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STANDING COMMITTEE ON ENERGY (1998-99)

TWELFTH LOK SABHA

MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES

DEMANDS FOR GRANTS (1998-99)

THIRD REPORT

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI

July, 1998/Asadha, 1920 (Saka)

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Presented to Lok Sabha on 4-7-98
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LOK SABHA SECRETARIAT
NEW DELHI

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*Ceased to be a member of the Committee *w.e.f.*, 29.6.98 consequent upon his retirement from Rajya Sabha.

INTRODUCTION

I, the Chairman, Standing Committee on Energy, having been authorised by the Committee to present the Report on their behalf, present this Third Report on the Demands for Grants (1998-99) relating to the Ministry of Non-Conventional Energy Sources.

2. The Committee took evidence of the representatives of the Ministry of Non-Conventional Energy Sources on 16th June, 1998.

3. The Committee wish to thank the representatives of the Ministry of Non-Conventional Energy Sources who appeared before the Committee and placed their considered views. They also wish to thank the Ministry for furnishing the replies on the points raised by the Committee.

4. The Report was considered and adopted by the Committee at their sitting held on 25th June, 1998.

NEW DELHI;
July 1, 1998
Asadha 10, 1920 *(Saka)*

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

CHAPTER I

INTRODUCTORY

The Ministry of Non-Conventional Energy Sources is promoting the development and utilization of non-conventional energy products and technologies in the country. These range from low-tech ones such as improved Chulhas and biogas plants to high tech solar photovoltaics, solar thermal wind energy and biomass cogeneration and gasification to new technologies such as fuel cells and hydrogen energy. Some of these technologies like biogas, improved chulhas, solar thermal, wind power, small hydro and biomass cogeneration and combustion are commercial and are moving into large scale utilisation.

1.2 The Ninth Plan proposals of the Ministry lay emphasis on meeting minimum energy needs for cooking, lighting and other decentralised village energy requirements. It proposes to consolidate and further accelerate the development and commercialisation of technologies for grid quality power generation. The plan focuses on capability and capacity to build up in technical institutions, industry, SEBs, State Nodal Agencies, NGOs and on encouraging the development of entrepreneurship. It provides for a suitable policy and institutional framework alongwith adequate resource mobilisation for wider diffusion of non-conventional energy in the country's energy scenario.

CHAPTER II

REPORT

PART I

Analysis of Demands for Grants of the Ministry of Non-Conventional Energy Sources

The Ministry of Non-Conventional Energy Sources have presented Demands for Grants of Rs. 407.62 crore for the year 1998-99 as against Rs. 282.70 crore (actual) in 1996-97 and Rs. 341.88 crore (BE) in 1997-98. The total budget allocation for the last three years has been as under :

(In crore of Rs.)

Actual	B.E.	R.E.	B.E.
1996-97	1997-98	1997-98	1998-99
282.70	341.88	194.15	407.62

2.2 The details of the Ministry's Demands for Grants (Demand No. 64) under Revenue Section and details relating to Capital Section are shown in Appendix-I. The various points arising out of the scrutiny of Demands for Grants of the Ministry are discussed in the succeeding paragraphs.

A. Budgetary provisions and cut imposed by the Ministry of Finance

2.3 In the Annual Plan (1997-98) proposed as a part of Ninth Plan, a Gross Budgetary Support of Rs. 612 crore and a net-Budgetary Support of Rs. 518 crore was proposed. The Planning Commission approved a Gross Budgetary Support of Rs. 340.13 crore for the Annual Plan which included Domestic Budgetary Support of Rs. 260 crore. Against the Budget Estimate of Rs. 340.13 crore, after reviewing the pace of expenditure of the Ministry, a revised estimate of Rs. 285 crore was submitted to the Ministry of Finance stating therein that any

further cut in the outlay of 1997-98 will adversely affect the programme of the Ministry. But, the Ministry of Finance approved a Revised Estimate of Rs. 190 crore only.

2.4 A study of the Plan expenditure for the year 1996-97 also reveal that the actual expenditure had been much less than the Budget Estimate for that year. The following table in this regard gives the relevant details:

B.E.	R.E.	Actual
333.00	281.62	279.65

2.5 In a large number of schemes/programmes of the Ministry, it has been pointed out that the reason for variations in Budget Estimates, Revised Estimates and actual expenditure for 1996-97 was due to directives of the Ministry of Finance to curtail Ministry of Non-conventional Energy Sources budget.

2.6 Asked about the details of the directives of the Ministry of Finance to curtail MNES budget and the amount of cut proposed by the Ministry of Finance as a whole out of the total outlay for the year 1996-97, the MNES in their written reply stated:

> "The Ministry of Finance had during October, 1996, proposed a cut of Rs. 75 crore at the RE stage in the Plan Budget of the Ministry for the year 1996-97. However, the matter was discussed by the Secretary (MNES) with the Secretary (Expenditure) and it was agreed that the Plan Budget of the Ministry may be reduced by Rs. 51.40 crore without affecting the provision for externally aided projects."

2.7 Asked to state the reasons for curtailment of MNES budget for 1996-97, the MNES stated:

> "Ministry of Finance did not indicate any reason for imposing the cut during 1996-97."

2.8 Enquired about the impact of this cut on the various schemes/ programmes of the Ministry due to lesser availability of funds, the MNES informed in a written note:

> "A cut in the Ministry was allocated/distributed in a manner so that the major programmes of the Ministry were not affected

seriously. Most of the targets set during 1996-97 under the major programme of the Ministry, were achieved. However, there was some shortfall in achieving the target under some of the programmes."

2.9 Explaining the similar cut that was imposed during 1997-98, MNES stated :

"During February, 1998, the Ministry of Finance indicated a cut of Rs. 150 crore in the Plan Budget of 1997-98. This cut was imposed by the Ministry of Finance in consultation with the then Joint Secretary & Financial Adviser without consulting this Ministry. The reason given by the Ministry of Finance for the cut was that the level of utilisation of funds in this Ministry, was low. The matter was reviewed in the Ministry and it was found that the low level of utilisation, was due to the fact that many financial proposals had not been cleared by the Integrated Finance Division.

The Ministry took this matter strongly with Secretary (Expenditure). But, it was only at the fag end of the financial year and after a great deal of persuasion by this Ministry that the Ministry of Finance allowed justified expenditure beyond R.E. of Rs. 190 crore upto the level of B.E., subject to the following conditions being fulfilled:

(i) The position of utilisation of the assistance already provided. The grantee should have rendered audit certificate of the utilisation of the assistance provided upto 1995-96.

(ii) Further release to take into account the unspent balances already available with the grantee.

(iii) In cases where the assistance is the first instalment for the year, the release to be made should not exceed 1/12th of the Budget, this being the last month of the financial year.

(iv) Variation from basic conditions governing the release of funds, which have adverse budgetary implications, may not be resorted at this stage without prior approval of this Ministry.

(v) Release will be limited to the Budget Estimates of Plan Expenditure. Moneys to be released for Plan schemes will not exceed the allocation for each scheme in the Budget Estimates."

2.10 The Ministry of Non-conventional Energy Sources in its post-evidence reply stated:

> "Subject to the above stipulation, Ministry was allowed to release funds, if justified. It may be noted that instruction to release 1/12th of the Budget was not in accordance with pattern of release of funds already approved by Commission for Additional Sources of Energy in consultation with IFD."

2.11 In a post-evidence reply, MNES have furnished a detailed note on the interaction between them and the Ministry of Finance.

2.12 Regarding effect of such cut imposed without consulting the Ministry on the working of on-going projects, Secretary of MNES was candid enough to state during the evidence:

> "It has affected programmes for 1998-99, specially the Solar Photo-Voltaic area."

2.13 The Ministry of Non-conventional Energy Sources in its post-evidence reply further added:

> "In some of the programmes in which targets were over-achieved in the previous years, such as biogas improved chulha achievement during 1997-98 was substantially low. In many other programmes, there was substantial shortfall."

2.14 The Committee note with grave concern that the Ministry of Finance imposed a cut in the approved budget of MNES without consulting the Ministry. These cuts have affected various schemes/ programmes of the Ministry in achieving the targets and even major programmes like Solar Photovoltaics for 1997-98 has seriously been affected.

2.15 The Committee fail to understand as to how the Ministry of Finance could impose a cut on the Ministry's budget which has been approved by the Parliament for achieving specific targets.

2.16 The Committee are also concerned to note the low level of utilisation of funds by the MNES and overall performance of the Ministry due to which this cut was imposed by the Ministry of Finance. The reasons for low utilisation of funds seems to be internal wrangling within MNES.

2.17 The Committee also note with concern that a large number of conditionalities laid down by the Ministry of Finance are the main reasons for delays in the release of moneys and consequently affecting, to a large extent, the achievement of targets. While the spirit behind these conditionalities may be good, these do affect the smooth functioning of the Ministry by way of tip offs between the Secretary and the Head of the Integrated Finance Division of the Ministry as in the present case.

2.18 The Committee are of the view that there should be proper coordination between the Ministry of Finance and MNES and the Ministry of Finance should have the views of Secretary, MNES before any cut is imposed so that major programmes of the Ministry are not affected.

2.19 The Committee also recommend that some mechanism may be evolved in MNES so that the budgeted funds are utilised properly over the year. The Ministry of Finance will also do some good if they allow enough freedom to the Secretary of the Ministry in spending the approved budgeted amount.

B. National Project on Biogas Development (NPBD)

2.20 National Project on Biogas Development (NPBD) was started in the year 1981-82 for the promotion of household biogas plants. The potential of setting up of about 120 lakh plants based on cattle dung has been estimated. Up to the year 1996-97 about 25.40 lakh biogas plants have been set up in the country, thereby covering about 21 per cent of the estimated potential and it would take many decades more to harness the full potential at the present rate of achievement. There is a wide gap between the existing potential and the achievement in almost all States.

2.21 Asked about the reasons for the slow pace in achieving the potential and impediments in implementing the project, the Ministry in a written reply informed as under:

> "The main reasons for slow progress in achieving the potential and impediments in implementing the project are: availability of budgetary support which determines the progress and priority given by State Governments. While the States of Gujarat, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Mizoram and Tamilnadu

have already achieved 30-60% of their respective estimated potential, the other States are lagging behind."

2.22 During the 8th Plan period, physical achievement in respect of NPBD was 9.60 lakh family size biogas plants. Against this, physical target for the above scheme proposed during the 9th Plan period is 7.5 lakh family size biogas plants.

2.23 When asked to specify the reasons for fixing a lower target for biogas plants during the 9th Plan period in comparison to the 8th Plan period, the Ministry in a written reply stated:—

"The low target fixed for setting up of biogas plants for the Ninth Plan period is due to: (i) availability of only Rs. 260 crore for NPBD (excluding provision of Rs. 4.00 crore for R&D on Biogas and (ii) increase in the average amount of Central assistance on account of (a) enhanced rate of additional Central subsidy for toilet linked biogas plant from Rs. 300/- to Rs. 500/- per plant being followed since 1997-98; and (b) an increase in the cost of infrastructure and training."

2.24 The Budget provisions for the scheme NPBD in respect of the years 1996-97, 1997-98 and 1998-99 have been as under:—

(Rs. in crores)

Year	Plan		Actual Expenditure
	B.E.	R.E.	
1996-97	57.00	49.00	49.00
1997-98	57.65	28.70	55.00
1998-99	54.24*		

*Excluding Rs. 0.30 crore for R&D in biogas.

2.25 When asked about measures that have been taken to harness the potential of biogas plants speedily, MNES stated:—

"To overcome the limited domestic availability of funds for harnessing the potential, external resources need to be mobilized. While the external assistance is available for many non-conventional

energy programmes, such as wind power, small hydro, solar photovoltaics, etc., the same is not available for biogas and improved chulha programmes. Therefore, the Ministry has taken up the issue with multilateral and bilateral funding agencies, such as World Bank, UNDP and GEF, which have indicated positive response."

2.26 The Secretary, MNES, during evidence further mentioned:—

"The Budgetary outlay cannot be increased beyond a certain level..... But biogas and improved chulhas were not assisted by external assistance. We took it up with UNDP, World Bank and also with global environmental facility and I am happy to report that recently in the World Bank meeting they said that in view of the social aspects they would be very happy to cover these programmes. They have also said that they would be able to cover these programmes even under our rural development programme and women and children welfare programme. So, this is a positive development."

2.27 When asked whether they are in a position to get more funds by way of external assistance, the Secretary, MNES added:—

"We will have to formulate projects now and project them before these bodies and claim it. The initial response is positive."

2.28 Asked to specify the reasons for variation in Budget Estimates, Revised Estimates and actual expenditure for 1996-97 and 1997-98, the Ministry in a note furnished to the Committee stated:—

"The variation between BE and RE during 1996-97 was due to the cut imposed by the Ministry of Finance. In 1997-98, the Ministry of Finance had worked out RE at its own, which was incidentally much lower than the actual expenditure incurred even upto the time period. When the matter was taken up, the Ministry of Finance permitted utilisation of funds up to BE level subject to certain conditions. As four sanctions amounting to Rs. 2.82 crore issued on 30/31 March, 1998 pertaining to State Governments of Gujarat and Orissa were not admitted by PAO with the observation that these releases should have been made under Major Head 2810 concerning to agencies, where no budget was available and not in the Major Head 3601 concerning State Governments. The budget of that order therefore could not be utilised."

2.29 Asked to explain the reasons for making sanction amounting to Rs. 2.82 crore pertaining to the State Governments of Gujarat and Orissa under Major Head 3601 instead of Major Head 2810 thereby the budget of that order could not be utilised, the MNES in a written note stated:—

"The nodal Department in the States of Gujarat and Orissa are the Department of Rural Development & Agriculture and Department of Science and Technology and the nodal agencies are Gujarat Agro-Industries Corporation Ltd. (GAIC) and Orissa Renewable Energy Development Agency (OREDA) respectively. On the request of the nodal State Department, the funds were generally released directly to nodal agencies under Major Head 2810. However, as the budget had exhausted under the Major Head 2810 by the first fortnight of March, 1998 and GAIC informed that it had taken advance from Contingency Fund of the State Government, the release was made in favour of the State nodal department on 31st March, 1998 under Major Head 3601. Similar procedure was followed in the case of Orissa also. However, the Integrated Finance Division did not agree to such releases with the observation that it would amount to re-appropriation of funds from one major head to another, though both meant for NPBD, which would go against the direction of the Ministry of Finance. Thus, the budget under Major Head 3601 remained unutilised."

Central Subsidy for North-Eastern States

2.30 Achievements *vis-a-vis* targets for North-Eastern Region States, Sikkim, Jammu & Kashmir and Himachal Pradesh for the last three years as follows:—

State	1995-96		1996-97		1997-98	
	Tgt.	Ach.	Tgt.	Ach.	Tgt.	Ach.
1	2	3	4	5	6	7
Arunachal Pradesh	20	61	40	60	100	105
Assam	900	587	1000	343	1500	275

1	2	3	4	5	6	7
J&K	50	41	50	82	200	Report not received
Himachal Pradesh	1200	1231	1200	1262	1000	1142
Manipur	100	142	150	201	250	271
Meghalaya	100	50	75	20	100	Report not received
Mizoram	100	100	120	120	200	147
Nagaland	200	182	200	179	300	121
Sikkim	150	224	200	201	250	174
Tripura	50	51	50	50	100	72

2.31 When asked to state the reasons for not achieving the targets, the MNES stated:—

"The shortfall in the achievement of the targets in certain States is due to priority given by the State Government."

2.32 When asked what steps have been taken to convince the States about the utility of such projects and accord high priority to such projects. Secretary, MNES during the evidence stated:—

"One of the reasons is that out of seven States, four do not have a nodal agency ..... That is why we have taken this decision that now we will even support them financially for setting up these nodal agencies. So, that is one of the reasons why infrastructure lacuna is existing in that area."

2.33 A representative from the MNES further added:—

"For biogas and improved chulhas, the then Minister of State for Non-conventional Energy Sources had written a letter to the Chief Ministers of all the North-Eastern States pointing out that 10 per

cent of the Budget was earmarked for the North Eastern States. Each State's target was communicated right in the month of July. When the achievement had not taken place commensurate with the time and advance given to them, in December 1997, the matter was taken up with the Chief Ministers. Three Chief Ministers replied that they would look into the matter and see that targets were achieved. But, in spite of that, at the end of the year we found Arunachal Pradesh and Manipur were the only two States where the targets were achieved. The rest of the North Eastern States had not achieved targets."

Sanitary toilet linked biogas plant for schools

2.34 A new component in this programme is the linking of biogas plant with toilet in schools. This programme has been extended to 300 schools during 1997-98.

2.35 The objectives of the scheme are: (i) to demonstrate the use of biogas generated from such plants to students, (ii) to inculcate the habit of using sanitary toilets among school children; (iii) to highlight the conservation of human waste for manurial purposes; and (iv) to provide toilet facility to girl students and lady teachers in schools.

2.36 During 1997-98, a target of 500 such plants was envisaged within the overall target fixed and budget allocated for NPBD. About 380 such plants have been installed during 1997-98. The estimated cost of one such plant is Rs. 15,000/- including the cost of two toilets and a water storage tank. The total estimated expenditure on account of Central subsidy is Rs. 38.00 lakh only. A target of 500 such plants is again proposed for 1998-99 within the overall physical target and B.E. for NPBD. Special efforts will be made to involve district officers of Department of Education in identifying the schools, particularly girls schools which presently do not have toilet facilities.

2.37 When asked how the Government would ensure that plants already set up remain in working order and what procedure has been laid down for the same, a representative from the MNES stated:—

"The programme is lower than the target in Bihar, U.P. and Rajasthan. The programme is slow in Rajasthan due to lack of water availability and cattle migration. Therefore, during the last 'ear, because of our efforts, out of about 30 districts the programme s concentrated in eight to ten districts and it is recently picking

up again in the rest of States. In the case of Uttar Pradesh it is slightly better and we have still to overcome the backlash of non-functionality of plants set up in several years ago in Bihar. Another thing is that in all these three States the progamme is implemented as a purely Government programme and entrepreneurs and NGOs are not favoured. The Government of India has been persuading these three States to involve entrepreneurs and NGOs.

2.38 The representative further added:—

"We have been persuading these States to train entrepreneurs and NGOs and take up the construction of biogas plants on a turn key basis with the first three years free maintenance a guarantee to make an impact on the programme of construction of these plants. With the changes suggested the States will also pick up.

2.39 The National Project on Biogas Development is an important project in improving the quality of life in rural areas. But, the Committee note with concern that the budget provisions for the scheme over the years have not increased commensurate with its social importance. And whatever budget had been provided even that could not be utilised. Even the physical targets for the scheme for 9th Plan have been brought down in comparison to the achievement in 8th Plan. At the present rate of achievement, it will take decades to fully exploit the potentials of the biogas plants in the country. Apart from the financial constraints, one of the reasons stated for the low performance of the scheme is the low priority given by the State Governments and consequently the absence of any nodal agency in many of the States.

2.40 The Committee are of the view that all-out efforts should be made to convince the State Governments about the utility of the scheme in improving the quality of life in rural areas. The State Governments should be extended all help, financially and otherwise, in setting up nodal agencies which can take care of the implementation at the grass root level especially in the States which are lagging behind but have high potential in the field. The Committee are of the opinion that a public awareness programme should also be started for this scheme. The Committee also recommend that all out efforts should be made to get loans from international bodies like World Bank which have shown interest in this project because of its social importance.

2.41 The Committee also note with concern the poor percentage of functioning of night soil based plants in various States. The Committee feel that Ministry should ensure continued functioning of the plants already set up and take immediate steps to remove pottlenecks responsible for their non-functioning identified by the Agricultural Finance Corporation, Mumbai.

C. Community, Institutional and Night-soil Biogas Plants (CBP/IBP/NBP) Programme

2.42 Community, Institutional and Night-soil Based Biogas Plants (CBP/IBP/NBP) Programme was started in 1982-83 with the objectives to recycle organic wastes for harnessing fuel gas for cooking, generation of motive power and electricity; and to recycle human waste for linking community and institutional toilets with biogas plants.

2.43 The total 8th Plan outlay and achievement of targets under the programme were as follows:

(a)	*Physical*	
	Plan Target	450 plants
	Physical Achievement	1343 plants
	Percentage of achievement	298%
(b)	*Financial*	
	Plan outlay	Rs. 5.00 crore
	Total Expenditure	Rs. 15.55 crore
	Percentage of expenditure over outlay	310%
(c)	*Total outlay in 9th Plan is as follows :*	
(i)	Outlay proposed by Ministry	Rs. 180.00 crore
	Outlay approved by Planning Commission	Rs. 30.00 crore
(ii)	*Physical targets, if any, finalised in the plan of the scheme*	
	Physical target within the approved outlay	800 plants

(d) Budget Estimates, Revised Estimates and actual expenditure for the year 1996-97, 1997-98 and Budget Estimates for 1998-99 are as under:

(Rupees in crores)

Year	B.E.	R.E.	Actual Expenditure
1996-97	4.40	4.40	4.38
1997-98	8.50	5.50	5.80 (provisional)
1998-99	7.80	—	—

2.44 The MNES informed that a total of 263 plants have been installed during 1997-98 against the target of 300 plants. The main reason for the shortfall was non-release of funds to States and agencies.

2.45 Asked to state reasons for non-release of funds to States and agencies, the MNES stated:

"The reason given by the Integrated Finance Division for not agreeing for release of 2nd instalment of funds in the month of February 1998 was that the funds could be released on reimbursement basis. It means that funds were not allowed to be sanctioned in advance as per procedure given in the Administrative Approval, which was vetted by IFD in the beginning of the year."

2.46 Asked to state the reasons for such technical hitches in implementation of the scheme and steps taken to remove such difficulties, a representative of the Ministry stated in this connection:

"The technical hitch has been overcome. Our Joint Secretary and Financial Adviser is here. As soon as the Budget is passed by the Parliament, we are ready with the administrative approval. We have finalised it and it will be issued."

2.47 During the 8th Plan period, physical achievement in respect of CBP/IBP/NBP programme was 1343 community/institutional biogas plants with Rs. 15.15 crore, whereas the physical target set for the

9th Plan period is 800 community/institutional biogas plants with the plan outlay of Rs. 30.00 crore.

2.48 Asked to state the reasons for fixing low target with higher outlay during 9th Plan period in comparison to the physical achievement during the 8th Plan period, the Ministry in a note furnished to the Committee stated:

"Greater focus is proposed to be laid on the promotion of community toilet cum biogas complexes (large sized night-soil based plants) from the view point of improving sanitation, during the Ninth Plan period. As the amount of Central assistance is presently in the range of Rs. 4.60 lakh to Rs. 8.00 lakh per such plant, as compared to Rs. 64,000/- to Rs. 2.00 lakh per CBP or IBP, it would be possible to achieve only low targets, as proposed within the allocated plan outlay."

Revival of Non-functional plants (CBP/IBP/NBP)

2.49 The Ministry started a scheme for revival of non-functional plants during 1992-93. The salient features of the schemes are as under:

"A scheme for revival of non-functional community and institutional plants of capacities of 35 to 140 cubic metres was initiated in 1992-93 with a provision of one-time support up to a maximum of Rs. 25,000/- per plant. Night-soil based plants for community use were added in the scheme in 1993-94. The scheme provided for one-time assistance for revival of CBP and IBP set up in goshalas and charitable trusts (excluding IBP set up by private and profit making institutions) and NBP for community use set up at least 5 years prior to the given financial year and remained non-functional due to technical and structural problems. The amount of assistance given was a maximum of Rs. 10,000 for an IBP or NBP and Rs. 1.00 lakh for a large sized CBP of 45 to 85 cubic metres gas production per day capacity."

2.50 A total of 2362 plants had been set up till 1997-98, The average estimated cost of CBP or IBP ranges from Rs. 90,000/- to 4.00 lakh and of an NBP ranges from Rs. 1.50 lakh to Rs. 9.00 lakh depending upon the capacity and area.

2.51 Asked to specify the total number of non-functional plants out of these, the MNES in a written note informed:

> "In the year 1993-94, an evaluation study was conducted by an independent agency, namely Agricultural Finance Corporation, Mumbai. The study covered a sample of 166 plants installed up to 1993-94 in 7 States, namely, Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu and Uttar Pradesh and reported that 43% community plants, 68% institutional plants and 52% night-soil based plants were functioning."

2.52 When asked whether the percentage of functioning of plants in various States also includes the biogas plants which have been revived during 1992-93 to 1997-98, a representative from the MNES stated:

> "Yes, we admit that the failure rate before 1992 in night soil based biogas plants was large. It is mainly because of the small capacity biogas plants. From 1994-95 onwards, we are involving Sulabh International. The biogas plants are now being set up and the functionality rate has improved. Out of 20 States, I have the figures of seven major States where our programme—toilet complex linked biogas plants has been taken up the functionality rate is 80 per cent. Earlier it was in the range of 43 to 68 per cent."

2.53 When asked how many plants have been revived so far and the total amount of assistance provided on this account, the MNES in a written note informed:

> "A total of 125 plants have been revived during 1992-93 to 1997-98 and an amount of about Rs. 1.00 crore has been provided to the States and agencies on this account."

2.54 Asked to state the steps taken to improve the efficiency of biogas plants already set up and to ensure their continuous functioning, the Ministry in a note furnished to the Committee stated:

> "The State Governments and agencies were advised to take up repair of only such plants, which could continuously function and consider to hand over the plants after repair to voluntary agencies or private entrepreneurs on lease basis for regular operation of plants on a self-sustaining basis."

2.55 The Committee are constrained to note the declining trend in the budget allocations for the scheme during the 9th Plan and the low targets fixed for setting up the plants. The Annual Plan expenditure for 1998-99 has also come down in comparison to the Budget Estimate for the year 1997-98. The Committee are also concerned to note that during the year 1997-98 the targets could not be achieved because of non-release of funds to the States and agencies due to bureaucratic and procedural wrangles. The Committee have taken a serious note of such delays. The Committee are also concerned about the large number of non-functional institutional and community plants.

2.56 The Committee suggest that budget allocations for the Scheme should be enhanced suitably so that better physical targets be achieved. The Committee are of the view that the Government should also ensure continued working of the community plants so that the moneys already spent by the Government do not go waste. The Government should ensure their proper maintenance and wherever possible, private entrepreneurs should be involved in it.

D. National Programme on Improved Chulha (NPIC)

2.57 The National Programme on Improved Chulha has launched in 1985-86 with the objectives of fuel conservation, reduction of smoke in kitchen and checks on deforestation.

2.58 The total potential of improved chulha is to cover about 120 million rural and semi rural households in the country which is about 80 per cent of the total number of households indicated in Census 1991.

2.59 A total of 257 lakh chulhas have been installed in the country upto 1996-97 which represents a coverage of over 22% of estimated potential.

2.60 When asked whether the National Programme on Improved Chulha has been fully successful and how much rural population has been covered under the programme, the MNES in a written reply stated:—

"The NPIC has been successful as the demand for improved chulhas has been increasing from almost all States and Union territories. Several State Governments have started supporting the

programme by providing additional financial assistance under State Plan Sector to meet the local conditions and requirements. However, only 24 per cent of the estimated potential has been harnessed so far. The main reasons for limited coverage are : (i) availability of central budgetary allocation; (ii) lack of infrastructure development in North-Eastern Region/States; (iii) priority given by the States and (iv) lack of awareness and education amongst rural people."

2.61 To a query whether the success rate of the programme has been uniform in all region/States, the MNES stated:

"The success for the programme varies from State-to-State. The programme has been popular in the States of Andhra Pradesh, Gujarat, Goa, Haryana, Himachal Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Andaman and Nicobar Islands, Dadra and Nagar Haveli and Pondicherry".

2.62 When asked what effort have been made to overcome the constraints, the MNES informed:—

"(i) Amount of Central subsidy has been enhanced from Rs. 40 to Rs. 80 per fixed chulha with chimney for North Eastern Region States and Sikkim during 1998-99.

(ii) Alongwith North-Eastern Region States, all notified hilly and desert districts, Andaman and Nicobar Islands and Lakshadweep have been made eligible for higher rate of Central subsidy *i.e.* Rs. 75 per metallic portable chulha during 1998-99.

(iii) Syllabus and financial provisions have been improved for users' courses which are planned to cover about 5,000 villages during 1998-99; and

(iv) Greater emphasis is being laid on entrepreneurship training for rural artisans experienced in pottery and black smithy. During 1998-99, over 100 entrepreneurs are planned to be trained and, thereafter will be involved in the manufacturing and marketing of improved chulhas with liners."

2.63 Total 8th Plan outlay, percentage of achievement of Plan targets and the 9th Plan outlay and target set for NPIC are as under:—

8th Plan targets

Physical :	
— Plan target	100 lakh improved chulhas
— Physical achievement	131.77 lakh chulha
— Percentage of achievement over target	132%
Financial	
— Plan target	Rs. 80 crore
— Total expenditure	Rs. 85.55 crore
— Percentage of achievement over target	107%

9th Plan targets

Plan outlay	Rs. 84.00 crore
Physical Plan target	110 lakh improved chulhas

2.64 When asked the reasons for slow pace of exploration of full potential of improved chulhas, the MNES stated:

"A target of installation of about 110 lakh improved chulhas have been proposed with an outlay of Rs. 84.00 crore for the Ninth Plan period (1997-2002), On achieving the proposed plan target the coverage of the total potential would reach only 31 per cent. To overcome the problem of availability of funds for higher coverage, the national efforts need to be supplemented through external financial support. While external financial assistance is available for various renewable energy programmes such as wind-power, small hydro, solar photovoltaic, etc. the same is not available for improved chulha and biogas programmes. The Ministry has recently taken up the issue with some multilateral and bilateral funding agencies, namely World Bank, UNDP and GEF and the initial response received from them has been positive."

2.65 The physical targets, achievements, budget estimates, revised estimates and actual expenditure for the last two years and the budget estimates for 1998-99 are as under:

			(Rs. in crore)		(No. of Chulhas in lakhs)
Year	B.E.	R.E.	Expenditure	Target	Achievement
1996-97	16.75	14.75	14.75	25.00	29.60
1997-98	17.70	10.57	16.56	30.00	27.98
1998-99	16.55	—	—	16.00	—

2.66 When asked the reasons for shortfall in achieving the target for 1997-98, the MNES stated:

> "The reason for a shortfall of about 2 lakh chulhas is non-achievement of the allocated targets by North Eastern Region States, Jammu and Kashmir and Kerala, mainly due to administrative problems in many of these States."

2.67 When asked the reasons for fixing low target for 1998-99, the MENS replied:

> "After accounting for the estimated spill over liability of Rs. 7.00 crore out of the budget estimate of Rs. 16.55 crore for 1998-99, the left over amount is adequate only for fixing a target of 16.00 lakh improved chulhas."

2.68 The National Programme on Improved Chulhas is yet another programme for improving the quality of life in rural areas. It also has an important role in checking the problem of deforestation. The scheme is a part of the Twenty Point Programme. But the Committee note with concern the slow progress made by the scheme so far. In fact the physical and financial targets for the 9th Plan are a climb down over the achievements made during the 8th Plan. As a result, both physical and financial targets for 1998-99 have come down in comparison to the targets of 1996-97 and 1997-98. With this rate of achievement, the coverage of the total potential would reach only 31 percent after the Ninth Plan. The Committee are of the view that all

out efforts should be made to educate the rural people and raise the level of their awareness about this scheme so that the demand for Improved Chulhas can be increased. These people can also then asked their respective States to give priority to the scheme. As one of the objectives of the scheme is to check deforestation, efforts should be made to harness the support of NGOs working in the field of environment. The Committee also recommend that emphasis should continue to be laid on entrepreneurship in rural areas. The Committee are also of the view that NPIC, being a National programme should be allotted more funds.

E. Small Hydro Power Programme

2.69 Small Hydro projects are being visualised for construction to take advantage of short gestation period and to provide electricity to remove areas where extension of transmission/distribution lines are considered uneconomic/not feasible. The projects are ideally suited on account of socio-economic consideration. There is also reliability of power availability to these small areas fed by such source of power generation.

2.70 the Small Hydro Programme aims at speedy development of micro, mini and small hydro schemes upto 3 MW capacity of power generation from the otherwise dissipating energy in flowing waters at canal falls/initiation dams, run-of-river and natural falls in the hilly areas having significant potential.

2.71 The Government has recently announced schemes for the renovation and modernisation of old SHP projects, special incentives for SHP projects in North-Eastern region and a scheme for development and upgradation of watermills in hilly areas.

2.72 Highlighting the need for renovation/modernisation and capacity uprating of SHP Station upto 3 MW capacity, the MNES stated:

"A number of old small hydel projects (upto 3 MW station capacity) installed in the country have sub-optimal generation, or are even non-functional due to aging, technology obsolescence, poor maintenance, etc. If not attended to on time, the condition of these plants would further deteriorate causing further loss of generation and some of them may deteriorate beyond economic rectification and repairs. The benefits of R&M are achievable in a period of

one to two years with financial inputs smaller in comparison to setting up of new projects. As per the Scheme, support upto 75% of the R&M cost or Rs. 2 crore per MW, whichever is lower is being provided. The renovation, modernisation and uprating incentives are being provided for the works undertaken by the utilities in Government sector/public sector. The main aim of the scheme is to renovate the plant, to extend their life considerably, with improved performance and reliability".

2.73 As regards promotional incentive schemes for development/ upgradation of Water Mills, the MNES stated:

"In recent years, a number of water mill have started to fall into disuse. In view of this, the Ministry has announced a Promotional Incentive Scheme for Development/Upgradation of water mills on 15th July, 1997. As per the scheme, Ministry is providing financial support of Rs. 30,000 or 75% of actual cost, in mechanical mode and Rs. 6,000 or 75% of actual cost in electrical and mechanical mode for the development/upgradation of water mills. The scheme, is being operated through local organisations such as the Water Mill Associations, co-operative societies, registered NGOs, local bodies and State Nodal agencies".

2.74 The Minister has also revised promotional incentive scheme for the development of Small Hydro Power projects upto 3 MW station capacity in the North-Eastern (NE) States.

2.75 The scheme provides capital subsidy of upto Rs. 3 crore per MW or 50% cost of the project, which ever is lower, for the projects executed by State agencies/Power Departments/State Electricity Boards (SEB's) in the North-Eastern States. As per the scheme the revised capital subsidy of upto Rs. 3 crore per MW is also extended for the ongoing projects supported by the Ministry under its erstwhile capital subsidy scheme in the NE States. In addition capital subsidy of upto Rs. 15,000 KW is also given for SHP projects upto 100 KW capacity executed by Govt. Deptts./State Nodal Agencies/Non-Governmental Organisations(NGOs)/local bodies in the NE Region/Hilly Region/ A & N Islands. The interest subsidy of upto Rs. 1.12 crore/MW is also available for SHP projects upto 3 MW station capacity taken up in private sector, co-operative sector, NGOs, local bodies, SEBs, Governments Departments and Public Sector Corporations.

2.76 The total financial allocations made under these components during the Annual Plan for 1998-99 and the total outlay for these schemes during the 9th Plan period, Scheme-wise are as under:

"Annual Plan allocation for 1998-99 for Small Hydro Power Programme is Rs. 22 crore Rs. 12 crore have been allocated for ongoing projects and for new proposals under the subsidy scheme. These provisions include progressive releases for ongoing projects in the NE region and new proposals if received from NE region. A provision of Rs. 5 crore has been made for the Renovation and Modernisation Scheme. A sum of Rs. 1 crore has been budgeted for water mills, feasibility studies, R&D and other activities under the Programme.

During the 9th Plan Period an allocation of Rs. 147 crore has been made for Small Hydro Power Programme. This includes a provision of Rs. 100 crore for ongoing and new SHP projects under the MNES subsidy schemes, Rs. 35 crore for renovation and modernisation scheme, Rs. 2 crore for development/upgradation of water mills and Rs. 10 crore for other activities."

2.77 Asked to state the total number of old SHP, projects at present in the country identified for R&M, the MNES stated:—

"The present Small Hydro Power capacity (upto 3 MW) stands at 155.38 MW from 216 small hydro power stations in 24 States/UTs. Of these projects of about 80 MW capacity which were installed upto the end of the 7th Plan period are old and most have sub-optimal generation or are even non-functional".

2.78 The life span of small hydro power project is estimated as 35 years.

2.79 Details of the status of projects under R&M programme are given in Appendix II.

2.80 When asked about the criteria for selection of projects for R&M the MNES stated:

"In order to consider a project for R&M works, its past performance, present level of generation, the forced shut downs are the primary factors. After the preliminary assessment by the State Electricity Board/agency, the Ministry deputes a team

consisting of experts, representatives of Ministry, Electricity Boards/ Agencies & Equipment manufacture to assess the quantum of renovation works. The final selection is made on the basis for the overall techno-economic viability of the R&M proposal."

2.81 When asked about the total number of proposals received for R&M of old SHP projects the MNES stated:

"The Ministry has so far received 14 proposals for renovation and modernisation of old small hydro power stations, 9 proposals have been received from Himachal Pradesh, 3 proposals from West Bengal and 2 from Sikkim. Ministry has given 'in principle' approval for seven proposals received from Himachal Pradesh (2) West Bengal (3) & Sikkim (2) during 1997-98 and the States have been requested to carry out the detailed engineering, firm up costs by obtaining competitive bids and ensure matching funds. No projects has since been completed."

2.82 There are more than 1.5 lakh water mills sites in the country. The State-wise details are as below:

States	Total No. of Sites (Estimate)
Uttar Pradesh	70,000
Himachal Pradesh	60,000
Jammu & Kashmir	25,000
Bihar	500
Arunachal Pradesh	3,000
Sikkim	500
West Bengal	500
Total	1,59,000

2.83 When asked about the total number of proposals received for upgradations/development of watermills, the MNES stated:—

"Under the Water Mills scheme preliminary proposals have been received form NGOs in Uttar Pradesh and Government agencies

from Jammu & Kashmir and Arunachal Pradesh. They have been requested to prepare a brief report after surveying the sites and indicating the present status of water mills."

2.84 When asked the time by which the schemes are scheduled for completion, the MNES in a written note stated:

"The renovation and modernisation works of these projects are expected to be completed within a period of two years from the date of sanction."

2.85 When asked whether the Ministry have any experts on Hydro projects, the Secretary, MNES during evidence stated:

"..... There are experts. We do not have a Centralised agency like the Central Electricity Authority. We work with State nodal agencies dealing with electricity. We have got experts. We have UNDP consultants not only from within the States but abroad also."

2.86 The Small Hydro Projects in decentralised as well as Grid connected mode can contribute significantly to meet the overall power requirements of a region. The present Small Hydro Power capacity stands at 155.38 MW from 216 small hydro stations in 24 States. Of these, projects of about 80 MW capacity which were installed upto the end of 7th Plan period are old and most have sub-optimal generation. The Committee note with concern that plants generating almost half of the installed capacity are having sub-optimal generation only and need immediate attention. The Committee are happy to note that the Government have taken up a Scheme of Renovation and Modernisation of Small Hydro Projects during the 9th Plan with a target of renovating plants generating a total of 30 MW power. The Committee feel that all out efforts should be made to renovate the old plants. The Ministry in the first instance should identify and draw up a list of all such plants which need renovation as at present they have informed only about those plants for which renovation proposals have been received from the State Governments. The Government should ensure that Renovation & Modernisation work should be completed within the stipulated period of two years from the date of sanction so as to avoid time and cost overruns. It should also be ensured that only such projects are to be taken up where the cost of renovation remains within reasonable limit.

F. New Technologies

2.87 The programme on new technologies covers hydrogen energy, chemical sources of energy, geo-thermal energy, alternative fuel for surface transportation and ocean energy.

2.88 Total 8th Plan period outlay, percentage of achievement of Plan targets and actual expenditure spent and the 9th Plan outlay under the scheme are as under:—

(Rs. in crores)

Financial Programme	Total outlay	Expenditure	% Achievement	9th Plan outlay
Hydrogen Energy	2.14	1.02	47.54	3.50
Chemical Sources of Energy	3.36	2.61	77.81	6.00
Geo-thermal Energy	0.88	0.19	21.07	2.00
Alternate Fuel for Surface Transportation	13.50	4.41	32.66	6.50
Ocean Energy	0.70	0.10	14.28	2.00

2.89 When asked to explain the reasons for low utilisation of funds, the MNES stated:

"The new and emerging renewable energy technologies are still in the development stage and further R&D is needed to establish their techno-economic viability, prior to commercialisation. In view of this, industrial participation in the R&D projects in the new technology areas has been limited. However, in a few R&D projects

in the chemical sources of energy, the Ministry secured financial participation of industry to the extent of 50%. Further efforts are continuing to take up consortium based projects involving research groups and user and industrial organisations so as to achieve early commercialisation of the technology/product. However, the Ministry has also proposed to involve industry in the R&D work and to invite proposals on specific thrust areas which include new technology areas from the industry for taking up R&D projects which would result in product development and commercialisation."

2.90 When asked what steps have been taken for improvement in the implementation of new technology schemes so as to tap the vast potential of new technologies which remains unexploited, the MNES stated:—

"Different new and emerging renewable energy technologies are being developed with a view to meeting the growing energy demand in an efficient and environmentally benign way. Efforts are, however, needed for attainment of technical maturity so as to commercialise them for wider applications. As part of R&D projects taken up by the Ministry small fuel cell power plants, hydrogen based small power generating sets, hydrogen fuel vehicles (two wheelers), method for production of hydrogen from effluents, battery operated vehicles, etc. have been developed. Efforts are continuing to bring the products and technologies developed in lab conditions to the application stage. So the achievements on the new and emerging technologies should not be viewed from the fund utilisation point of view, but also from the view point of indigenous capability development. However, these technologies are still in the development stage and their commercial viability and performance reliability are yet to be established. The Ministry is, therefore, pursuing R&D work on various aspects of new and emerging renewable energy technologies through research, scientific, academic institutions, universities, national laboratories, industry etc. in the country."

2.91 A target of 525 battery operated vehicles was set during the 8th Plan period under the alternative fuel for surface transportation programme. Out of this, only 58 vehicles were introduced, thus achieving the target of 11.05 percentage only. A target of 200 electric vehicles has been proposed during the 9th Plan period and a target of 20 vehicles has been set for 1998-99.

2.92 When asked the reasons for the slow progress in achieving the target for battery operated vehicles, the MNES in a written note stated:

"India has taken up development and promotion of battery operated vehicles along with some other major countries in the world. The Indian Battery Operated Vehicles (BOVs) programme, like similar programmes in other countries could not grow rapidly because of high cost of electric vehicles as compared to conventional vehicles. Other major constraints are non-availability of high energy density batteries and control systems on which work is going on in major countries of the world. Despite these constraints, BOV programme is being continued in the country and R&D projects are being taken up for performance improvement and cost reduction. MNES has set up a high level Expert Committee headed by Director General, Council of Scientific & Industrial Research, to deal with various aspects of battery technology and BOV related aspects. R&D work has also been taken-up for advanced batteries for vehicular applications, A.C. vector control drive, hybrid electric vehicle development, etc. It is hoped that with further technical improvements and efforts being made for reducing the cost and improving the reliability of the vehicles, the BOV programme would be able to pick up in the Ninth Plan."

2.93 The Secretary, MNES during the evidence, also revealed:—

"Alternate fuels, for example, is a very interesting area. It is something which should be in the knowledge of this Committee that ethanol is an established fuel which can replace petroleum a hundred per cent. Fifty per cent of our petroleum requirements are still being met from abroad and the consumer is having to pay a very high price for that. When we import petrol from outside, we are investing in other economies abroad. We can produce ethanol from sugarcane, from molasses. At the moment we are surplus in ethanol. We can straightway convert a part of it as the technology is very well established. Brazil had a programme on ethanol going over many years. They were subsidising it because the petrol cost was very low. Our petrol cost is artificially kept high. It is now selling at about Rs. 23. The ethanol price which is now available is no more than Rs. 15 to Rs. 16. But, because of pressures from other sectors and pressures from the vested interests, this decision has had difficulties in getting across."

2.94 To a query whether 10 per cent alcohol mixed with petrol or 100 per cent alcohol could be used and vehicles could be run on it, the Secretary, MNES during the evidence stated:—

"Brazil has been running vehicles in lakhs and millions operating on 100 per cent ethanol. Their own petrol cost was very low."

2.95 When asked why it is not being used in India, the Secretary, MNES stated:

"There is opposition to this from various sectors. They say that this is not the best use of ethanol, it can be better used in industry, if you use it as fuel its viability will go down, and so on. So, my answer is that it should be left to the market. Once people know that ethanol is needed, people will automatically sow more sugercane and it will be used for production of more ethanol. The point is that there has to be very big political input. Only then a project like this can make a headway."

2.96 As regards the details and the present status of study carried out for setting up of tidal power plants in the country, the MNES stated:

"It is planned to take up a demonstration tidal based power generation project in Sunderbans. The State Nodal Agency in West Bengal is in the process of preparing a detailed project report. This proposal discussed in expert group meetings is being processed further."

2.97 To a query whether any ocean energy units are there in the world, a representative of the MNES stated:

"There is not a single MW power plant for ocean thermal energy anywhere in the world. And, therefore, we did not take it up."

2.98 The representative further informed:—

"We find that the tidal energy is one of the options in which commercial projects have been developed. We had also considered a 900 MW project in Kutch in Gujarat. But here again, the total cost was of the order of Rs. 5000 crore which was not available. So we decided to take a project of three megawatt in which we are now in an advanced stage. We have completed the feasibility

study and it has been done jointly. We have given this project to the West Bengal Renewable Energy Development Agency. They have got the involvement of Development Consultant in Calcutta for preparing the detailed project report. We have set up a Committee in the Ministry consisting of experts from different agencies including universities and IITs for this project. We have finalised the terms of reference for the detailed project report. It will cost about Rs. 90 lakh. We are giving about Rs. 70 lakh and the West Bengal Government are giving about Rs. 20 lakh. We believe that in about three years this projects would be ready and we will have an experience of tidal energy in the country."

2.99 When asked how does Sunderban plant work out in terms of expenditure per megawatt, the representative of the MENS stated:

"It comes to about Rs. 10 crore to Rs. 12 crore per megawatt. We decided to go ahead with this is that there is no other alternative for megawatt level power in the Sunderban area. The West Bengal Government was very keen that this was the only option. Of course, we can use solar photo-voltaics for kilowatt level power. But for megawatt level power, this is the only option."

2.100 When pointed out that Rs. 10 crore to Rs. 12 crore per megawatt of ocean energy is on the very high side, the Secretary, the MNES stated:

"The cost per megawatt of installed capacity in the wind energy is about Rs. 4 crore to Rs. 5 crore. But its capacity utilisation is anything between 15 and 25 per cent, which means, to get one megawatt generation, you have to have four times the installed capacity in wind energy. This means the cost per megawatt of installed capital investment and so on, would be anything between Rs. 12 crore and Rs. 16 crore. If you multiply some of the small projects, because of the aloofness, the distance and so on, it comes to Rs. 15 crore to Rs. 16 crore per MW. We are doing these things in our Ministry for other reasons like eco friendly reason. As the hon. member has rightly said that there is no material cost involved in this after the initial infrastructure cost. There is no fuel cost involved. This three megawatt plant is most justified. It must be gone through. Actually, after my coming here, it has been taken off the shelf. We are going ahead with its fulfillment. I think you should fully support it."

2.101 The Committee note that the new emerging renewable technologies are still in the developmental stage and further R&D is needed to establish their viability prior to commercialisation. But the Committee find that during the 8th Plan period, expenditure on various schemes under new technologies had been much less than the budgeted amount and the proposals for the Ninth Plan are not much higher than the 8th Plan outlays. Even the physical targets had not been achieved in a number of programmes like Battery Operated Vehicles and Alternate Fuel for Surface Transportation. In case of tidal power plants, it has been decided to take up a demonstration project in Sunderbans. The Committee are of the view that more stress should be given on R&D, if possible in collaboration with private sector, where they can be allowed to commercially exploit the new technology. However, it would be useful to have a thorough cost and benefit analysis before investing substantially in any project involving new technologies.

G. Impact of Sanctions of various projects/programmes of MNES

2.102 The Indian Renewable Energy Development Agency (IREDA) was set up in 1987 to finance renewable energy projects in the country. IREDA has sanctioned loans amounting to Rs. 1648.88 crore as on 31.12.97 for various projects, about half of which has been disbursed. IREDA is receiving funds from the World Bank, Global Environment Facility, Asian Development Bank and other sources.

2.103 It has been reported in the press/media that the World Bank has postponed the Agency loans in the wake of recent nuclear tests at Pokhran. As a result of this, loans to the tune of $130 million for various projects of the MNES have been deferred.

2.104 When asked about the factual position in this regard, the MNES stated:—

> "A project proposal for World Bank line of credit and Global Environment Facility (GEF) Grant to IREDA, for the second Renewable Energy Project was negotiated with the World Bank in April, 1998. A total World Bank assistance of 135 million US$ was agreed as per the following details."

Sector covered :

(i) Small Hydro

(ii) Energy Efficiency

Sources and Quantum of Assistance:

(i)	International Bank for Reconstruction and Development (IBRD) Loan	US$ 80 Million
(ii)	International Development Association (IDA) Credit	US$ 50 Million
(iii)	Global Environment Facility (GEF) Grant Assistance	US$ 5 Million (for Technical for Energy Efficiency component)

Physical Target :

(i) Small Hydro – 200 MW

(ii) Energy Efficiency – No specific target

Period of Project Implementation: 1998-2003

"Consideration of the proposals has been presently deferred by the World Bank".

2.105 Asked to state the impact of such sanctions on various schemes, MNES in written note stated:—

"Deferment of the assistance will affect the financing of small hydro power and energy efficiency projects."

2.106 Elaborating the impact of possible sanctions, Secretary, MNES during evidence stated:

"This has been a very important year for our country. We have made great scientific progress by conducting the nuclear test. But the impact of the sanctions would probably the heaviest in our sector."

2.107 The Secretary, MNES further added:

"The funds that we would loss would be the World Bank Fund and the Global Environment Facility Fund. They have been deferred. It is very difficult to say whether we will lose them altogether but as of today, we were to take that we would lose. The others are OECF and KFW, and the German credit. These are all low cost funds. It would be difficult to replace them altogether. But overall funds at higher rate of interest would be available to us from the local market through Tax Free Bonds. etc.".

2.108 When asked what strategies have been evolved for mopping up the resources so that the various projects are not adversely affected in view of the financial uncertainty created by the postponement of loans by the World Bank and other funding agencies, the MNES stated:

"IREDA is exploring alternate methods of raising resources from the domestic market,. *viz.* commercial banks; financial institutions and by way of issue of additional Tax Free Bonds, etc.".

2.109 The Committee observe that sanctions imposed by the World Bank and other funding agencies after the nuclear tests at Pokhran, are likely to have an adverse impact on various projects of MNES. The financing of Small Hydro Power and Energy efficiency projects are bound to be hit the hardest.

2.110 The Committee are happy to note that the Integrated Rural Energy Development Agency is exploring alternative methods of raising resources from the domestic market, *viz.* commercials banks, financial institutes and by way of issues of Additional Tax Free Bonds, etc. .

2.111 However, the Committee are of the view that the realisation of important projects are likely to be delayed due to these sanctions. The Committee, therefore, recommend that a separate Cell may be set up in the Ministry to tackle the sanctions and prioritise the projects of immediate national interest. This Cell may also examine the feasibility of private sector participation in various schemes of MNES.

NEW DELHI;
July 1, 1998
Asadha 10, 1920 (Saka)

K. KARUNAKARAN,
Chairman,
Standing Committee on Energy.

APPENDIX-I

Statement showing the Demands for Grants of the Ministry of Non-Conventional Energy Sources (Demand No. 64)

(*See* Para 2.2 of the Report)

(In crore of rupees)

Sl. No.	Major Heads	Programme/ Scheme	Revenue Section								Remarks
			1996-97 Actual		1997-98 B.E.		1997-98 R.E.		1998-99 B.E.		
			Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	
1	2	3	4	5	6	7	8	9	10	11	12
1	3451	Secretariat-Economic Service	2.13	3.04	3.08	2.75	3.08	4.15	4.04*	4.60	This Head comprise wages, O.T.A., Domestic & Foreign Travel Expenses, Office Expenses, Rent Rates & taxes, Publication, Other Administrative

*Includes Rs. 4.04 for Solar Energy Centre.

1	2	3	4	5	6	7	8	9	10	11	12
											Expenses, Advertising Publicity, Professional Services, Commission for Additional Sources of Energy, Regional Offices.
2.	2501	Special Programmes for Rural Development	0.57	—	4.30	—	1.50	—	4.30	—	This Programme includes IREP Programme, Grants-in-aid for National & Regional Training Centre. Wind Pump Programme Wind Energy Centre, Wind Resource Assessment, National Programme on Improved Choolah, Energy

1	2	3	4	5	6	7	8	9	10	11	12
											from Urban and Agricultural Waste, Energy from Industrial Waste, Small Hydro Power Development, SHP Promotion Programme UNDP/ GEF Hilly Hydro Projects, Chemical Sources of Energy, Alternative Fuel for Surface Transportation, Hydro-gen Energy, Geothermal Energy, Ocean Energy, Urjagram Project, National Institute of Renewable Energy, Special Area

1	2	3	4	5	6	7	8	9	10	11	12
											Demonstration Project, Energy Conservation, TIFAC/ Data Management System, Information and Publicity Programme, International Cooperation.
3.	2810	Non-Conventional Sources of Energy	132.36	—	176.36	—	61.49	—	172.63	—	This Head comprises R & D in Non-Conventional Energy Sources, Bio-Energy, Assistance to Biomass Programme, National Programme for Biogas Development, Advertising & Publicity Community and Institutional Biogas Development,

1	2	3	4	5	6	7	8	9	10	11	12
											Biomass, Briquetting Energy Plantation, Biomass, Biomass Gasifier for Stand Alone Application, National Bio-Energy Board, Biomass Co-generation and Combustion, Grid connected Gasifier, Animal Energy Programme, Solar Passive Architecture, Regional Technical Back-up Units & Training Programme, Solar Energy Centre, Institutions/Inter-active Research with other Institution/

1	2	3	4	5	6	7	8	9	10	11	12
											Organisations, Professional Service, Photovoltaic, Amorphous Silicon Programme, SPV Pump Programme, Solar Thermal Power Generation, Grid connected SPV Power Project, Assistance to Wind Power Generation Programme, Assistance to Wind Pump programme.
4.	3061	Grants-in-aid to State Government	29.29	—	40.04	—	29.03	—	31.24	—	This head includes Grants-in-aid to State Governments for Small Hydro Power

1	2	3	4	5	6	7	8	9	10	11	12
											Programme, Wind Energy, Grants for Centrally Sponsord Plan Schemes for Bio-Energy, National Programe for Biogas Development, Community and Institutional Biogas Development, Solar-Solar Thermal Energy Programme, National programme on Improved Chulhas, Energy from Urban & Agriculture Wastes, Integrated Rural Energy Planning Programme—Monitoring.

1	2	3	4	5	6	7	8	9	10	11	12
5.	3602	Grants-in-aid to Union Territory Govt.	0.24	—	0.62	—	1.17	—	1.19	—	This Head includes Grants for Central Plan Schemes for Wind Demonstration, Grants for Centrally Sponsored Plan Scheme for NPBD, Community and Institutional Biogas Development, Solar Thermal Energy Programme, National Programme on Improved Chulha, Integrated Rural Energy Planning Programme—Monitoring.
Total Revenue Section			164.57	3.04	224.40	2.70	96.27	4.15	213.40	4.60	

1	2	3	4	5	6	7	8	9	10	11	12
Capital Outlay											
6.	4810	Capital Outlay on Non-Conventional Sources of Energy	28.04	—	34.60	—	33.60	—	41.10	—	This Head includes capital investment for minor works in the Solar Energy Centre and investment in the Equity of Indian Renewable Energy Agencies Ltd. (IREDA).
7.	6810	Loans for Non-Conventional Sources of Energy	87.00	—	80.13	—	60.13	—	148.52	—	This Head includes counter-part loan to IREDA for the International Development Association (IDA) and Danish Export Finance Corporation (DEFC) components of credit

1	2	3	4	5	6	7	8	9	10	11	12
											under the Indian Renewable Resources Development Project of the Ministry implemented through IREDA.
Total Capital Section			115.04	—	114.73	—	93.73	—	189.62	—	
Total			279.65	3.04	339.13	2.75	190.00	4.15	403.02	4.60	

APPENDIX-II

(*See* para 2.79 of the Report)

Status of projects under Renovation and Modernisation Programme

Sl. No.	Name of State/ Project	District	Unit No. and Capacity (KW)	Total Capacity (KW)	Year of Commiss-ioning	Agency	Av. Gen. During Last 3 years (MUs)	Age (Years)	Remarks/Status
1	2	3	4	5	6	7	8	9	10
WEST BENGAL									
1.	Sidrapong	Darjeeling	3x200	600	1897	WBREDA	One unit revived in 97	101	First hydro plant of the country. Needs major repairs/ replacement of weir, controls and electro mechanical parts to revive the plant.
2.	Rinchington	Darjeeling	2x1000	2,000	1979	WBREDA	partly recommissioned	19	Old plant working at part load with makeshift power channel. Needs major repairs/ replacement of power channel, damaged due to land slides and local agitation. Replacement of turbine runners also proposed.

1	2	3	4	5	6	7	8	9	10
3.	Little Rangit	Darjeeling	2x1000	2,000	1968	WBREDA	partly recommissioned	30	Old plant working at part load with makeshift power channel Needs major repairs/ replacement of power channel, weir damaged due to land slides and local agitation. Replacement of turbine runners and rewinding of generator also proposed.
HIMACHAL PRADESH									
4.	Chaba	Shimla	3x250+ 2x500	1,750	1913 1918	HPSEB	8.10	80-85	Old plant having frequent outages. Needs major repairs/ replacement of weir, controls and electro mechanical parts to improve the performance.
5.	Nogli	Rampur	3x250+ 4x500	2,750	1963 1969&1974	HPSEB	4.70	24-35	Plant having sub-optimum generation and faces frequent outages. Damaged last year due to flash floods. Needs major repairs/replacement of weir, power channel, controls and electro-mechanical parts to improve the performance.

1	2	3	4	5	6	7	8	9	10
6.	Manali	Kullu	2x100	200	1987	HPSEB	Inoperative	11	Plant non-functional. Set up as R&D-cum-demonstration project with MNES support. Needs major repairs/replacement of weir controls and electro mechanical parts to revive the plant.
7.	Jubbal	Shimla	2x25+ 1x100	150	1986	HPSEB	Inoperative	12	Plant non-functional. Set up as R&D-cum-demonstration project with MNES support. Needs major repairs of power channel damaged due to floods. Repairs/replacement of controls and electro mechanical parts to revive the plant.
8.	Rongtong	Lahaul & Spiti	4x500	2,000	1986	HPSEB	3.11	12	Plant having sub-optimum generation. Set up at high altitude. Needs major repairs of weir, desilting tank, forebay etc. partly damaged due to land slides and flood. Needs repairs of controls and electro mechanical equipments to improve the generation.

1	2	3	4	5	6	7	8	9	10
9.	Rukti	Kinnaur	4x375	1,500	1979-80	HPSEB	1.75	18	Plant having sub-optimum generation and faces frequent outages. Needs major repairs/ replacement of weir, power channel, controls and electro mechanical parts to improve the performance.
10.	Billing	Lahaul & Spiti	2x50+ 1x100	200	1966	HPSEB	Inoperative	32	Plant having sub-optimum generation. Set up at high altitude. Needs major repairs/ remodeling of weir, power channel damaged due to land slides and glacier. Needs minor repairs of controls and electro mechanical equipments to improve the generation.
11.	Shansha	Lahaul&Spiti	2x150+ 1x100	200	1966 1978	HPSEB	0.03	20-32	Plant having sub-optimum generation. Set up at high altitude. Needs major repairs of weir, desilting tank, forebay etc. partly damaged due to land slides and flood. Needs repairs of controls and electro mechanical equipments to improve the generation.

1	2	3	4	5	6	7	8	9	10
12.	Sissu	Lahaul & Spiti	1x100	100	1976	HPSEB	0.03	22	Plant having sub-optimum generation. Set up at high altitude. Needs major repairs of weir, power channel etc. partly damaged due to land slides and flood. Needs repairs of controls and electro mechanical equipments to improve the generation.
SIKKIM									
13.	Jali	East Sikkim	6x350	1,950	1964	Power Deptt.	3.70	34	Old plant having sub-optimum generation and faces frequent outages. Needs major repairs/ replacement of weir, controls and electro mechanical parts and connection to grid to improve the generation.
14.	Rongnichu-II	East Sikkim	5x500	2,500	1989	Power Deptt.	3.86	9	Plant non-grid connected. Needs repairs/replacement of weir, controls and electro mechanical parts and grid inter connection to improve the generation.

APPENDIX III

Statement of Conclusions/Recommendations of the Standing Committee on Energy contained in the Report

Sl. No.	Reference Para No. of the Report	Conclusions/Recommendations
1	2	3
1.	2.14	The Committee note with grave concern that the Ministry of Finance imposed a cut in the approved budget of MNES without consulting the Ministry. These cuts have affected various schemes/programmes of the Ministry in achieving the targets and even major programmes like Solar Photovoltaice for 1997-98 has seriously been affected.
2.	2.15	The Committee fail to understand as to how the Ministry of Finance could impose a cut on the Ministry's budget which has been approved by the Parliament for achieving specific targets.
3.	2.16	The Committee are also concerned to note the low level of utilisation of funds by the MNES and overall performance of the Ministry due to which

1	2	3
		this cut was imposed by the Ministry of Finance. The reasons for low utilisation of funds seems to be internal wrangling within MNES.
4.	2.17	The Committee also note with concern that a large number of conditionalities laid down by the Ministry of Finance are the main reasons for delays in the release of moneys and consequently affecting, to a large extent, the achievement of targets. While the spirit behind these conditionalities may be good, these do affect the smooth functioning of the Ministry by way of tip offs between the Secretary and the Head of the Integrated Finance Division of the Ministry as in the present case.
5.	2.18	The Committee are of the view that there should be proper coordination between the Ministry of Finance & MNES and the Ministry of Finance should have the views of Secretary, MNES before any cut is imposed so that major programmes of the Ministry are not affected.
6.	2.19	The Committee also recommend that some mechanism may be evolved in

1	2	3
		MNES so that the budgeted funds are utilised properly over the year. The Ministry of Finance will also do some good if they allow enough freedom to the Secretary of the Ministry in spending the approved budgeted amount.
7.	2.39	The National Project on Biogas Development is an important project in improving the quality of life in rural areas. But, the Committee note with concern that the budget provisions for the scheme over the years have not increased commensurate with its social importance. And whatever budget had been provided even that could not be utilised. Even the physical targets for the scheme for 9th Plan have been brought down in comparison to the achievement in 8th Plan. At the present rate of achievement, it will take decades to fully exploit the potentials of the biogas plants in the country. Apart from the financial constraints, one of the reasons stated for the low performance of the scheme is own priority given by the State Governments and consequently the absence of any nodal agency in many of the States.

1	2	3
8.	2.40	The Committee are of the view that all out efforts should be made to convince the State Governments about the utility of the scheme in improving the quality of life in rural areas. The State Governments should be extended all help, financial and other, in setting up nodal agencies which can take care of the implementation grass root level especially in the States which are lagging behind but have high potential in the field. The Committee are also of the opinion that a public awareness programme should also be started for this scheme. The Committee also recommend that all out efforts should be made to get loans from international bodies like World Bank which has shown interest in this project because of its social importance.
9.	2.41	The Committee also note with concern the poor percentage of functioning of night soil based plants in various States. The Committee feel that Ministry should ensure continued functioning of the plants already set up and take immediate steps to remove the various for their non-functioning identified by the Agricultural Finance Corporation, Mumbai.

1	2	3
10.	2.55	The Committee are constrained to note the declining trend in the budget allocations for the scheme during the 9th Plan and the low targets fixed for setting up the plants. The Annual Plan expenditure for 1998-99 has also come down in comparison to the Budget-Estimate for the year 1997-98. The Committee are also concerned to note that during the year 1997-98 the targets could not be achieved because of non-release of funds to the States and agencies due to bureaucratic and procedural wrangles. The Committee are taken a serious note of such delays. The Committee are also concerned about the large number of non-functional institutional and community plants.
11.	2.56	The Committee suggest that budget allocations for the Scheme should be enhanced suitably so that better physical targets be achieved. The Committee are of the view that the Government should also ensure continued working of the community plants so that the moneys already spent by Government do not go waste. The Government should ensure their proper maintenance and wherever possible, private

1	2	3
		entrepreneurs should be involved in it.
12.	2.68	The National Programme on Improved Chulhas is yet another programme for improving the quality of life in rural areas. It also has an important role in checking the problem of deforestation. The scheme is a part of the Twenty Point Programme. But the Committee note with concern the slow progress made by the scheme so far. In fact the physical and financial targets for the 9th Plan are a come down over the achievements made during the 8th Plan. As a result, both physical and financial targets for 1998-99 have come down in comparison to the targets of 1996-97 and 1997-98. With this rate of achievement, the coverage of the total potential would reach only 31 percent after the Ninth Plan. The Committee are of the view that all out efforts should be made to educate the rural people and raise the level of their awareness about this scheme so that the demand for Improved Chulhas can be increased. These people can also then ask their respective States to give priority to the scheme.

1	2	3
		As one of the objectives of the scheme is to check deforestation, efforts should be made to harness the support of NGOs working in the field of environment. The Committee also recommend that emphasis should continue to be laid on entrepreneurship in rural areas. The Committee are also of the view that NPIC being a National programme more fund should be allotted for this scheme.
13.	2.86	The Small Hydro Projects in decentralised as well as Grid connected mode can contribute significantly to meet the overall power requirements of a region. The present Small Hydro Power capacity stands at 115.38 MW from 216 small hydro stations in 24 States. Of these, projects of about 80 MW capacity which were installed upto the end of 7th Plan period are old and most have sub-optimal generation. The Committee note with concern that plants generating almost half of the installed capacity are having sub-optimal generation only and need immediate attention. The Committee are happy to note that the Government have taken up a Scheme of Renovation and Modernisation

1	2	3
		of Small Hydro Projects during the 9th Plan with a target of renovating plants generating a total of 30 MW power. The Committee feel that all out efforts should be made to renovate the old plants. The Ministry in the first instance should identify and draw up a list of all such plants which need renovation as at present they have information only about those plants for which renovation proposals have been received from the State Governments. The Government should ensure that Renovation & Modernisation work should be completed within the stipulated period of two years from the date of sanction so as to avoid time and cost overruns. It should also be ensured that only such projects are to be taken up where the cost of renovation remains within reasonable limit.
14.	2.101	The Committee note that the new emerging renewable technologies are still in the developmental stage and further R&D is needed to establish their viability prior to commercialisation. But the Committee find that during the 8th Plan period, expenditure on

1	2	3
		various schemes under new technologies had been much less than the budgeted amount and the proposals for the Ninth Plan are not much higher than the 8th Plan outlays. Even the physical targets had not been achieved in a number of programmes like Battery Operated Vehicles and Alternate Fuel for Surface Transportation. In case of tidal power plants, it has been decided to take up a demonstration project in Sunderbans. The Committee are of the view that more stress should be given on R&D and if possible in collaboration with private sector where they can be allowed to commercially exploit the new technology. However, before taking up any technology, the cost and benefit analysis may also be kept in view before investing substantially in any project.
15.	2.109	The Committee observe that sanctions imposed by the World Bank and other funding agencies after the nuclear tests at Pokhran, are likely to have an adverse impact on various projects of MNES. The financing of Small Hydro Power and Energy efficiency projects are bound to be hit the hardest.

1	2	3
16.	2.110	The Committee are happy to note that the Integrated Rural Energy Development Agency is exploring alternative methods of raising resources from the domestic market, *viz.* commercial banks, financial institutes and by way of issues of additional Tax Free Bonds, etc.
17.	2.111	However, the Committee are of the view that the realisation of important projects are likely to be delayed due to these sanctions. The Committee, therefore, recommend that a separate Cell may be set up in the Ministry to tackle the sanctions and prioritise the projects of immediate national interest. This Cell may also examine the feasibility of private sector participation in various schemes of MNES.

MINUTES OF THE THIRD SITTING OF THE STANDING COMMITTEE ON ENERGY HELD ON 16TH JUNE, 1998 IN COMMITTEE ROOM 'C', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 15.30 hrs. to 18.00 hrs.

PRESENT

Shri K. Karunakaran — *Chairman*

2. Shri Basudeb Acharia
3. Shri Bikash Chowdhury
4. Shri K.C. Kondaiah
5. Shri Rajbanshi Mahto
6. Smt. Sukhda Mishra
7. Shri Vilas Muttemwar
8. Shri Ravindra Kumar Pandey
9. Shri Naresh Kumar Chunnalal Puglia
10. Shri Kanumuru Bapi Raju
11. Shri Braj Mohan Ram
12. Shri N.T. Shanmugam
13. Prof. (Smt.) Rita Verma
14. Shri Sushil Chandra Verma
15. Shri S.M. Krishna
16. Shri Bangaru Laxman

SECRETARIAT

1. Shri John Joseph — *Joint Secretary*
2. Shri P.K. Bhandari — *Deputy Secretary*
3. Shri R.K. Bajaj — *Under Secretary*

WITNESSES

1. Shri S.S. Boparai K.C., Secretary
2. Dr. S.K. Chopra, Sr. Adviser
3. Dr. K.C. Khandelwal, Adviser
4. Shri Ajit K. Gupta, Adviser
5. Dr. Ved Mitra, Adviser
6. Dr. T.C. Tripathi, Adviser
7. Shri U.N. Panjair, Jt. Secretary
8. Shri Rahul Sarin, Jt. Secy. & Financial Adviser
9. Dr. V. Bakthavasalam, M.D. (IREDA)
10. Ms. L. Sailo, Director

2. The Committee took oral evidence of the representatives of Ministry of Non-Conventional Energy Sources in connection with the examination of Demands for Grants (1998-99) of the Ministry of Non-Conventional Energy Sources.

3. The important points discussed by the Committee are as follows:

(i) General cut imposed by the Government;

(ii) National Project on Biogas Development;

(iii) Community, Institutional and Night-soil Biogas Plants Programme.

(iv) National Project on Improved Chulha.

(v) Small Hydro-Power Programme.

(vi) New Technologies.

(vii) Indian Renewable Energy Development Agency and impact of deferment of loans by the World Bank and other funding agencies, in the wake of recent nuclear tests on the various schemes.

(viii) National Institute of Renewable Energy.

4. A copy of the verbatim proceedings of the sitting of the Committee has been kept on record.

The Committee then adjourned.

MINUTES OF THE SIXTH SITTING OF STANDING COMMITTEE ON ENERGY (1998-99) HELD ON 25TH JUNE, 1998 IN COMMITTEE ROOM 'C', PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 15.30 hrs. to 16.30 hrs.

PRESENT

Shri K. Karunakaran — *Chairman*

MEMBERS

2. Shri Bikash Chowdhury
3. Shri Rajbanshi Mahto
4. Shri Sanat Kumar Mandal
5. Smt. Sukhda Mishra
6. Shri Salkhan Murmu
7. Shri Vilas Muttemwar
8. Shri Amar Roy Pradhan
9. Shri Kanumuru Bapi Raju
10. Shri Braj Mohan Ram
11. Shri Larang Sai
12. Shri Shailendra Kumar
13. Shri N.T. Shanmugam
14. Prof. (Smt.) Rita Verma
15. Shri Parmeshwar Kumar Agarwalla
16. Shri Jalaludin Ansari
17. Shri S. Austin
18. Shri Gandhi Azad
19. Shri E. Balanandan
20. Shri Brahmakumar Bhatt
21. Shri Bangaru Laxman
22. Shri Nabam Robia

SECRETARIAT

1. Shri John Joseph — *Joint Secretary*
2. Shri P.K. Bhandari — *Deputy Secretary*
3. Shri R.S. Kambo — *Under Secretary*
3. Shri R.K. Bajaj — *Under Secretary*

I. Consideration and adoption of Draft Report on Demands for Grants (1998-99) relating to the Ministry of Non-Conventional Energy Sources

At the outset, the Committee considered the Draft Report on the Demands for Grants (1998-99) of the Ministry of Non-Conventional Energy Sources and adopted the same with the amendments/ modifications as shown in Appendix-I.

** ** ** **

The Committee authorised the Chairman to finalise the Reports after making consequential changes arising out of factual verification by the concerned Ministry/Department and to present these Reports to both the Houses of Parliament during the current Session.

The Committee then adjourned.

**Para '2' relating to consideration and adoption of other draft Report is not included.

APPENDIX-I

(*Vide* Para 1 of Minutes dated 25.6.98)

Amendments/Modifications made by Standing Committee on Energy in the Draft Report on Demands for Grants (1998-99) relating to Ministry of Non-Conventional Energy Sources

Sl. No.	Para No.	Line	Amendments/Modifications
1	2.40	8	*after* the word "field", *insert* "The Committee are also of the opinion that a public awareness programme should be started for this scheme".
2.	2.86	23	*add* at the end, "It should also be ensured that only such projects are taken up where the cost of renovation remains within reasonable limit".
3.	3.11	6	*add* at the end, "This Cell may also examine the feasibility of private sector participation in various schemes of MNES".