-2007. The ECC department has, however, received higher funds during the latter years.
- An important point that has been noted is that barring a few cases, expenditure has in general always matched the respective allocation to various departments in all three districts.

11.2 Sector-wise Conclusions

- *Infrastructure:* There is a necessity for improvement in the quality of facilities provided under this sector via HADP schemes.
- *Education:* School infrastructure definitely needs more emphasis on development as most schools lack proper school buildings, walls, playgrounds, water outlets, furniture and sanitation facilities. However, maintenance of the facilities provided is key to successful implementation of the plans. There is a gross mismatch on opinions of the line department officials and villagers on the quality of services provided which suggests that further evaluation needs to be done at the post implementation phase. Surveys on the number of schools that are in operational phase across villages are also required as most villages lack school buildings.
- *Irrigation:* While irrigation facilities provided under HDAP schemes have proved to be a boon to the villagers, there is also definite need for additional pump facilities for greater water supply as more than 50% of the sampled villages have remarked that water supply is inadequate for agricultural practices. Despite the substantial allocation to irrigation in all the districts, there has been very little increase in the land covered under irrigation. In N C Hills, about 213 ha and in Karbi Anglong about 101 ha land could be brought under the irrigation.
The irrigation department in Darjeeling undertook soil conservation works. In fact, there were more works of soil conservation than creating additional irrigational facilities by the department in the district.
- *Agriculture:* It might be worthwhile to note here that in the hilly terrain, ploughing of fields is a very cost-worthy and useful practice for farmers and hence the departments have undertaken schemes to support farmers with ploughing of fields in several villages. Supply of seeds and fertilizers, following traditional guidelines for improving agricultural productivity seem to be equally worthwhile but the supply chain for these goods need to established more effectively so that the villagers from all villages have equal or convenient means of acquiring them.

Markets for the agricultural produce also need to be developed. The department of agriculture has taken up few projects to promote use of modern technology as well. Despite the importance of agriculture among hill areas, it still remains one of the most neglected sectors.

- *Forestry:* There is lack of gross knowledge among villagers on the advantages of afforestation in the Hill areas. Specific training and awareness efforts from the Forest Department have to be undertaken to educate people on the drawbacks of deforestation and the long term effects it has on climate. Despite larger funds allocation and subsequent massive afforestation programs (3872 ha) including 2350ha of social forestry taken up by the forest department in N C Hills, there has been only a marginal increase in the forest cover due to the practice of shifting cultivation in the hill districts of Assam. There was no allocation to this sector in Darjeeling.
- *Animal Husbandry:* Even though substantial funds were allocated for Animal Husbandry and Dairy development in the districts of Assam, especially Karbi Anglong, the achievements have not been very encouraging. Allocations in Darjeeling under this sector have not been found. However, there seems to be a considerable need for employment generating schemes in this sector. The department also needs to consider greater distribution of animals and birds for rendering direct benefits to the people seeking employment and/or support in this sector.
- *Tourism in Darjeeling:* It is noteworthy that the major portion of SCA allocation was spent on general services in Darjeeling each year during the reference period. Guesthouses, residential and official buildings were constructed out of these funds. What is interesting to note here is that apart from the resting rooms, a momo counter was also built to attract the tourists. Besides, construction of buildings, parks and gardens were also developed to promote tourism in the district.
- *Rural Electrification Sector:* Funds allocated for rural electrification sector have been appreciated as large numbers of villages were electrified during the reference period. More than 90 per cent of the villages in Darjeeling have

electricity whereas around 70 per cent villages in N C Hills and 54 percent in Karbi Anglong are electrified.

11.3 Conclusions on Comparative Study

Table 11.3: Results of the non-statistical hypothesis on utilization of assets and cost effectiveness

HYPOTHESIS	North Cachar	Karbi Anglong	Darjeeling
<p><u>Utilization of Assets</u></p> <p>The perception of the line departments that there has been effective utilization of assets created under HADP, is supported by the users</p>	Rejected	Rejected	True
<p><u>Cost Effectiveness</u></p> <p>The perception of the line departments that the performance of HADP schemes is cost effective (in the two districts of Assam), is supported by the users</p>	Rejected	Rejected	Inconclusive

An important finding of the study is that villager’s opinions in North Cachar Hills and Karbi Anglong do not match the opinions of the officials from the line departments – their opinions vary to a large extent as far as utilization of assets and the cost effectiveness of the schemes are concerned. In Darjeeling, all HADP facilities and services provided by the line departments have been under the banner of DGHC. As far as utilization of assets is concerned, the opinions of the beneficiaries and the officials of the line department do match. We suggest introducing ‘user charge’ for availing the services of the assets and formation of ‘Village Committee’ for maintenance of the created assets.

11.4 Eco-restoration and Eco-preservation

- Jhum Cultivation: Data on shifting cultivation reveals that in 80% of sample villages studied in Karbi Anglong and North Cachar hills, villagers have raised their doubts about the potential of rise in income by jhum cultivation. Only a few believe that it is possible to have sustained income from jhum. More than 70% of the villagers in group discussions shared the view that “jhum may have partially harmful impact on conservation of ecology.” On a long term perspective, majority of the villagers from

both districts in Assam have suggested that settled cultivation of cash crops may be used as a *replacement* to jhum as opposed to a *supplement*, if there are guaranteed returns from such agricultural practices.

- Policy makers need to emphasize on irrigation efforts in order to enhance soil preservation efforts in Darjeeling. Although, a lot has been achieved in this regard, there is great potential for harnessing the benefits of plantation crops in Darjeeling and better facilities of irrigation would help in sustainability of livelihood among villagers in these areas ensuring sustainability of the environment.

11.5 Villager's Perception of the Program

- According to the respondents, the schemes implemented by the various departments have indeed created durable community assets especially in irrigation, rural electrification and road connectivity and education sectors.
- Awareness about the government programs in Darjeeling District was extremely low but somewhat better in Assam.
- According to majority of the respondents, education, health, PHE and agriculture needed priority over others in both the districts.
- Community had no role in planning as well as execution of the projects.
- Role of politicians is not limited to sanction of schemes and allocation of funds but also extends to the execution of the schemes which was somewhat resented.
- Majority of respondents in all the districts acknowledged that the general living conditions have improved in the villages due to implementation of various programs.

11.6 Suggestions by People

Villagers' opinions have proved to be a necessary input for developing the conclusions on this study. Some additional comments from villagers that need to be highlighted in this section are as follows:

- More beneficiary oriented schemes should be introduced in order to facilitate improvement in the standard of living of the individual households.

- Necessary action should be taken to bring transparency in the administration of funds and expenditure on execution of the schemes by various departments. This can be ensured through involvement of the local community.
- Drinking water and health services should be given priority in preparation of the annual plans by the Council.
- Local governments should be more empowered to handle the problems of their respective villages and implement programs and schemes.
- There is a greater need to create awareness among the rural population on various developmental issues by involvement of local NGOs/CBOs.
- Institutional credit for self employment among villagers, especially the unemployed youth would be highly beneficial for the villagers.
- The irrigation sector needs to be developed for options on multiple cropping. This would also reduce chances for ecological degradation as jhum cultivation would be discouraged in the long run and permanent settlement among villagers could become a reality.
- The transportation sector also needs to provide better quality of infrastructure, services and better road connectivity to help mobilize villagers to nearby cities for alternative sources of income.

11.7 Suggestions by the Research Team

- The format (HADP 3-4) for furnishing quarterly progress reports by the Council to the Planning Commission needs modifications. Even though these formats contain item wise details, some of the schemes which were introduced recently have not been incorporated. In the present situation, it is not possible to assess how much funds have been utilized, for what purpose under those schemes. It is also suggested that the format should contain item wise details of salaries and wages, new programs and repair & maintenance.
- There is need for more stringency over utilization of SCA funds for payment of salaries and other related expenses has been emphasized since it leaves inadequate funds for development work.

- It was suggested that copies of plan sanctioning letters may also be sent to the Councils by the concerned ministries as well as Planning Commission to ensure smooth functioning of the Scheme
- Mechanisms should be developed so that details of utilization of SCA/HADP funds by the Council are available transparently so as to avoid diversion of funds.
- Besides Infrastructure development, emphasis should also be given on horticulture, cottage and small-scale industries and animal husbandry to improve socio-economic condition of the people.
- In case of Darjeeling, SCA funds allocated to state government departments should be spent for the purpose it has been allocated.
- Sectoral approach for the sanctioning of SCA budget to the Council should be adopted by the Planning Commission to avoid unaccounted expenditure by the Councils. Funds should be earmarked directly to the departments for the transparency and productive utilization.
- Councils should be encouraged to improve their internal financial resources by the provision of additional funds on the basis of results from improved financial resources as means to provide additional incentive for better implementation of schemes.
- It is very important to monitor the utilization pattern of SCA funds on regular basis. It is suggested that the monitoring of financial and physical progress of the various departments should be done by independent professional agencies and installments of sanctioned SCA funds should be released only after the receipt of satisfactory reports by these organizations.
- In all area programmes, particularly in watershed management, the active involvement of people, of their own local organisations and of voluntary agencies is crucial. Women especially have a pivotal role to play, since they are primarily responsible for agriculture, fuel and fodder collection, maintenance of livestock and other economic activity in the hills.
- Similar to monitoring, evaluation of each sector should be done to assess the impact of the programs and schemes. Evaluation of programs and schemes on sectoral basis will not only help in improving the implementation methods but will

also suggest corrective measures for incorporation at each level of implementation.

- Apart from impact evaluations, concurrent evaluation of the program should also be entrusted on regular intervals to assess the process of implementation and to facilitate midterm modification of the programs.
- More transparency should be brought in sanctioning, implementation and execution of the programs by involving communities and Panchayati Raj Institutions.
- To increase the visibility of HADP programme in all the districts of our study, due emphasis needs to be given for installation of few signage in terms of board, glow sign, banner etc in the site of the schemes. This will in turn increase an awareness about HADP amongst the community members, line departments and will give a better impact on the district and state level officials.

11.8 Final Remarks

The Hill Area Development Program was initiated in favor of beneficiary- oriented scheme during the first few Five year plans. Successive plans emphasized eco-development, but the general tenor of the plans did not differ significantly from the normal State plans. In other words, they remain characterized by the sectoral approach without adequate reference to eco-restoration, eco preservation and eco-development. It is hoped that in future, the emphasis would be on developing plans that harmonize socio economic growth, development of infrastructure and promotion of ecological balance.

Some of the major issues such as pressure of human population and cattle grazing on the hill areas and indiscriminate felling of trees for commercial purposes have led to rapid depletion of forest cover and reduction in the productivity of land, impairing the economic condition of the hill regions. Traditional agriculture practices like shifting cultivation have been responsible for exposure of the thin soil-cover leading to accelerated erosion of both soil and forest cover. Other activities like construction of roads, dams, establishment of large and medium industries of mining units have

further aggravated the situation. With the depletion of forests in hill areas, flooding has increased during the rainy season and extended periods of drought have become a recurring feature in the plains, particularly of Northern India. Availability of water in hill areas has also suffered due to lower water retention capacity caused by the loss of forest cover. This has led to the problems of sand-casting of fertile plains and silting of harbors, reservoirs and river beds, besides additional hardship for hill people. The major challenge, therefore, is to devise a solution to the problem that will avert ecological disaster while meeting the requirements of the growing population. The long-run needs both for the nation and of the community will be served only by maintaining an ecological equilibrium.

11.9 NGOs and Hill Area Development Programme

An analysis of the development programmes carried out so far to conserve and develop natural resources shows that there is a lack of participation of people in planning and monitoring and sustainability of the activities created. This is mainly due to three factors viz., top down planning, inadequate mechanism at lower level for awareness creation, co-ordination and lastly non-functioning of the PRIs in all the areas of our study. This could be corrected only by the active involvement of local NGOs. They are the local level organizations with intimate association with the villagers and can understand better the problems of the people and guide/ enthuse them in the implementation of Government schemes/ programmes and ensure that these are implemented well. It has therefore, been proposed in the Tenth plan to involve the NGOs also in the protection and preservation of special areas. It has been proposed to identify one potentially viable NGO in each district and make them responsible as the promoters of the programme. The main role of the NGOs will be to create awareness among the people of the special areas and the need to protect them and educate them about the various developmental programmes being implemented by different heads of departments. It is necessary to adopt a strategy of development, keeping in view the special features and problems of these areas and formulate area programmes for the socio- economic development, as also for conservation, protection and preservation of these areas. The need to conserve the

natural resources and their environment particularly to prevent further damage to the eco-system has been recognized by the Government.

APPENDIX

APPENDIX 1: Financial Allocations through Period 2002-2007 in North Cachar Hills

SL. NO.	SECTOR	2002-03		2003-04		2004-05		2005-06		2006-07		TOTAL	
		SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds
1	Agriculture	31.00	147.00	31.00	151.00	30.00	176.00	30.00	176.00	125.00	205.00	247.00	855.00
2	Animal Resource Development	52.20	82.50	52.20	82.50	40.00	112.50	40.00	162.00	60.00	272.00	244.40	711.50
3	Backward Classes Welfare											0.00	0.00
4	Cottage & Small Scale Industries	5.00	45.00	5.00	45.00	5.00	45.00	5.00	45.00	5.00	30.00	25.00	210.00
5	Communication	696.40	153.00	696.00	173.00	800.00	225.00	800.00	225.00	1,000.00	225.00	3,992.40	1,001.00
6	Education	344.10	581.40	344.10	581.40	269.00	739.50	265.00	681.00	215.00	627.30	1,437.20	3,210.60
7	Energy Power											0.00	0.00
8	Establishment											0.00	0.00
9	Fisheries	4.00	21.00	7.50	21.00	20.00	24.00	20.00	24.00	40.00	30.00	91.50	120.00
10	Forest	156.00	184.20	156.00	110.00	150.00	101.00	100.00	200.00	85.00	255.00	647.00	850.20
11	General Services	0.00	13.50	0.00	13.50	0.00	13.50	0.00	13.00	0.00	20.00	0.00	73.50
12	Health & Family Welfare	72.00	112.00	72.00	112.50	70.00	89.50	70.00	89.50	170.00	129.00	454.00	532.50
13	Horticulture											0.00	0.00
14	Irrigation & Waterways											0.00	0.00
15	Mass Education Extn.											0.00	0.00
16	Minor Irrigation	53.00	219.00	43.00	159.80	80.00	99.80	80.00	99.50	70.00	99.00	326.00	677.10
17	Panchayat & Rural Development	6.00	44.00	8.00	22.00	0.00	25.00	0.00	25.00	0.00	50.00	14.00	166.00
18	Parks & Gardens											0.00	0.00
19	Public Health Engineering	163.50	196.00	163.50	196.90	230.00	186.90	230.00	187.00	205.00	187.00	992.00	953.80
20	Social Welfare	0.00	25.00	0.00	50.00	90.00	105.00	90.00	130.00	90.00	160.00	270.00	470.00
21	Information & Publicity	0.00	8.40	0.00	8.40	3.10	15.40	3.00	15.40	3.00	20.00	9.10	67.60
22	T & C-P	11.10	3.00	11.10	3.00	0.00	10.00	0.00	10.00	0.00	10.00	22.20	36.00
23	Art & Culture	0.00	3.00	0.00	4.00	0.00	4.00	0.00	4.00	0.00	10.00	0.00	25.00
24	Tourism	0.00	15.10	0.00	15.10	0.00	25.10	0.00	25.10	0.00	25.10	0.00	105.50
25	Sericulture	6.00	60.00	6.00	75.00	5.00	80.00	5.00	70.00	20.00	50.00	42.00	335.00
26	Flood Control	15.00	45.00	15.00	50.00	65.00	92.00	50.00	90.00	50.00	60.00	195.00	337.00
27	Soil Conservation	0.00	37.50	0.00	37.50	0.00	37.50	0.00	37.50	50.00	37.50	50.00	187.50
YEARWISE TOTAL		1,615.30	1,995.60	1,610.40	1,911.60	1,857.10	2,206.70	1,788.00	2,309.00	2,188.00	2,501.90	9,058.80	10,924.80

Source: State Level Schedule, North Cachar Hills

APPENDIX 2: Financial Allocations through Period 2002-2007 in Karbi Anglong

HADP & OTHER PLAN EXPENDITURE IN THE DISTRICT												
												(Rs. In Lacks)
SL. NO.	SECTOR	2002-03		2003-04		2004-05		2005-06		2006-07		SCA
		SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	SCA	Other Plan Funds	
1	Agriculture	70.00	363.00	100.00	414.00	100.00	456.00	100.00	515.00	395.00	800.00	
2	Animal Husbandry	88.20	151.50	88.20	186.50	88.20	181.50	88.00	212.00	228.00	262.00	
3	Soil Conservation	0.00	87.50	0.00	87.50	0.00	127.50	0.00	440.50	105.00	171.30	
4	Cottage & Small Scale Industries	5.00	45.00	5.00	55.00	5.00	55.00	5.00	85.00	11.00	111.00	
5	Communication											
6	Education	762.90	1,479.60	762.90	1,663.30	730.90	1,376.50	725.00	1,280.00	875.00	1,352.00	
7	Handloom & Textiles	21.00	38.50	21.00	53.50	21.00	38.40	15.00	38.40	34.00	49.00	
8	Sericulture	14.00	140.00	14.00	160.00	14.00	120.00	12.00	110.00	120.00	120.00	
9	Fisheries	21.00	49.00	17.00	69.00	42.50	46.00	42.00	71.00	152.00	100.00	
10	Forest	104.00	429.80	74.00	499.80	74.00	500.00	86.00	520.00	236.00	620.00	
11	General Services											
12	Health & Family Welfare	168.00	182.50	168.00	305.40	141.00	284.40	141.00	160.50	461.00	330.50	
13	Horticulture											
14	Flood Control (W/R)	35.00	105.00	35.00	150.00	35.00	208.00	35.00	480.00	160.00	200.00	
15	Mass Education Extn.											
16	Minor Irrigation	55.00	608.60	55.00	842.10	60.70	1,186.60	60.00	612.60	200.00	811.00	
17	Panchayat & Rural Development	14.00	126.70	12.00	184.70	12.00	332.70	12.00	149.00	65.00	625.00	
18	CAD	31.00	0.00	28.70	0.00	25.00	0.00	25.00	0.00	32.00	0.00	
19	Public Health Engineering	381.50	322.10	381.50	494.80	381.00	513.80	381.50	521.00	651.00	886.00	
20	Dairy Development	33.60	19.60	33.60	34.60	33.60	29.60	33.00	37.00	58.00	47.00	
21	Cooperation	7.00	48.80	7.00	70.00	7.00	40.00	7.00	40.00	10.00	60.00	
22	Land Reforms	43.00	47.00	43.00	37.00	43.00	45.00	43.00	45.00	38.00	40.00	
23	Road & Bridges	1,431.60	357.00	1,431.60	497.00	1,303.60	305.00	1,303.00	605.00	803.00	1,463.00	
24	Road Transport ASTC (KAAC)	35.00	0.00	35.00	0.00	20.00	0.00	45.00	0.00	0.00	152.00	
25	T&CP	34.90	7.00	25.90	25.90	25.90	42.00	25.00	73.00	31.00	75.00	
26	Administrative charges	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	50.00	0.00	
YEARWISE TOTAL		3,355.70	4,608.20	3,338.40	5,830.10	3,163.40	5,888.00	3,233.50	5,995.00	4,715.00	8,274.80	1

Source: State level schedule, Karbi Anglong

APPENDIX 3: DGHC Annual Action Plan for 2006-2007

SL. NO.	SECTOR	DGHC ANNUAL ACTION PLAN FOR 2006-07								Total
		State Plan (Departmental)	General	SCA SC/ST	S. Plan (Hills Affairs)	CSS	RIDF	SCA to SCP/TSP	Article 275 (1)	
1	Agriculture	70.00	6.00	4.00	0.00	125.00	0.00	0.00	0.00	205.00
2	Animal Resource Development	25.00	27.60	18.40	0.00	40.00	0.00	0.00	0.00	111.00
3	Backward Classes Welfare	140.00	0.00	0.00	0.00	175.00	0.00	400.00	120.00	835.00
4	Cottage & Small Scale Industries	15.00	15.00	10.00	15.00	15.00	0.00	0.00	0.00	70.00
5	Communication	400.00	540.00	360.00	50.00	0.00	4,674.51	0.00	0.00	6,024.51
6	School Education	122.00	60.00	40.00	15.00	2,366.00	0.00	0.00	0.00	2,603.00
7	Emergy-Power	3,528.00	0.00	0.00	0.00	0.00	3,228.02	0.00	0.00	6,756.02
8	Fisheries	15.00	15.00	10.00	10.00	0.00	0.00	0.00	0.00	50.00
9	Forest	27.10	32.76	21.84	0.00	0.00	0.00	0.00	0.00	81.70
10	General Services	0.00	540.00	360.00	110.00	0.00	0.00	0.00	0.00	1,010.00
11	Health & Family Welfare	180.00	54.00	36.00	0.00	0.00	0.00	0.00	0.00	270.00
12	Horticulture	145.67	6.00	4.00	0.00	53.00	0.00	0.00	0.00	208.67
13	Information & CA	1.22	30.00	20.00	30.00	0.00	0.00	0.00	0.00	81.22
14	Irrigation & Waterways	20.00	36.00	24.00	0.00	209.00	0.00	0.00	0.00	289.00
15	Labour (Technical Education Training)	20.00	18.00	12.00	10.00	0.00	0.00	0.00	0.00	60.00
16	Land & Land Reforms	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	8.00
17	Library Services	0.00	4.08	2.72	10.00	0.00	0.00	0.00	0.00	16.80
18	Mass Education Extension	55.00	15.00	10.00	10.00	43.00	0.00	0.00	0.00	133.00
19	Minor Irrigation	55.00	3.00	2.00	0.00	0.00	347.74	0.00	0.00	407.74
20	Panchayat & Rural Development	786.04	36.00	24.00	0.00	2,358.13	0.00	0.00	0.00	3,204.17
21	Parks & Gardens	0.00	118.80	79.20	0.00	0.00	0.00	0.00	0.00	198.00
22	Public Health Engineering	130.00	58.09	38.71	10.00	1,055.00	0.00	0.00	0.00	1,291.80
23	Rural Development	0.00	31.80	21.20	40.00	0.00	0.00	0.00	0.00	93.00
24	Sports & Youth Affairs	0.00	27.00	18.00	20.50	0.00	0.00	0.00	0.00	65.50
25	Transport & Pool	25.00	60.00	40.00	10.00	0.00	0.00	0.00	0.00	135.00
26	Tourism	152.50	175.68	117.12	124.50	2,040.50	0.00	0.00	0.00	2,610.30
YEARWISE TOTAL		5,912.53	1,909.81	1,273.19	473.00	8,479.63	8,250.27	400.00	120.00	26,818.43

Source: Darjeeling Gorkha Hill Council, Annual Action Plan for the Year 2006-2007

Appendix 4

Table 1: Average per family Annual income in sampled villages of N.C. Hills by sector

Village name	Shifting Cultivation in Rs.	Agricultural Laboring in Rs.	Home Gardening in Rs.	Other Sources in Rs.
Langdisa	30000	20000	5000	25000
Jorai Bhatari	20000	15000	10000	30000
Saron	30000	15000	10000	40000
Baojen	20000	15000	0	20000
N. Dukaling	20000	20000	5000	25000
P. Hajon	10000	20000	0	20000
Dihar Phanglo	10000	25000	0	40000
Rilai	10000	20000	0	20000
Hereido	10000	20000	0	18000
Mabao	30000	10000	5000	35000
Nilan Kalachand	10000	15000	0	25000
Sonapur	20000	15000	10000	15000
Langebra	15000	20000	0	15000
Dijao	20000	20000	0	20000
Haflong vill-1	20000	30000	10000	25000

Appendix 5

Table 2: Average per family Annual income in sampled villages of Karbi Anglong by sector

Village name	Shifting Cultivation in Rs.	Agricultural Laboring in Rs.	Home Gardening in Rs.	Other Sources in Rs.
Ranghang gaon	20000	10000	10000	35000
Panegti gaon	10000	20000	5000	15000
Lekhte Gaon	30000	15000	10000	40000
Lense Rangang	30000	30000	2000	10000
Dekai Bey	35000	70000	10000	25000
TokbiAreng	10000	30000	5000	25000
Desai Rangpi	10000	10000	10000	20000
NamTaradubi	50000	70000	0	0
Ninkeeng	15000	10000	0	10000
Uttar Barbill	25000	15000	0	35000
BasuGaon	25000	10000	10000	10000
Rong khelan	20000	50000	10000	30000
Mosh gaon	30000	40000	10000	15000
Biothilangee	20000	20000	0	25000
Rangker Tisse gaon	25000	30000	5000	20000