NINETY-SIXTH REPORT

PUBLIC ACCOUNTS COMMITTEE (1986-87)

(EIGHTH LOK SABHA)

NATIONAL PROJECT ON BIOGAS DEVELOPMENT

MINISTRY OF ENERGY

(DEPARTMENT OF NON-CONVENTIONAL ENERGY SOURCES)

Presented in Lok Sabha on 30 April, 1987
Laid in Rajya Sabha on 30 April, 1987

LOK SABHA SECRETARIAT
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(1986-87)

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2. Shri S. M. Mehta—*Senior Financial Committee Officer.*

INTRODUCTION

I, the Chairman of the Public Accounts Committee, as authorised by the Committee, do present on their behalf this Ninety-Sixth Report on Paragraph 27 of the Report of the Comptroller and Auditor General of India for the year 1984-85 (Civil) Vol. I relating to National Project on Biogas Development.

2. The Report of the Comptroller and Auditor General of India for the year 1984-85, Union Govt. (Civil) Vol. I was laid on the Table of the House on 7 May, 1986.

3. In this Report, the Committee have pointed out that the programme has become widely acceptable and very popular with marginal farmers, village women, adivasis and other economically backward people as it is convenient and economical, has multiple benefits and is the first major steps towards improving rural sanitation and environmental hygiene. The setting up of more plants will reduce econological disturbances and deforestation. Biogas is probably the only programme capable of relieving the miseries and drudgery of village life, especially of village women. However, the progress of the implementation of the programme is slow due to inadequate finance. The Committee have urged the Government to give top priority to this project. The Government should take measures to motivate people and bring out literature in regional languages on the advantage of biogas. Higher rates of subsidy having been made available to scheduled castes/scheduled tribes and economically weaker sections of the people, more people are going for it and during 1984-85 about 59 per cent beneficiaries who installed biogas plants belonged to the weaker sections. In addition, DNES has developed small size biogas plants capable of being connected to sanitary latrines. This model is becoming more popular among the poor as it minimises dependence on cattle and other feed stock. The Committee have recommended that with a view to give benefit to poor and economically weaker sections of the people, building up of small size biogas plants should be taken up on priority basis. The objective of providing social justice and aiding poor and economically weaker sections of the people, especially SC/ST and adivasis, would be better served if biogas plants of small size are installed at the premises of such people at nominal cost/subsidised rates.

4. Besides, biogas produces good quality manure from organic waste materials like cattle dung which is rich in humus and micro-nutrients and provide nitrogen phosphates and potash to crops. The Committee hoped that Government especially the Planning Commission, should take note of the economic and employment potential of the biogas projects *vis-a-vis* chemical based fertiliser plants and earmark suitable amount for development and propagation of biogas projects in the country.

5. The Committee have pointed out that biogas plants can benefit only those farmers owning more than four heads of cattle. In view of the multiple benefits these plants provide, the Committee have urged the Government to encourage biogas facilities to all those who need it. Since there are villagers who collect cow dung as a part of their profession and can use it for the biogas plants, eligibility criteria on the basis of the cattle ownership should be changed.

6. The Committee have pointed out that targets for setting up community biogas plants during Sixth and Seventh Plans are insignificant in relation to the rural area and huge population of the country. They have, therefore, urged the Government to give more stress on this project and make all out efforts to set up more community and institutional biogas plants.

7. The Public Accounts Committee examined the Audit Paragraph at their sittings held on 10 February, 1987 (FN & AN).

8. The Committee considered and finalised this Report at their sitting held on 23 April, 1987. The Minutes of the sittings form Part II* of the Report.

9. For reference, facility and convenience, the observations and recommendations of the Committee have been printed in thick type in the body of the Report and have been reproduced in a consolidated form in Appendix IV to the Report.

10. The Committee express their thanks to the officers of the Department of Non-Conventional Energy Sources, representatives of the States of Karnataka, Bihar, Rajasthan, West Bengal, Andhra Pradesh, Tamil Nadu and of Khadi and Village Industries Commissions of Maharashtra and Madhya Pradesh.

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11. The Committee also place on record their appreciation of the assistance rendered to them in the matter by the Office of the Comptroller and Auditor General of India.

NEW DELHI;
April 27, 1987
Vaisakha 7, 1909 (Saka)

E. AYYAPU REDDY,
Chairman,
Public Accounts Committee.

REPORT

(Para 27 of the Report of C&AG of India for the year 1984-85 (Civil) Vol. I on which the Report is based appears as Appendix I)

INTRODUCTORY

National Project on Biogas Development

During the fifth Plan period, the Ministry of Agriculture initiated a Central Scheme on Development of Local Manurial Resources including development of biogas. Against target of 1,00,000 biogas plants, over 70,000 plants were installed between 1974-75 and 1978-79 involving Central subsidy of Rs. 6.85 crores.

2. From 1981, National Project on Biogas Development (NPBD) was sanctioned as a Central Scheme involving an outlay of Rs. 50 crores on account of subsidy, administrative overheads, organisational support to State Governments, fee for turn-key jobs and training. The target was to set up 4 lakh biogas plants during the Sixth Plan period. An amount of Rs. 150 crores was to be raised through financial institutions for achieving the target. The programme was implemented through the Ministry of Agricultural Department of Agriculture and Co-operation) upto September 1982 whereafter it was transferred to the Ministry of Energy, Department of Non-conventional Energy Sources (DNES).

3. The main objectives of the programme are stated to be:—

(i) Provide energy in a clean unpolluted form;

(ii) make available enriched fertiliser as a by-product for supplementing and optimising the use of chemical fertilisers;

(iii) reduce pressure on the dwindling fuel wood supplies, indiscriminate felling of trees and deforestation;

(iv) eliminate smoke filled cooking method and reduce drudgery, eye disease etc. in rural areas; and

(v) bring improvement in rural sanitation.

Components of the Project and Pattern of Assistance

4. The main components of the project assistance were stated to be:—

(i) Fixed amount of Central subsidy to the beneficiaries for setting up biogas plants at the rates indicated in Annexure 'A' of Appendix I. The implementing agency has to identify the beneficiary and process his application for grant of bank loan repayable in 5 to 7 years with interest. In the case of those beneficiaries who avail of bank loans, amount of subsidy is deposited in their bank accounts. In other cases, it is paid in cash after completion of the plant.

(ii) Core organisational support (100 per cent grants-in-aid) to State and U.T. Governments/Khadi and Village Industries Commission (KVIC) including training of Village masons, extension staff, bank functionaries, women's education programme, organisation of demonstrations, etc.

(iii) Service charges for turn key jobs to corporate bodies/societies/agencies etc. at the rate of Rs. 200 per plant set up with guarantee for one year and Rs. 300 per plant with a guarantee period of two years with effect from 1984-85.

(iv) Promotional incentive of Rs. 30 per plant payable to Village functionaries (also to KVIC workers from 1984-85) onwards.

(v) 2½ per cent of the cost of construction of biogas plants payable to State/U.T. Governments in respect of plants installed in districts other than 100 intensive biogas districts (to KVIC with effect from 1984-85) in lieu of staff support. Upto 1983-84 subsidy was released in advance to the extent of 75 per cent during the first three quarters of each year which was changed to 50 per cent from 1984-85 on the basis of approved targets. The balance was payable on installation of plants.

Implementation and Popularisation

5. Giving a brief background of the biogas movement in India, the representative of KVIC stated in evidence that till the creation

of Department of Non-Conventional Energy Sources (DNES), KVIC played an important role during the experimental stage of the bio-gas movement. It started in 1961 and till end of 1985-86, 1.20 lakh plants were constructed by the KVIC. He added in 1966 and 1967 interest free loan was offered by the KVIC. During 1979-80 and 1980-81, the transitory period, when the scheme was transferred to the State Governments, it had constructed 18,500 units by its own resources. The target last year was 20,000 and it has reached about 18,000. This year also KVIC propose to complete about 18,000. According to record, it is operating in 27 States including Union Territories. KVIC have some 300 technical officers, spread over the country, Development Officers, Assistant Development Officers, Science Graduates, Engineers and Technical people. KVIC has got a permanent reference booklet which is published in all the languages and circulated through out the country. KVIC has made arrangements for propaganda in schools and administration centres, because KVIC has Khadi and Village Industries Institutions all over the country.

6. As regards the steps taken to popularise the biogas, the Secretary, Department of Non-Conventional Energy Sources stated in evidence that:

> "In 1984, we took it up and we made a very detailed review and we decided to make a number of improvements in the programme and also provided a package of technical, financial, organisational infrastructure and other inputs, such as giving training and all that in the grassroot levels. As a result of this package, in the years 1984-85 and 1985-86, there was a spectacular spurt in the number of biogas plants built. In the first year, as against the earlier figure of around 80,000 with the new package, the number of plants built in excess was 1,72,000 which was considerably higher than the target. The target was 1,50,000. So, this was a very good achievement.....Next year, i.e., 1985-86, as against a target of 1,50,000, the actual number of plants built was 1,95,000. That again has been continued and in the current year now, although we are only in the third year of the new package programme, we are finding that there is an increase in demand from all States, practically from every part of the country. There seems, to be an increase in demand in bio-gas plants. Very recently,

we had requests from our several Eastern States, including West Bengal, Mizoram, Tripura and others for increasing the targets. They all pointed out that these biogas plants seem to be proving very useful for the villagers. That is why, they have asked for this."

7. Explaining the programme from his experience, the Secretary, DNES added:

"I go every week into the villages, and I have the pleasure of going into remote villages. A few months ago, I was in a village in Mizoram—I think its name is Durtlang, not far from Aizawl. There are 69 villagers, and 60 of them had bio-gas. I go inside the house myself; I always ask the woman about what she is doing, and the advantages. Each family there has 3 to 4 cows. The cows there, in that State, are not many. I myself went to 3 or 4 villages in Mizoram. Many villagers have started taking biogas there. People there said that they would like to increase the target.

I went to West Bengal also, where they said they wanted more plants. In Cape Comorin area, I went to several villages, and they were asking for more such biogas plants. In every village I have visited, I have got this impression.

I have myself visited marginal farmers, Adivasis and others. There is a very good report in "The Hindu" which had made a survey of Adivasi villages in Thanjavur district. They called it a fuel revolution through bio-gas."

8. The Working Group on new renewable sources of energy constituted by this Department for formulation of draft Seventh Plan document had recommended a target of 15 lakh biogas plants for the Seventh Plan period with an outlay of Rs. 300 crores.

9. Upto 1984-85, about 3.35 lakh plants were set up. During 1985-86, about 1.95 lakh more plants have been installed bringing the total to 5.30 lakh plants. The Department has prepared a perspective plan for promotion of new and renewable sources of energy, including biogas. It is projected that about 12 million biogas plants could be installed by 2000 A.D. if adequate funds are made available.

10. The allocation made for National Project for Bio-gas Development during the Seventh Plan period is stated to be Rs. 177 crores.

11. During evidence the Secretary, DNES informed the Committee that "the Advisory Board on Energy has recently found that the potential for 16 million bio-gas plants exists in the country". He stated in evidence:

> "That is the potential based on existing technology and the number of cattle. How much we utilize has to be seen. Taking all these things into account these estimates of 16 million plants can be done even on today's understanding of the technology. I think its number can be considerably increased when we take into account later the other potential."

12. In reply to a question he informed the Committee that "Soon after, or just after the turn of the century" it would be possible to achieve the target of building 16 million biogas plants. However "it depends on the States and the funds the nation is willing to put in this programme."

13. He added that "we can accelerate this programme also, provided we put adequate investment for development in this area." He submitted that the DNES asked for Rs. 600 crores for development during the Seventh Plan period but got an allocation less than Rs. 200 crores.

14. On the fuel saving aspect of the programme he stated:

> "The most popular size is 4 cubic metres per day capacity, in respect of which the fuel saving is roughly four tonnes per year of fuel. This has also been borne out both by calculations and actual inspection and the surveys which we did recently. There has been a very good report of the survey done in Himachal Pradesh, which gave exactly the same kind of information. This is based on the assumption that they use it for 300 days, i.e., excluding 2½ months. All the meals are cooked by biogas. In a majority of cases it is true. In some cases, they may have to supplement it by some twigs. There is a substantial saving on wood consumption. There is some saving in kerosene also.
>
> There are many villagers now, using this for lighting also, when they do not need it for cooking. They are thus saving kerosene. In many cases, they are using it for pumpsets, and generators."

15. While the Secretary, DNES agreed that at the moment, demand for biogas was mostly from the middle class and upper middle class people, he stated that the smaller and marginal farmers were also being benefitted in the following manner:

> "One is the design of the smaller plants which are available now and which people are beginning to take. The other is, wherever possible linking up with latrines and other sources of feed stocks. The reason for not having a biogas plant was primarily not having the sufficient number of cattle. Another thing is about the financial condition. They are now getting loans for the cattle. We have found that in the States where the programme has picked up well the small and poor farmers and marginal farmers are increasingly going in for it."

16. Elaborating the aspect further, the Department of Non-conventional Energy Sources stated in a note as follows:

> "Higher rates of subsidy are available for Schedule Caste/Schedule Tribes and Economically weaker sections. Economically weaker sections, including SC and ST, have also been availing the benefits of this scheme. During 1985-86, the smallest size, i.e. 1 cubic metre gas production capacity biogas plant was developed and approved for extension. Biogas plants linked with sanitary latrines were also developed and approved for extension. With the attachment of sanitary linked biogas plants, dependence on requirement of minimum number of cattle heads for efficient utilisation of the capacity of the plant is slightly reduced. An analysis of the claims received from the State Governments and programme implementing agencies indicate that larger number of beneficiaries belonging to economically weaker sections, including SC and ST are now going in for biogas plants. During 1984-85, about 50 per cent beneficiaries who installed biogas plants belonged to the weaker sections."

17. Besides other benefits, the programme has a great employment potential which can be evenly distributed throughout the country. Asked to give a comparative analysis of the benefits accrued from investment in biogas project as against other chemical industries, the Secretary, DNES stated in evidence as follows:

"If you have a big chemical fertiliser plant which produce 5 lakh tonnes of urea per annum you have to put in something like Rs. 300 crores. In addition you have to put in 35 MW of power. Rs. 100 crores worth of foreign exchange would also be required. With all that it employees only 1000 people. Here in biogas for producing the same amount of nitrogen manure the investment required is less than Rs. 300 crores, you give employment to 1.30 lakh people and in addition you produce fuel gas."

18. Subsequently in a note the Ministry furnished the following economic and employment analysis of investment made in setting up of large scale fertiliser plants based on biogas *vis-a-vis* fertiliser plants based on coal and natural gas:

(i) *An analysis of large-scale coal based fertiliser plant* vis-a-vis *large sized biogas plant with a view to produce 230,000 tonnes of N per annum:*

Item	Large-scale coal based fertiliser plant	Biogas plant (75m3 gas production per day)
1. Number of units	One	26150
2. Capital cost	Rs. 300 crores	Rs. 261·5 crores
3. Foreign exchange component	Rs. 100 crores	Nil
4. Employment	1000	130750
5. Energy	About 35 MW consumption	635000 MWH generation

(ii) *An analysis of large-scale fertiliser plant based on natural gas* vis-a-vis *family based biogas plant:*

Item	Natural gas based fertiliser plant	Family based biogas plant (Capacity 4m3 gas production per day).
1. Number of units	One	15 lakhs
2. Capital cost	Rs. 917 crores	Rs. 900 crores
3. Foreign exchange component	Rs. 30 crores	Nil
4. Employment	5000	3,73,000
5. Energy	90MW consumption	20,00,000 MWH generation

In addition, "One of the economic benefits of biogas plants apart from production of gas is production of good quality manure from organic waste materials like cattle dung as a by-product. The manure is rich in humus and microwave nutrients besides providing nitrogen phosphates and now to crops. The content of N, P2O5 and K2O content in the manure produced from biogas plants is about 2 per cent., 1.5 per cent and 1 per cent, respectively." The Department of Non-Conventional Energy Sources is also stated to have been organising field demonstrations on the utility of biogas manure in farmers' fields during 1986-87.

19. In addition, according to Secretary, DNES "A number of unemployed Engineers have taken to manufacture of various components of biogas, like stoves, pipes and holders. This is providing employment in rural areas. The entreprenuer can earn a good income out of that. He can get income from every plant that he makes. We have got several hundred people who have taken up this as a popular profession. Thereby they are earning and providing good service to the villagers." For manufacture of components like biogas stoves a number of industries have come up and the Department had issued Indian Standard Specifications. Besides, he added "the programme is of a very highly decentralised nature. It has to be implemented at village level."

20. In the context of development of community biogas the Committee pointed out that if panchayats took up running community biogas plants it would become a source of revenue for the Panchayats. At the same time the other vulnerable section of the people who did not have cattle could be served better. The cattle dung would be in great demand from the Panchayat itself, the agriculturists would get benefit out of this because this dung would have to be purchased from these people. As a result the agriculturists would be tempted to go in for one or two cows or buffaloes. Asked to comment on these advantages of community biogas, the Secretary, DNES stated in evidence as follows:

> "Some of the difficulties arise not because of the technical reasons but because of the social structure in many of our villages. It looks like a very good system but the real difficulty comes because the Panchayats start fighting amongst each other."

21. As regards the programme of the Government on development of community biogas and institutional biogas, he stated:

> "We are doing it and in fact, we have a full programme about that. So far as institutions are concerned, where there is one single management structure, there is no difficulty. We have asked, for example, every dairy in the country which has got cattle, to instal these plants. Maharashtra has taken a good lead in bio-gas. They are installing a plant in every big dairy."

22. Commenting on the comparative advantages and disadvantages of the institutional and community type of biogas, the Secretary, DNES stated in evidence:

> "So far as these institutionalised type of things like dairies, co-operatives, etc. are concerned, there is no difficulty because technology-wise it is sufficiently developed to expand. The only restriction we are finding is in respect of villages where there is no good village-based organisation or a group of people which is ready to run it on a sustained basis. Sometimes we find that they run it for some time, say, for one or two years very successfully, but then it starts flopping. There are cases like that in U.P. So, it is not a technical problem but it is a social problem in villages."

23. Asked if Government propose to develop a concept involving engineers and technicians where the Government and the public could make it a joint venture and select a few villages for this purpose, the Secretary, DNES stated in evidence:

> "That is something which we have tried from time to time. We are setting up this sort of model villages. Like that, number of villages have been taken up. We have got the *Oorja Gram* Scheme, that is, the energy village, where the entire needs of the village, not only for cooking or for heat energy but even for lighting, television and everything, can be met with the locally available resources. It includes solar energy, wind and all that. We are taking up a number of such villages. In fact we have completed more than thirty such villages."

24. As regards the progress made in development/setting up of community type of biogas plant as against individual type, the Ministry has furnished the following note containing the progress as well as the comments of the Ministry:

"Biogas plants upto the capacity of 25 cu. metres are handled under National Project for Biogas Development Programme. Plants above 25m³ capacity are considered for the Institutional Plants and plants above 45 cubic metres capacity are considered for Community Biogas Plants under Community Biogs Plants/Institutional Biogas Plants Demonstration Scheme. This scheme is continued during the Seventh Plan period. During Sixth Plan period, two models were introduced viz. Floating Drum and Fixed dome type. In the category of floating drum type, 12 plants were installed. These plants have been functioning efficiently and found to be technically viable and, therefore, installation of such plants has been subsequently adopted. Seven plants of fixed dome type were installed initially but some construction problems were found and their efficiency was relatively less. Therefore, installation of such plants for community purposes has not been further promoted. However, research is going on for working out improvements in such category of biogas plants also.

During the Sixth Plan period, against a target of 100 plants, 101 plants were installed with a capital outlay of Rs. 3.00 crores. For the Seventh Plan period, a target of 450 plants has been envisaged with an outlay of 17.00 crores. During the first year of the Seventh Plan, i.e. 1985-86, 72 plants have been installed with an outlay of Rs. 3.45 crores, as against a target of 70 plants. During the current financial year (1986-87), 53 plants have been installed upto the end of December, 1986 against a target of 45 plants. An amount of Rs. 4.27 crores has been allotted for the programme during the current financial year and the target is for installation of 80 plants by the end of March, 1987.

The programme has gained an appreciable momentum, specially in the States of Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh. In these States, the potential for installation of biogas plants is maximum. With the constraints on the availability of funds and increase in demand from

different States and also keeping in view the economic cut imposed by the Government, 90 per cent of the capital cost for Community Biogas Plants and upto 70 per cent of the capital cost for Institutional Biogas Plants is being financed by Department of Non-Conventional Energy Sources as against 100 per cent for Community Biogas Plants and upto 75 per cent of the capital cost of Institutional Biogas Plants financed in the past. Even with reduction in the financing pattern, there is considerable demand from various States and they are agreeing that the remaining amount of funds will be provided by the State Governments/Nodel Agencies beneficiaries.

With regard to success of the Programme, it may be mentioned that installation of the institutional biogas plants is very successful because the concerned institutions, where the plants are set up are taking keen interest in regular operation and maintenance of the plants. In respect of Community Biogas Plants, the success mainly depends on the interest taken by the village community concerned and their cohesiveness and ability to work together to manage such a community plant and also availability of cattle dung. The Communities are gradually adopting the technology for which they are being educated by the agencies involved in promoting the programme. Regular training programmes are also being arranged by the nodal agencies to create awareness about the benefits of the biogas programme. Other publicity media like arranging of exhibitions, showing video-films and distribution of pamphlets are also being arranged."

25. Attention of the Ministry was drawn to news items appearing in certain leading newspapers regarding how extensively biogas plants were being used all over India by people from all walks of life for varieties of purposes and for the benefit of the people themselves as well as for the society/community as a whole. Some of the interesting usages of biogas plants are reported to be (a) a leading Ayurvedic physician in Travandrum using the energy from his recently set up gobar gas plant for making his popular Ayurvedic medicines, brew and decoctions. (b) in Nalanda district of Bihar over 200 biogas plants were being put to use for irrigation, thrashing of grains and running flour mills and oil ghanis, (c) poor farmers in different parts of the country using energy generated by biogas

for irrigation in running pump sets, cooking, heating lighting, crushing sugar cane and similar other uses. It has also been reported that it produces enriched manure for fertilization of the soil and biogested slurry is free from pathogens capable of causing diseases like typhoid, dysentery and cholera, most of harmful organisms like the eggo of hookworms, tapeworms, liver flukes. Gobar gas is stated to have higher thermal efficiency when compared to kerosene, firewood, cowdung, wood and charcoal. A study of the socio-economic impact of gobar gas plants in Betul district in Madhya Pradesh is stated to have revealed that income from agriculture increased by 19.7 per cent due to utilisation of increased gobar gas manure which contained higher percentage of nitrogen. In addition every biogas set up in a village is the first step towards ensuring rural sanitation and environmental hygience. The term "brown revolution" has been coined in the context of changes in the life style particularly among the poor and landless agricultural workers that the biogas plant is stated to be causing. Asked to explain the reaction of the government to these reports, the Secretary, DNES stated during evidence:

> "We have now introduced bio-gas-operated generators also. Recently, we have developed biogas generators also, which are being tried out in the field. Their range is from 5 Kw to 25 Kw, depending on the farmer's needs. What is important is, how much gas he can spare. The more gas he can spare, the more he can use it for other purpose."

He added:

> "In Delhi, we are using urban refuse. For solid waste, there are two things which we are working out. We are scientifically extracting gas from sanitary land fill and we are generating power from city garbage. We have got the technology for garbage and we are going to commission it also whereby we can use organic solid wastes of the urban area. For biogas programme, a number of changes and services, as I referred to earlier, have been now introduced which include training programme, service programme, repairs, maintenance monitoring, evaluation and also training of the people at the various levels including Central Government, State Governments, districts, blocks and individuals who want to go in for that."

26. According to the Audit, while the area of operation of NPBD was the entire country, the activity was to be focussed in 100 selected

districts. This was, however, extended to all the potential biogas districts numbering about 350 in all the State/Union Territory (UT) Governments with effect from 1984-85.

27. As regards the mode of selection of potential biogas districts, the Department of Non-Conventional Energy (DNES) have stated in a note that—

> "The potential biogas districts were selected by the Ministry of Agriculture in 1981-82 on the basis of cattle population, coverage under related Central and Centrally Sponsored Schemes like Operation Food, Cattle-cum-Dairy Development Projects, Drought Prone Area Programme, Small and Marginal Farmers Development Programmes, Desert Development Programmes, Hill Area Development programmes, etc., coverage under Agriculture Credit Intensive Development Districts, Command Area Development Authority, etc.
>
> The selection was made by the Ministry of Agriculture in consultation with the State Governments and as such, there was no separate agency employed to find out the potentiality of biogas districts."

28. In the context of providing 100 per cent staff support to intensive biogas districts, the Ministry stated in reply to a question that "the concept of intensive biogas development districts has been dispensed with from 1985-86 and the programme is being implemented with equal vigour in all potential districts.

29. As regards the reasons for this dispensation and subsequent experience of the Government it was stated as follows:

> "The Government of Tamilnadu requested that all their districts may be declared as intensive, as potential in parts of all districts was available for installation of biogas plants. Similar views were expressed by many other State Governments. In view of the above, it was considered that the spread of the programme and its demonstration value could be better achieved within the financial constraints by dispensing with the concept of intensive districts. However, the advantages of intensive approach could still be achieved by the State Governments through

a clustered area basis. Accordingly, the State Governments were advised to adopt a clustered area approach for implementing programme.

The priorities were sought to be achieved by adopting a higher differential rates of subsidy for North-Eastern Regional States, hilly and desert districts. The demand for biogas plants from all parts of the country have been so widespread and conditions are of such equitable nature that the programme needs to be taken up throughout the country wherever conditions permit. The advantages of the programme of fuel wood saving, environment protection, improved health, removal of women's drudgery etc. are needed throughout the country."

Research & Development of Biogas

30. On the question of effecting improvements in the biogas projects, the Secretary, DNES submitted before the Committee in evidence that "we are conscious that more improvement have to be made. We are trying to improve the system from the point of view of technology as well as delivery, or extension and maintenance". Subsequently in a note the Department of Non-Conventional Energy Sources furnished the following position in regard to Research and Development of Biogas:

"Research & Development efforts in biogas were intensified by the Department through a Trust Area Programme initiated during the year 1985-86. About 50 R&D projects were sanctioned for implementation by various organisations with financial support from DNES on different aspects of biogas technology and utilisation. The overall objectives of the R&D programme are to reduce cost of biogas plant i.e. cost per unit gas production; improve reliability of biogas plants under different field conditions; diversify the feed materials for biogas production with a view to decreasing the dependency on cow dung alone, and thus enlarging the spectrum of biogas plants beneficiaries; development of optimum process packages and standardised plant designs with alternate feed stocks both for households and large scale applications, and integrated utilisation of slurry.

2. The ongoing projects fall in the following broad areas: (i) water hyacinth and other aquatic biomass for biogas production (ii) Alternate feed stocks for biogasification (iii) Microbiological studies (iv) Advanced bioreactors (v) Biogas generation at low temperature solar energy inputs (vi) New and cheaper models (vii) Biogas utilisation—burners and engines (viii) Slurry/sludge utilisation.

3. A total sum of Rs. 95.00 lakhs was released to different R&D institutions during 1985-86. A budget outlay of Rs. 1.5 crores is available for 1986-87."

31. During evidence the Secretary, DNES informed the Committee that "the responsibility for the detailed implementation at the grassroot level has to be that of the State Government agencies and other agencies which are implementing this at the grassroot level. However, at the Central level we have been keeping a close watch on this programme and its implementation through these agencies".

32. With a view to ascertain the usefulness and progress of the programme in different States the Committee heard the views of the State Government representatives. All the State Government representatives without exception submitted that the programme had become very popular in their States and more and more people want to avail of the benefit. While the Government of Andhra Pradesh have taken up a lead in the matter of development of biogas programme and created a detailed infrastructure at various levels for systematic and fast development of the programme, other State Governments are picking up the programme steadily. Method of implementation and progress of the programme in the States together with the difficulties experienced in the implementation of the programme, as explained during evidence by some of the State Government representatives are in the succeeding paragraphs.

33. *Andhra Pradesh*: About institutional arrangement, in Andhra Pradesh the matter is dealt with at the Ministry level. There is an integrated department dealing with energy matters. For implementation, as a nodal agency, the State Government thought it fit to have a single window approach. It deals with all non-conventional programmes at the State level, at the district level and at the block level.

34. The State Governments have installed 42 thousand Biogas plants under the programme. The current year's target is 20 thousand and the State hope to achieve that. While implementing the programme, they try to conduct annual exercise, planning, annual action plan in consultation with the concerned District Collector. The annual action plan is prepared in consultation with NABARD so that there is automatic re-financing built up. This is reviewed at the levels of districts, State Secretary and Chief Secretary to ascertain input problems, implementation, monitoring and reporting system. To reach benefit of the programme to maximum number of people, the programme is advertised through press notification, AIR media and documentary film in Telugu. The criterion for selection of beneficiary is availability of inputs, such as cattle, water, loan and other infrastructure facilities and need of the area. For proper servicing of the plants the State Government have introduced registers, post-cards and biogas pass books which are given to the owners where all the details are entered including the date of application till the complete service is rendered. Reply post-cards are delivered to them so that whenever they have operational problems, they can approach. Once in six months in local newspaper they advertise saying that there is a customers' service available. A complaint register is also maintained with these measures taken, the programme is very successful and the demand is rising up. Allocation for the bio-gas programme will have to be improved to meet the demand of the people. Due to constraint on resources, the Government are not able to do as much as they are required to do; if the resources are increased, then they will be able to do more which will benefit the rural poor.

Karnataka

35. In Karnataka the programme is implemented through two Departments—DRDS and Agriculture Department. It is based on the infrastructure available. Implementation procedure is almost similar throughout the State. The field functionaries identify the beneficiaries in the villages, collect applications, send them on to the respective banks for sanction of loans. The banks get technical report regarding quantity of cattle dung available in the household based on which the size of plant is determined. The cattel population in the State has been divided into five, such as—

1. Cross breed 2. Malar type 3. Other variety local cow. 4. braded buffaloes and 5. medium/small size buffaloes.

36. These five varieties have again been divided into two. Based on the experiment in the State, average dung production is determined. Then they determine the size of these plant that has to be allocated. When the technical report is enclosed to the loan application the bank employees scrutinise it, cross check it and sanction the loan. As soon as the loan is sanctioned, the Agriculture Department or the Block Development Office is informed about the sanction of the loan. The gobar gas supervisory staff will assist in the construction of the plant. They will also assist in the procurement of appliance, steel drums, etc. As soon as the plant is completed, the beneficiary will be asked to charge it. Until such time, the subsidy will not be released. It is to ensure whatever plants are constructed they are charged.

37. Implementation of the programme has not been uniform in all the districts. Out of 19 districts, 7 districts are doing well right now, the reason being, the level motivation was very good in the beginning, in the same, Khadi and Village. Industries Commission/ Board were very active in those districts and one voluntary organisation called MYRAPA was also very active. That is one of the reasons why biogas plants are popular. Nevertheless in other districts also, they are picking up. Regarding disposal of application, the Government have fixed the time frame of 15 days.

Bihar

38. In Bihar, this programme up to 1983-84 was conducted by the Department of Agriculture. From 1984-85 it has come to the Department of Energy and is implemented through the BDOs. They collect the application and the Circle Officer conducts the enquiry about the holding of the land as well as heads of cattle which that beneficiary owns. On the basis of that, loan is sanctioned. As far as villages are concerned, loans are released in the form of cement only when the beneficiary has actually dug the pit. The remaining subsidy is released only after the plant is completed. From 1985-86, this programme has really picked up in Bihar. The target for 1985-86 was 6400, as against that achievement is 8300. Apart from the subsidy which the Government of India is extending, the State Government is also extending some subsidy so as to make the total subsidy to the extent of 50 per cent to the general category and 50 per cent for the small and marginal farmers. From last year extra subsidy have been introduced for the SCs and STs to the extent of 75 per cent.

West Bengal:

39. The bio-gas programme was started in West Bengal from 1982-83. This programme is administered by the Khadi and Village Industries Board and Small Scale Industries Department through its Directorate. The level of achievement in 1982-83 and 1983-84 was modest, when little over 1100 plants were set up. The momentum picked up in 1984-85, when more than 2600 plants were set up. Since then, the trend is very encouraging. In 1985-86, the State has achieved the target of 2800 laid down. For the current year 1986-87, the target has been set at 3800 plants and in the quarterly break-up of the targets, the State have been meeting those targets and in the process we have been earning excellent ratings from the 20 point programme implementation Committee. Initially agriculturally advanced districts of West Bengal like Midnapore, Birbhum and Burdwan have made a good progress. Encouraged by their performance the programme has been extended to the whole State and the State Government is getting a lot of response from the uncovered districts of North Bengal. The main constraint is that the Department does not have the sanction of any additional manpower to implement the programme.

Rajasthan

40. In Rajasthan the programme is being implemented by the Special Scheme Organisation under the Department of Agriculture. It was started in 1981. Whatever targets were fixed have been achieved. This year, the target was 5,000. So far 3,000 plants have been completed. This Organisation implements most of the rural development programme. DRDAs have been made responsible for implementations of this programme. In every DRDA and district, there is a junior engineer and other staff. They go to villages, survey and popularize the programme. The Additional Collector (Development) who is the Director of DRDA is in charge of this programme in the district. At the State level, there exists a cell with a Deputy Secretary and a technical officer, and a number of assistant engineers. At the DRDAs the State have junior engineers, and Mistries. In every DRDA there are having 4 or 5 people. Mistries, i.e. Masons are trained in the installation of bio-gas plants. They are employees of DRDAs. The Mistries are in charge for implementation, progress and maintenance of these plants. So far about 25,000 plants have been installed. About 70 per cent of them are working. Because of certain special conditions in Rajasthan,

the percentage of non-functioning plants is quite high. For the last 4 or 5 years there is drought, and people have sold their cattle. That is why those plants are not functioning. Most of the plants will be revived next year.

Madhya Pradesh

41. In Madhya Pradesh KVIB was the implementing agency of the programme till November 1985, now the State has another agency, the Agro-Development Corporation. The coordinating agency at the grassroot level is the BDO who controls the DRDA activities as well as the activities of the Agriculture Department. Village level workers come under the Agriculture Department and these VLWs identify the beneficiaries.

42. The State has had experience of giving 100 per cent subsidy to SC & ST and all the weaker sections of farmers. Taking full advantage of 100 percent subsidy certain beneficiaries and officers had colluded. There are about 300-400 cases of malpractices where there were only super structures and no gas plants. Now this subsidy amount has been restricted to 85 per cent and erring officials are being taken to task.

Tamil Nadu

43. In Tamil Nadu, Rural Development Department is implementing the programme through Collectors at District level and the Block Development Officers at the Block level. The applications are called for by the Rural Welfare Officers. These are processed and given to the banks. The loans are sanctioned.

44. The Department have issued booklets to the beneficiaries. This booklet contains full information as to what they have to do. Cards have been introduced. It has been given to the beneficiaries. The officers who inspect the plants, they are supposed to fill in these cards too. Once a month the Rural Welfare Officer visits every plant in his area. He has three panchayats under his control. If anything goes wrong beneficiaries can post the cards of different type given to them to the Block Development Officers. The technicians and engineers go there and set the plant right. BDO also visits that site.

45. During the Sixth Plan the target was 21,500 but the achievement is about 29000. In 1985-86 against the target of 13000 the achievement is about 18000. In 1986-87 the target was of 13120, the achievement so far is 12973 and the State may over-reach this target.

46. In 1981, the National Projèct on Biogas Development (NPBD) was sanctioned as a Central Scheme involving an outlay of Rs. 50 crores on account of subsidy, administrative overheads, organisational support to State Governments, fee for turn-key jobs and training, with the target of setting up 4 lakh biogas plants during the Sixth Plan period. An amount of Rs. 150 crores was also to be raised through financial institutions for achieving the target. The main objectives of the project are to provide energy in a clean unpolluted form, produce enriched fertiliser as a by-product for supplementing and optimising the use of chemical fertilisers; preserve dwindling fuel wood supplies, arrest indiscriminate feeling of trees and deforestation; eliminate smoke filled cooking method and reduce drudgery, eye diseases of women in rural areas and bring improvement in rural sanitation. The programme was implemented through the Ministry of Agriculture (Department of Agriculture and Cooperation) upto September 1982. Thereafter it was transferred to the Ministry of Energy, Department of Non-conventional Energy Sources (DNES).

47. The Working Group on new and renewable source of energy constituted for formulation of the draft Seventh Plan documents recommended a target of 15 lakhs biogas plant for the Seventh Plan with an outlay of Rs. 300 crores. Less than Rs. 200 crores were sanctioned as against an allocation of Rs. 600 crores sought by the DNES for the Seventh Plan.

48. The Committee note that the programme has become widely acceptable and very popular with marginal farmers, village women, adivasis and other economically backward people as it is convenient and economical, has multiple benefits and is the first major steps towards improving rural sanitation and environmental hygiene. The setting of more plants will reduce ecological disturbances and deforestation. Biogas is probably the only programme capable of relieving the miseries and drudgery of village life, especially of village women. Progress of the implementation of the programme is slow due to inadequate finance. The Committee urge the Government to give top priority to this project. The Government should take measures to motivate people bring out and literature in regional languages on the advantage of biogas.

49. Higher rates of subsidy having been made available to scheduled castes/scheduled tribes and economically weaker sections of the people, more people are going for it and during 1984-85 about 50 per cent

beneficiaries who installed biogas plants belonged to the weaker sections. In addition, the DNES has developed small size biogas plants capable of being connected to sanitary latrines. This model is becoming more popular among the poor as it minimises dependence on cattle and other feed stock. The Committee recommended that with a view to giving benefit to poor and economically weaker sections of the people, building up of small size biogas plants should be taken up on a priority basis. The objective of providing social justice and aiding poor and economically weaker sections of the people, especially SC/ST and adivasis, would be better served if biogas plants of small size are installed at the premises of such people at nominal cost/subsidised rates.

50. Secretary, DNES during evidence said that bio-gas plants were more economical and employment oriented than fertilizer plants. Illustrating this, it was said that while an investment of Rs. 300 crores including Rs. 100 crores in foreign exchange would be required for a coal based fertilizer plant to produce 2.30 lakh tonnes of urea per annum, an investment of only Rs. 261.05 crores would be required for producing an equal quantity of fertilizers. Further, while the former would consume about 35 megawatts of power, the latter would generate energy to the equivalent of 6,35,000 lakh MWH. Again while the former would provide employment to near 1,000 persons, setting up of 26,150 bio-gas plants would give employment to 1,30,750 persons. Besides biogas produces good quality manure from organic waste materials like cattle dung which is rich in humus and micro-nutrients and provide nitrogen phosphates and potash to crops. The Committee hope that Government especially the Planning Commission, would take note of the economic and employment potential of the biogas projects vis-a-vis chemical based fertiliser plants and earmark suitable funds for development and propagation of biogas projects in the country.

51. Running of community biogas plants by Panchayats will greatly benefit the Panchayat as well as the concerned persons. In the event of running such plants, villagers will have some income by selling their cattle dung to the panchayat, which in turn will induce them to purchase more cattle. Besides they would get good quality manure. The Panchayats will augment their income by selling gas and manure. The Secretary, DNES, informed the Committee that institutional biogas is being encouraged by the Government and all

dairies in the country having cattle have been asked to instal these plants. The approach of Government towards community biogas is, however, very cautious on the apprehension that villagers all over India had good organisational capability. The Committee note that biogas plants can benefit only those farmers owning more than four heads of cattle. In view of the multiple benefits these plants provide, the Committee urge the Government to encourage biogas facilities to all those who need it. There are villagers who collect cow dung as a part of their profession and can use it for the biogas plants. As such eligibility criteria on the basis of cattle ownership should be changed.

52. The Committee were informed that biogas plants upto the capacity of 25 cub. meters are handled by NPRD. Plants above 25 cub. meters are considered for the institutional plants and plants above 45 cub. metres capacity are considered for Community Biogas Plants under Community Biogas Plants/Institutional Biogas Plants Demonstration Scheme. During the Sixth Plan period, against a target of setting up of 100 community biogas plants, 101 plants with institutional biogas capital outlay of Rs. 3 crores were installed. For the Seventh Plan period, a target of 450 plants with a capital outlay of Rs. 17 crores has been envisaged. During the first year of Seventh Plan, 72 plants at a cost of Rs. 3.45 crores were installed and by the end of March 1987, 80 plants at an estimated capital cost of Rs. 4.27 crores are proposed to be installed. The programme has gained momentum in the States of Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh, where potential for installation of biogas plants is the maximum. Keeping in view the constraints on the availability of funds and increase in demand from different States, 90 per cent of the capital cost for community biogas plants and upto 70 per cent of the cost of institutional biogas plants are being financed by DNES. Government have been trying to undertake certain joint ventures by setting up Village Community Biogas under Oorja Gram Scheme involving local engineers and technicians and other public with a view to generating energy for use in cooking, heating, lighting, running television and such other activities. The Committee consider that setting up of and development of institutional biogas and community biogas plants similar to as those set up at Masudpur near Delhi and Tiruchirapalli would be more economical than individual plants and would benefit a large number of individuals with few livestock and little room around to install independent plants. Research and Development Wing must

be strengthened and should concentrate on evolving technology of determining the quantity of fuel consumption so that the Gram Panchayats may make optimum use of cattle wealth by way of milk and gobar gas. This concept can be built up slowly and surely. In selected villages where organisations having public participation should participate in acclerated development of biogas projects. The targets for setting up such community biogas plants during Sixth and Seventh Plans are insignificant in relation to the rural area and huge population of the country. The Government should give more stress on this project and make all out efforts to set up more community and institutional bio gas plants in near future.

53. The Committee noted the manifold uses of biogas plants besides cooking and lighting namely use in preparation of medicine, irrigation, thrashing of grains, crushing sugarcane, running of flour mills and oil ghanis and similar other uses. Enriched manure produced from biogas is used for soil fertilisation and biogased slurry is free from pathogens capable of causing diseases like typhoid, dysentry, cholera, harmful organism like egg of hookworm, tapeworms, liver flukes, etc. Biogas have higher thermal efficiency compared to kerosene, firewood, cow dung and charcoal. The term 'brown revolution' used in the context of changes in life-style among the poor and landless agricultural workers brought out by biogas is quite significant. It is heartening that Government are aware of the developments in this regard and are making efforts to put into use all urban refuse, solid wastes of city garbage including urban refuse of Delhi and organic solid wastes of the urban area. It is also considered imperative that special emphasis is laid on the setting up of biogas plants in slum areas so as to avoid smoke which will ultimately result in qualitative improvement in ecological environment and will result in profitable utilisation of human waste. The Municipalities and urban bodies should profit from the experience of Delhi where human waste is being profitably utilised for commercial use. The Committee urge the Government to draw up an all India plan of action in implementing this suggestion which besides improving environmental climate would also augment national finances. The Committee would like to be apprised of further developments.

54. The Committee note that while the area of operation of National Project on Biogas Development was the entire country, the Ministry of Agriculture in consultation with the State Governments initially focussed its attention to 100 potential biogas districts, and

was later extended to 350 potential biogas districts, selected on the basis of norms formulated. Presently the programme is being implemented with equal vigour all over the country. The Ministry have advised State Governments to adopt a cluster approach for better implementation of the programme. Due priority should be given by way of differential rates of subsidy to North Eastern Regional States, hilly and desert districts. With a view to remove the backwardness of the area, some preferential subsidy may also be paid to North-East and North-West frontier States, hilly and desert districts.

55. The Department of Non-Conventional Energy Sources have undertaken intensified Research and Development Programme in biogas so as to reduce the cost of biogas plant i.e., cost per unit gas production, improve the reliability of biogas plants under different field conditions, diversify the feed materials for biogas to reduce dependence on cowdung, standardise plant designs and integrated utilisation of biogas slurry. The DNES is stated to have sanctioned 50 R&D projects on different aspects of biogas technology and its utilisation. A sum of Rs. 95 lakhs was released to different R&D institutions during 1985-86 and a budget outlay of Rs. 1.5 crores is available for 1986-87. Keeping in view the limited natural energy resources viz., natural gas, oil, kerosene, coal and wood, generation of energy from biogas will be in consonance with the growing developmental need of the country. The Committee trust that Government will take up research and development of biogas in a more business like manner and ensure appropriate investment on R&D Programmes of biogas which can be put to multiple use and had tremendous impact in the rural scene of India.

56. The Committee learn from the representatives of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Rajasthan, West Bengal and Tamil Nadu and KVIC that the biogas programme had become very popular in their respective states. While some States like Andhra Pradesh, Tamil Nadu and Karnataka have already developed administrative and infrastructural facilities required to meet the need of individual biogas owners resulting in expansion of the programme, others such as Bihar, Madhya Pradesh, Rajasthan and West Bengal are picking up steadily. Mode of selection of beneficiary in different states is similar in nature viz., availability of cattle, water, size of the family holdings, etc. Meanwhile some States like Andhra Pradesh, Karnataka and Tamil Nadu, Government agencies take initiative to motivate the people to avail of biogas facilities, in other

states like West Bengal, Bihar and Rajasthan State Government agencies have failed to take the desired initiative due to one reason or other. Some of the difficulties experienced by the State Governments in implementing the programme are stated to be—(i) Andhra Pradesh needs more fund to meet the growing biogas requirements of the people (ii) in Karnataka implementation of the programme has not been uniform in all the districts (iii) in Rajasthan drought and poverty resulted in sale of cattles causing setback to the programme (iv) West Bengal does not have any additional manpower sanctioned for implementation of the programme and only agriculturally advanced districts like Burdwan, Birbhum and Midnapur took advantage of the programme and where as others are yet to pick up (v) in Madhya Pradesh unserpulous persons taking advantage of 100 per cent subsidy to weaker section, misused the funds without building any plants (vi) in Bihar administrative machinery does not appear to have been geared up for implementation of the programme. The Committee were informed by the Secretary, DNES that the responsibility for detailed implementation of the programme lies with the State Government agencies and other agencies who are implementing the programme at the grass-root level. However, at the Central level a close watch is kept on the implementation of the programme. The Committee are of the considered view that suitable methodology should be devised to activate and control participation of State Governments in this programme of importance, magnitude and potential. Development of non-conventional energy sources should be utilised as a measure of improving the rural economy, generation of employment and reducing the ecological disturbance and deforestation. Biogas plants have thus become today synonymous with village sanitation. The Committee note that the programme is gaining momentum and it is essential at this stage to give a co-ordinated thrust to this programme by involving the corresponding municipalities, Gram panchayats, Dairy Farming Units and Co-operatives functioning in the agricultural sector. The Committee urge the Government to chalk out an integrated development programme in consultation with the State Governments and ensure effective control over its implementation.

Physical targets/achievements and Central assistance released

57. According to Audit the physical target of setting up 4 lakh biogas plants during the Sixth Plan period was reduced to 3,35,000

plants as the project was sanctioned late in the year 1981-82 (November). Central Assistance released against the Sixth Plan outlay of Rs. 50 crores and the targets/achievements during 1981-82 to 1984-85 were as below:

Year	Central assistance released	Targeted number of biogas plants fixed by Government of India for all the States/UTs/KVIC	Achievements as per records of the Ministry in all the States/UTs/KVIC
	(Rs. in crores)		
1981-82	3·38	35,000	25,369
1982-83	9·98	75,000	57,498
1983-84	20·16	75,000	92,590
1984-85	47·44	1,50,000	1,80,430
	80·96	3,35,000	3,55,887

58. State-wise analysis of targets and achievements for installing biogas plants (*vide* Annexure 'B' of Appendix I) had revealed that overall achievements exceeded the targets but there was shortfall in achievements by 38070 plants in 10 States and one Union Territory. The shortfall ranged between 14 and 33 percent in 9 States. This was attributed to the fact that these were the initial period of the projects and during this period in most of the States the project was stabilising. The position was stated to have improved markedly in 1985-86 when all the States/Union Territories achieved their targets except Assam and other North-Eastern States/Union Territories (excluding Mizoram).

59. As regards the special problems of Assam and other North-Eastern States. The DNES stated in a note as follows:

> "The pace of implementation of the programme in the State of Assam may have been affected by the law and order problem in the past. The special problems of Assam and other North-Eastern Region States were as follows:
>
> (i) High cost of construction of plants due to terrain and cost of transportation.
>
> (ii) Lack of adequate organisational infrastructure.

(iii) Lack of trained manpower.

(iv) Requirement of adequate number of cattle heads as size of cattle owned is small"

60. The following remedial measures were also stated to have been taken or contemplated for achieving the targets in North-Eastern Region States:

"(i) State Governments have designated nodal departments responsible for implementation of the project during 1986-87.

(ii) Voluntary organisations have also been involved in organising the training courses as well as construction of plants on turn-key basis for 1986-87 onwards.

(iii) Adequate number of training courses have been allocated as demanded by these States.

(iv) The matter relating to increase in the rates of subsidy for Arunachal Pradesh, Meghalaya, Mizoram and Manipur is under consideration.

(v) DNES has established a regional office at Guwahati for closer coordination and liaison purposes alongwith technical training support."

61. As regards the reasons for delay in implementation of the programme by the States of Andhra Pradesh, Haryana, Karnataka, Maharashtra, West Bengal and Kerala, it was stated in a note that:

"The scheme was sanctioned in November, 1981. The State Governments of Andhra Pradesh, Maharashtra, Karnataka and Haryana commenced direct implementation of the programme from 1982-83. However, the KVIC implemented the programme during 1981-82 in the States of A.P. Kerala, Maharashtra and West Bengal and Khadi and Village Industries Board in Karnataka and State Department of Agriculture in Haryana to maintain the existing continuity for the balance position of the year (1981-82). The State Governments of Kerala and West Bengal took considerable time in deciding about the nodal department to implement this programme. In these States, KVIC implemented the programme during 1982-83 also."

62. Asked if the programme was reviewed to over-come the bottlenecks in the installation of biogas plants. The DNES stated in a note as follows:

> "The Programme has been under constant review. New measures were taken in 1984-85 and 1985-86 which included enhancement of training courses, provision of post-installation servicing of plants, repair scheme, involvement of NABARD to monitor pendency of loan application, etc."

63. The Committee note that there has been a shortfall in achievements in setting up of biogas plants during Sixth Plan period in 10 States and one Union Territory and in 9 States the shortfall ranged between 14 and 33%. Notwithstanding constraints the Government should ensure that targets once fixed are achieved. The Government should also make concrete efforts including payment of increased subsidy for implementation of biogas development projects in the economically backward North-Eastern Region and take effective steps in the removal of constraints noticed in this regard.

Mis-reporting of achievements

64. It came to notice of the Audit that 13401 plants (422 in 1981-82, 2574 in 1982-83, 5510 in 1983-84 and 4895 in 1984-85) had been reported to the Central Government in excess of the plants actually installed by the States (*vide* Annexure 'D' of Appendix I).

65. As regards the reasons for this discrepancy, the DNES stated in a note as follows:

> "Since this is a decentralised programme which is implemented at the village level, the information has to travel from field to district, then to State/KVIC level before it reaches to the Centre, over anxiety to furnish information in time, to achieve targets and lack of availability of trained manpower in statistical compilations in the initial years of the programme were some of the reasons. Some agencies were fading while some new implementation agencies were emerging in several States. This resulted in duplication of compilation by State Governments while furnishing information to the Centre. The size of duplication was, however, limited to a small number only."

66. The Ministry is stated to have taken the following steps to prevent wrong reporting of achievement:

"(i) The State Governments/nodal agencies/KVIC have been asked to submit subsidy claims within a prescribed time span.

(ii) State Governments and KVIC have been asked to report information regarding plants under construction and plants completed separately on month to month basis.

(iii) Inspection reports have been prescribed for the State Governments and KVIC.

(iv) It has been decided to set up seven 'Monitoring Cells' directly under the charge of DNES in major States, inter-alia, with the responsibility of test-checks of the report of achievements. Four monitoring cells have started functioning recently.

(v) Officers of the Regional Project Office (RPO) of DNES have been conducting field inspections of plants and on reporting of achievements by State Governments from 1985-86 in the areas of their operation."

67. During the period from 1981-82 to 1984-85, 13,401 plants had been reported to the Central Government in excess of the plants actually installed. Principal reasons for this misreporting are stated to be decentralised nature of the programme, lack of trained personnel capable of systematic compilation of statistical data and frequent change of implementing agencies. DNES is stated to have taken a number of steps such as, disbursement subsidy within a prescribed time limit, setting up of a monitoring cell directly under the charge of DNES, field inspection of plants by Officers of Regional Project Office of DNES and certain other steps, to prevent over-reporting. The Committee hope that Government would continue to maintain strict vigilance over the reporting agencies to avoid misreporting of facts so that future planning is not impugned due to furnishing of incorrect information.

Defective, incomplete and uncommissioned plants

68. In test check Audit has pointed out that as per survey conducted by different agencies in States, viz. Andhra Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh, Orissa, Punjab, Pondicherry, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and KVIC, a good number of plants (stated to have been completed) were not

functioning for various reasons such as technical defects in construction, non-provision of appliances, non-availability of sufficient cattle dung, etc. The Audit has also pointed out that a survey conducted by Directorate of Economic Research (KVIC) from December 1983 to June 1984 of biogas plants installed by KVIC during 1974-75 to 1981-82 in 14 districts of Bihar, Maharashtra and Tamil Nadu revealed that out of 13216 plants covered under the survey, only 9586 plants were working, 2804 plants were not working and 826 plants did not exist as tabulated below:

State	No. of districts	No. of plants covered	Working plants	Not working plants	Non-existing plants
Bihar	4	3938	2176	1157	605
Maharashtra	6	7299	6036	1129	134
Tamil Nadu	4	1979	1374	518	87
	14	13216	9586	2804	826

69. The Ministry stated to Audit in January 1986 that as per reports of independent survey agencies, out of 7.6 per cent plants covered, 87.9 per cent were in working condition. With regard to reasons for non-commissioning/non-existence of plants, the Ministry has stated that the point concerning non-existent plants, mainly relates to the Khadi and Villages Industries Commission, that too, for the period 1974-75 to 1981-82, before launching of the National Project for Biogas Development Even then the numbers of such instances was very small.

70. The reasons for non-commissioning of plants varied from State to State. In some States like Rajasthan plants remained non-functional due to recurrent drought situation whereas in other States like Andhra Pradesh, it was due to recurrence of floods and drought. The State Government of Rajasthan has informed DNES that, as a result of migration of cattle population due to drought situation plants remained unutilised. In any case the number of such plants was stated to be very small proportion of the total.

71. The DNES stated that the "Repair Scheme" was initiated in 1985-86 with a view to reviving plants which had developed structural defects by availing grant upto Rs. 500/- per defunct plant. The number of plants were estimated to be only about 5-6% of the total number of plants installed. 16 States/UTs have informed

that about 9400 plants have already been revived (as on 31.12.1988). Further work is in progress for revival of about 18600 non-functional plants detected so far. State Governments were also asked to submit individual cases for plants requiring higher repair charges. In this regard, proposals received from the State Governments of Rajasthan and Madhya Pradesh which have slightly higher percentage of non-functional plants have already been sanctioned and the work is in progress. Organisational infrastructure has been created, both at Central and State levels; *inter alia*, to ensure proper functioning of plants. Deptt. of Non-Conventional Energy Sources has prescribed quarterly reports indicating the number of plants inspected, number of plants found non-functional, number of plants revived, etc. for the State Governments. The State Governments and programme implementing agencies in turn have fixed targets for their field staff to inspect biogas plants on regular basis. Some of the States have already provided biogas pass-book/inspection charts to the beneficiaries which are signed by the staff who inspect the plants with a view to keep a watch and ensure regular inspection of plants Besides, Users Training Courses are being regularly organised in a cluster of villages to educate, plant owners, in particular, women beneficiaries, in the proper operation and maintenance of plants. In these courses, beneficiaries are given technical information about the simple methods to be adopted for mixing of dung with water, removal of water condensate from the pipeline, cleaning of burner, checking of gas leakage, etc. These courses have been welcomed by rural folk and have contributed to the sources and growing popularity of the programme in the last two years.

72. As regards non-existence of certain KVIC plants, a representative of KVIC stated in evidence as follows:

> "About certain non-traceable plants I would like to say that some have come to our notice. Through our audit we located them and certain action was taken. But due to the transfer of some officers we could not complete it. About four officers in Bihar given in the Audit report are being enquired into. There are 605 such units in Bihar, and in the survey report we have got now, as it is, only 188 plants are missing. This is from Bihar in the ten years of the Fourth, Fifth and Sixth Plan periods. In Maharashtra again the number previously given was 134, it is only nine plants now. Even that, we are going to fix the responsibility. As soon as I go back I will get the report. Now, in Tamil Nadu effectively 31 only are found to be accounted for Previously they were getting completed certificates

from the State Governments also. We have now written to the State Government. They have to issue the completion certificates which the BDO's give. We have to classify the information and we have to probe further."

73. The Committee find that a good number of plants stated to have been completed in the States of Andhra Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh, Orissa, Punjab, Pondicherry, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal and KVIC plants were not functioning for various reasons such as, technical defects in construction, non-provision of appliances, non-availability of sufficient cattle dung, etc. A limited survey conducted by Directorate of Economic Research of 13,216 biogas plants installed by KVIC during 1974-75 to 1981-82 in 14 districts of Bihar, Maharashtra and Tamil Nadu, revealed that only 9,586 plants were working 2,804 plants were not working and 826 plants did not exist. The Ministry informed that principal reasons for non-functioning/non-commissioning of plants were recurrence of floods and drought, migration of cattle due to drought and such other eventualities, 16 States/Union Territories informed the DNES that as on 31-12-1986, 9,400 plants had already been revived and work was in progress to revive 18,600 non-functional plants detected till then. 'Repair Scheme' was introduced in 1985-86 with a view to reviving plants with structural defects by providing a grant upto Rs. 500/- per defunct plant. Users Training Courses are organised in a cluster of villages to educate plant owners particularly women beneficiaries in the proper operation and maintenance of plants including technical methods to be adopted for mixing of dung with water, removal of water condensate from the pipe line, cleaning of burner checking of gas leakage, etc. Besides, organisational infrastructure has been created at Central and State levels, inspection system has been strengthened by introducing pass books/inspection charts and quarterly reports by States indicating detailed performance of plants. As regards non-existence of certain KVIC plants, it has been reported that suitable action was being taken against the erring officials. Instructions had also been issued to State Governments directing them to get completion certificate issued by BDOs. The Committee cannot but strongly deprecate this unsatisfactory state of affairs and are of the considered view that the Government should took into these cases of irregularities with greater care. All cases of fictitious reporting and mis-appropriation of public money should be investigated and penal action taken against those found guilty. The Committee would like to be apprised of further developments in this regard.

Financial Outlay

74. According to Audit assistance amounting to Rs. 79.91 crores was released during 1981-82 to 1984-85 to 16 States, 2 UTs and KVIC, (*Vide* Annexure 'E' of Appendix I). However, the assistance accounted for in the books of the recopients did not tally with the assistance released as per the Ministry's records, except in the case of Kerala. The result is that there has been a short accountal of Rs. 2.49 crores in the records of these States/UTs/KVIC.

75. In reply the Ministry have stated, "The figures of assistance as released by the Central Government have been rechecked from the records of this Ministry and the figures of assistance accounted for in the State Governments have also been reconciled. The statement given below will indicate the funds released by the Ministry and funds accounted for by the State Governments/UTs/KVIC:

(Rs. in lakhs)

Sl. No.	State/Agency	Funds released as per DNES record	Funds accounted as per State Govt. Report	Difference, if any
1	Andhra Pradesh	771·67	788·39	(+)16·72
2	Assam	19·37	19·28	(−) 0·09
3	Bihar	158·17	158·17	—
4	Haryana	192·58	192·58	—
5	Himachal Pradesh	108 42	115 33	(+) 6·91
6	Gujarat	375·42	375·42	—
7	Karnataka	391·16	391·16	—
8	Kerala	46·49	46·49	—
9	Madhya Pradesh	323·68	323·68	—
10	Maharashtra	2020·25	2020·16	(−) 0·09
11	Orissa	93·72	93·23	(−) 0·49
12	Punjab	77·13	62·02	(−) 15·11
13	Rajasthan	391·6	391·06	—
14	Tamil Nadu	524·15	522·18	(−) 1·97
15	Uttar Pradesh	1033·05	1030·66	(−) 2·39
16	West Bengal	139·62	139·62	—
17	Goa, Daman & Diu	11·12	11·07	(−) 0.05
18	Pondicherry	5·20	4·34	(−) 0·86
19	KVIC	1352·64	1352·64	—
	Total	8034·90	8037·48	(+) 2·58

76. On the basis of foregoing table the Ministry have submitted that the differences has narrowed down to Rs. 2.58 lakhs from Rs. 2.49 crores. It has been stated that the figures of fund released by the Ministry and those accounted for by the State Governments/Implementing Agencies would henceforth be reconciled on annual basis. Action for reconciliation of accounts for 1985-86 is stated to have been initiated.

77. A review of the utilisation of total assistance released by the Ministry revealed that while Assam, Gujarat, Himachal Pradesh, Uttar Pradesh, Kerala and Pondicherry had over-utilised the subsidy by Rs. 468.49 lakhs, utilisation in other cases was less by 1 to 99 percent as detailed below:

Extent of under-utilisation	States/UTs
1 to 25 percent	Karnataka, Rajasthan, Haryana, Tamil Nadu, Maharashtra, Madhya Pradesh, Goa, Daman & Diu and KVIC.
26 to 50 percent	West Bengal, Orissa
51 to 75 percent	Andhra Pradesh, Bihar
76 to 99 percent	Punjab

78. The Ministry informed Audit in January, 1986 that against total subsidy of Rs. 7384.13 lakhs released to the States, claims for Rs. 7138.92 lakhs had been received, claims for an estimated amount of Rs. 1852.52 lakhs were pending, Rs. 1607.31 lakhs (overspent) were due to State Governments and reconciliation of figures with the concerned State Governments was being taken up.

79. Asked, if the reasons for non-utilisation of assistance were ascertained and if so, steps taken to overcome these shortcomings, the DNES stated in a note as follows:

> "The figures of expenditure have been reconciled and there is no non-utilisation of funds released under NPED, except in 4 States and one Union Territory, namely Bihar, Andhra Pradesh, Karnataka, Madhya Pradesh and Goa, Daman and Diu. In so far as AP, Madhya Pradesh and Goa, Daman and Diu are concerned, the under-utilisation of funds is not significant. As regards Bihar and Karnataka, final position would emerge regarding under-utilisation when final claims are received.

Even in the four cases concerned, the under-utilisation is technical in nature as plants are reported to have actually been set up, for which adjustments have not been made for want of subsidy claims. In a few cases, under utilisation arose as targets were not achieved by the States. These difficulties have largely been overcome. In 1985-86, targets in all States except Assam were further fully achieved. As regards submission of claims, full claims upto 1984-85 have been received for 3,11,000 out of 3,43,000 plants. The balance are expected before the end of August, 1986.

As per the approved procedure, releases are effected on the basis of targets assigned to States/Agencies. Advance subsidy @Rs. 3000/- per plant for targetted number of plants is placed at the disposal of State Governments/ Agencies in two equal instalments after targets are fixed and second instalment on achievement of 50 per cent of the target. Final adjustment is made on the basis of submission of detailed subsidy claims for the plants actually installed. The amount of Rs. 1607.31 lakhs was estimated as due to States/Agencies on the basis of biogas plants reported to have been completed by them during 1981-82 to 1984-85. States/Agencies have submitted claims for a sum of Rs. 805.60 lakhs out of which a sum of Rs. 800.00 lakhs has been released promptly during 1985-86. The balance payment, if any, can be effected only after subsidy claims are received from the State Governments. As such, it may be seen that prompt payments are effected on the basis of subsidy claims received."

80. As regards the reasons for release of assistance of Rs. 79.91 crores against expenditure Finance Committee approval of Rs. 50 crores only, it was stated by the Ministry in a note that:

"The reasons for release of assistance in excess of the original anticipated cost of Rs. 50.00 crores are as under:

In the original estimates included in the EFC Memo, it was envisaged that 80 per cent of the biogas plants under NPBD would be set up by the beneficiaries belonging to general categories and the remaining plants by small and marginal farmers. Tribal and hill areas which are eligible

for higher rates of subsidy. But in actual position on the basis of claims received the category-wise percentage plants completed comes as under:

General Categories	..	53.84%
S.C., S.T. and Small and Marginal Farmers	..	46.16%

This resulted in payment of higher amount of subsidy. In the E.F.C. Memo it was estimated that 75 per cent of the plants would be 2, 3 and 4 cum. capacities as per details given below:

Capacity of plant (cum)	*Estimated percentage*
2	20
3	25
4	20

But on the basis of claims received, it has been noticed that about 75 per cent of the plants actually installed are of 3, 4 and 6 cum. capacities. The size-wise percentage of plants actually set up is as under:

Capacity of the Plant (cum)	*Percentage*
3	15.58
4	22.38
5	36.30

This has also resulted in additional expenditure on account of subsidy.

The rates of Central subsidy which were originally approved in the EFC Memo were revised upward at two occasions in 1982-83 and 1984-85 due to escalation in the costs of materials. Further higher rates of subsidy were also approved for landless labourers/scheduled castes, desert districts, hill areas. This also resulted in highest expenditure.

The scope of turn-key job fee and promotional incentive was further extended in 1982-83 and in 1984-85 rate of turn-key job fee was increased to Rs. 300/- per plant with warranty period of two years involving additional expenditure.

With a view to providing sufficient number of trained masons for construction and maintenance of biogas plants on a large scale and training of users, a big training programme was sanctioned during 1984-85 involving additional expenditure.

In order to cover more number of potential districts for biogas development, staff support in the shape of service charges @2½ of the cost of biogas plants to be set up in these districts was sanctioned during 1984-85. This was in addition to the staff support sanctioned for 100 intensive districts.

These steps improved the tempo of the programme."

81. The Commitee noted that there were discrepancies in the amounts of assistance as between the books of accounts of recepients and those of Ministries. It is imperative that a discrepancies pointed out by Audit are reconciled with due promptitude and care. Delay in settlement of accounts, especially of subsidy amount paid in advance may lead to misuse and misappropriation of public money. The Committee are of the opinion that foolproof procedure should be devised to ensure prompt settlement of all assistance accounts and once the procedure is formulated, it should be strictly adhered to by the Ministry, State Governments and Union Territories.

82. The Committee learn that the assistance amounting to Rs. 79.91 crores was released by the DNES during 1981-82 to 1984-85 to 16 States, 2 Union Territories and KVIC against expenditure Finance Committee approval of Rs. 50 crores only. While the Committee appreciate the anxiety of Government to pay more subsidy to landless labourers/SCs/STs/people of hill and desert areas they are unable to appreciate that the decision was taken in an isolated manner and would urge the Government to chalk out all future development plans with adequate care sufficiently in advance so that targets are fixed on a realistic basis and ad-hoc decisions are avoided.

Payment of Subsidy in advance

83. A test check by Audit revealed that subsidy amounting to Rs. 57.01 lakhs, payable to the beneficiaries after completion of the plants was paid in advance. In some cases recovery/adjustment of the subsidy was not made till March, 1985 in cases of Assam, H.P., Karnataka, Maharashtra, Orissa, Punjab, Rajasthan, KVIC, etc.

84. As regards the considerations on which subsidies are paid in advance, the Ministry stated in a note as follows:

"The subsidy payable to the beneficiaries under National Project for Biogas Development is released to the State Governments as grants-in-aid. The main considerations for releasing funds in advance to State Government are as under: -

(i) To enable the State Governments to deposit subsidy with the banks so as to avoid accruing of undue interest on the beneficiaries on the subsidy component.

(ii) To enable the State Governments to meet expenditure on purchase of levy cement and steel for construction of biogas plants which is adjusted against the subsidy payable to the beneficiaries. There is a special quota of levy cement and steel for biogas programme.

(iii) Some funds are also required to be available with the field level agencies for timely disbursement of subsidy to the beneficiaries after completion of biogas.

Regarding steps taken to recover/adjust the subsidy within the stipulated date, the Department is exercising the following checks to ensure proper utilisation of funds:

(i) The advance subsidy is released on the basis of targeted number of plants and all India average of subsidy rate calculated on the basis of actual subsidy paid during the previous year.

(ii) The utilisation of subsidy is reviewed at each stage of release of further subsidy with reference to physical performance and claims received.

(iii) A monthly physical progress report has been prescribed through which utilisation position of subsidy is also assessed."

85. After verifying the position for the years from 1981-82 to 1984-85 the Committee were informed that there were no unutilised funds except in case of Andhra Pradesh, Bihar and Karnataka and the unutilised amounts were adjusted against release in 1985-86.

86. As regards recovery of subsidies paid in advance, the Ministry gave the following position (State-wise):

Himachal Pradesh—This pertains to Sirmour district. The cement was not available in the district. These beneficiaries had promised to arrange amount on their own but only 2 beneficiaries could arrange for the cement and the remaining could not arrange for the cement. They were supplied cement in May, 1983. These Plants could not be completed in March, 1983 due to non-availability of cement.

Karnataka—The present position is that the cost of 107 floating drums amounting to Rs. 4.06 lakhs has been recovered.

Maharashtra—This pertains to Haveli block of Pune district. The State Government has informed that these 59 plants were constructed during 1983-84 only and the subsidy was paid after completion of these plants in 1983-84 only. No advance subsidy was paid.

Orissa—The State Government has informed that the amount has already been recovered and adjusted from the beneficiaries.

Punjab—Prior to the year 1984-85, the biogas plants of only KVIC model were approved and installed in the State of Punjab. The Punjab Agro-Industries Corporation Ltd (PAIC) is the only agency indentified by the State Government to manufacture and supply the gas holders and guide frames of biogas plants. As soon as demand is created the orders for supply of gas holders/guide frames are placed with the PAIC. But the gas holders and guide frames were not supplied in time. The subsidy amount was drawn from the Government Treasuries at the close of the financial year and paid to PAIC to be adjusted against cost of gas holder and guide frame.

Rajasthan—In all concerned 6 districts recovery notices have been issued to all 390 cases to complete the plants or remit the amount. The amount of these 390 cases is about Rs. 5.47 lakhs. After issue of these recovery notices, in Bhilwara district, recovery has been made from these beneficiary and two persons have completed their plants. In Bharatpur district Rs. 0.03 lakh has been recovered. Recovery is in process in other districts, namely Alwar, Ajmer, Bharatpur, Bhilwara, Bikaner and Jaipur.

KVIC—The amount has come down to Rs. 2.01 lakhs including payments made in the year 1985-86. Recovery is being watched regularly for the balance amount of Rs. 1.49

lakhs. From Assam no specific reply on the subject is stated to have been received by the Ministry. As regards Orissa the beneficiary was to lift the cement from the dealer, *viz.* Regional Cooperative Marketing Society against payment. There was no financial liability on the District Industries Centre, Cuttack for recovery.

Delay in disbursement of subsidy

87. Subsidy is payable to the beneficiary on completion of biogas plant where no bank loan is involved. Where bank loan has been taken by the beneficiary subsidy is payable to the bank for being adjusted against the loan. Audit has pointed out that there have been instances of delay from one to 24 months in release of subsidy to beneficiaries in most of the States. In some cases it is attributed to delay in sanction by Government of India.

88. Asked the reasons for this delay and step taken to streamline the procedures, the DNES stated in a note as follows:

"The Audit para relates to delay in disbursement of subsidy attributable to late release of funds by Government of India in one State only i.e. Haryana. Advance subsidy under National Project for Biogas Development is released on the basis of targetted number of plants and all India average of subsidy rate. Advance subsidy was released to Government of Haryana also accordingly. The State Government of Haryana exceeded their targets during 1983-84 and 1984-85 resulting in additional expenditure The balance amounts were released during subsequent years immediately on receipt of subsidy claims. There is no delay in release of subsidy by Government of India and the programme was not affected adversely in that State which over-achieved its targets

The Ministry has decided to sanction subsidy in advance upto 50 per cent of the targets fixed to State Government/ Khadi and Village Industries Commission in the beginning of the financial year. The balance 50 per cent of subsidy is admissible on completion of 50 per cent of the targets. The State Governments have been instructed to make subsidy available upto district level for disbursement immediately after completion of the plants. However, in cases where the State Governments exceed their targets the delay in disbursement of subsidy cannot be avoided as

the Ministry can release the excess subsidy only in subsequent financial year, due to prior commitments made in respect of other States."

89. The Committee note that subsidy amounting to Rs. 57.01 lakhs payable to the beneficiaries after completion of the plants was paid in advance and its recovery/adjustment was not made till March 1985. The Committee urge Govt. to take adequate steps to recover/adjust subsidy paid to the beneficiaries in advance and ensure proper arrangement of adjusting advance in future.

Institutional finance

90. The Project provided subsidy for a portion of the capital cost of the biogas plants and the remaining amount was to be raised by the beneficiaries. The finance to be so raised was estimated to be Rs. 150 crores for achieving the target of 3.35 lakh biogas units during the Sixth Plan period. Test-check of transactions, however, revealed that mobilisation of Institutional finance had not been encouraging, reasons being.

(i) Non-preparation of credit plans by various implementing agencies.

(ii) Lack of adequate interest taken by the banks in the implementation of the programme.

(iii) Delay in processing applications, sanctioning and payment of loans by banks.

(iv) Delay in payment of subsidy to banks by the department.

91. It has also been reported that some loans in West Bengal were rejected by the banks for the beneficiaries having failed to mortgage their land on this account.

92 The Ministry were also asked to state what was the actual mobilisation of institutional finance. Instead of giving a direct reply to the question, the Ministry furnished the following information:

"Financial institutions do not provide information regarding actual disbursement of loan amounts. However, it has been assessed on the basis of subsidy claims received that about 60 per cent of the beneficiaries have installed plants through bank loans. Assuming that on an average, about Rs. 5000 per plant is provided by banks as loan

(excluding Central subsidy amount), the contribution of institutional finance would be of the order of Rs. 100.5 crores for about 2.01 lakh plants (60 per cent of a total of 3.35 lakh plants installed) during the Sixth Plan period."

93. The Ministry were asked to explain if the reasons for inadequate mobilisation of institutional finance have been investigated and what steps have been taken to overcome the shortcomings pointed out by the Audit. In reply the Ministry have stated as follows:

"Administrative approvals provide that credit plan should be formulated. These instructions have been reiterated to all implementing agencies so that they may ensure preparation of credit plans for all districts. Task forces for reviewing institutional finance were constituted in 1985-86 in the States of Andhra Pradesh, Tamilnadu, West Bengal, Orissa, Jammu & Kashmir and the Union Territory of Goa, Daman & Diu with a view to ensure adequate interest on the part of banks and to avoid delays, etc., consultations were held with NABARD, AFC and Banking Division of Ministry of Finance. As a result, a number of instructions, *inter alia*, to overcome the problems identified were issued by NABARD and RBI to banks.

With a view to creating greater interest on the part of banks at all levels, automatic refinancing facilities of NABARD was extended in 1985-86 and the Credit Guarantee Insurance Corporation also extended the guarantee cover. Review meetings were held at New Delhi with Department of Banking, NABARD, etc., whenever problems of delays were brought to the notice of DNES. A statement was prescribed on quarterly basis to enable the State Governments to bring cases of delays in sanctioning loans by banks. During 1985-86, very few cases were brought to Government's notice.

With regard to delay in payment of subsidy, to banks, it may be clarified that this Department releases subsidy to State Governments who in turn release it to banks and subsidy amounts were released in time in accordance with the prescribed procedure."

94. As regards rejections of loan applications by banks in West Bengal for non-furnishing of land mortgage, the Ministry gave the following reply:

> "RBI and NABARD have reiterated time and again that mortgage of land should not be insisted on for providing loans for biogas plants. In case of West Bengal, some banks had rejected applications on the ground of failure of beneficiaries to mortgage their land. The matter was already taken up with the Banking Division of the Department of Banking, Ministry of Finance, which in turn, have issued suitable instructions to banks."

95. The project provided subsidy for a portion of the capital cost of the biogas plant and the remaining amount was to be raised by the beneficiaries. The finance to be so raised was estimated at Rs. 150 crores for achieving the target of 3.35 lakh biogas units during the Sixth Plan period. Test-check by Audit revealed that mobilisation of institutional finance had not been encouraging which had retarded the implementation of the programme. They urge upon the Government to review the position and chalk out a workable plan in consultation with RBI, NABARD, AFC and implementing agencies for providing institutional financial support to ensure timely implementation of the programme.

Training

96. Training formed an essential ingredient of NPBD. The cost of training was to be fully met by the Central Government. Audit has pointed out that targets for various training courses for construction and maintenance of biogas plants, refresher courses trainer's training courses, orientation Programmes and users' education courses were not met. Further, it was noticed by Audit that a number of trained masons who received training stipends were not available for the construction and maintenance of biogas plants. The Ministry informed Audit in January, 1986 that the main reasons for inadequate availability of persons trained under NPBD for construction of biogas plants was that they used to get more lucrative employment elsewhere and that efforts for the utilisation of the services of trained masons to the maximum extent possible were being made by the State Governments.

97. The Committee desired to know whether the Ministry have taken note of this situation and what steps have been taken by them towards better utilisation of the trained personnel. In reply

the Department of Non-Conventional Energy Sources stated in a note as follows:

"The Department of Non-Conventional Energy Sources has issued instructions to the State Governments and programme implementing agencies to keep a watch on the utilisation of persons trained in the construction and maintenance of biogas plants. The name and addresses of the masons trained under different training courses were reported to be displayed in the office of the Block Development Officer at the Block level. Independent evaluation survey study conducted by five agencies indicate that the training courses have played a useful role in ensuring quality construction of plants. During the review meetings held with the State Governments, it was opined that about 30 to 60 per cent of the masons trained are being employed in the construction of plants at a given time, which is considered to be satisfactory.

Over 1200 construction-cum-maintenance training courses were organised for masons during the period 1981-82 to 1984-85. On an average, it is estimated that about 18 persons (against a target of 20 persons per course) were trained in each course. Therefore, about 22,000 persons had been trained up to 1984-85. It may be noted that professional self-employed masons are being trained in the skill of construction of biogas plants and they are free not only to construct biogas plants but also employ themselves in any activity. Therefore, it would be difficult to expect that all masons trained under training courses would be available for construction of biogas plants at a given time as construction of biogas plants is not a full time occupation year round."

98. The Committee note that training formed an essential ingredient of National Project on Biogasing Development and the cost of the training has to be fully borne by the Central Government. It was brought to their notice that targets for various training courses were not fully met and some trained masons after receiving training stipends were not available for the construction and maintenance of biogas plants. The DNES had issued instructions to the State Governments and programme implementing agencies to keep a watch on the utilisation of the service of persons trained for construction and maintenance of biogas plants and provide sufficient

incentives to the trained personnel to arrest their flight to other trades and vocations.

Monitoring

99. Coordination Committees comprising of representatives of various departments, implementing agencies, KVIC/KVIB, banking institutions, recognised voluntary organisations, etc. were to be constituted at the State and district levels for reviewing and monitoring of the programme. Proceedings of State Level Committees were required to be endorsed to the Central Government. The State Governments were also required to send monthly reports to the Government of India and to prescribe fortnightly reporting schedules for the district and block levels so as to watch the progress of installation of plants. A testcheck by Audit revealed that as on 31st March, 1985 while Coordination Committees constituted at State Level did not meet at all in Bihar and Goa, Daman and Diu, they had met only once in Kerala (September, 1983), twice in Himachal Pradesh (June 1982, August 1983 and July 1984) and thrice in Tamil Nadu (July 1982 and January 1984). The Co-ordination Committees reportedly held several meetings in Punjab and West Bengal, but minutes of the meetings were not made available to Audit.

100. Timely action for reviewing actual achievement against targets fixed, assessment of actual working of plants installed and identification of defective plants for rectification of defects, etc. was not taken in any of the States test checked. The Committee desired to know what action was taken by the Ministry to devise adequate system for verification of progress *vis-a-vis* targets fixed as also for assessing of actual working of plants installed and identification of defective plants for rectification of defects. In reply the Ministry have stated that this is a decentralised programme and as such responsibility shall continue to vest with State Governments/nodal agencies/KVIC.

101. Asked further as to what the Ministry were doing to tighten up the monitoring process, the DNES stated in a written note as follows:—

> "As the biogas programme continues to form a part of the 20-Point Programme, it is being monitored on month to month basis at district, State and Central levels. With a

view to further tighten the monitoring process, the Department of non-Conventional Energy Sources has already set up biogas monitoring cells at three places, namely, Chandigarh, Delhi and Jaipur. Four more biogas monitoring cells are being planned. It has already been decided that evaluation survey studies by independent agencies should be continued for plants installed during the last two years. Six agencies have already been selected for the purpose and the field work is likely to start soon. It may be seen from the above that monitoring at the State and Central levels is quite tight. The department holds two national level meetings every year which are participated by representatives from State Governments, nodal agencies, Central Government departments including Department of Banking, Reserve Bank of India, NABARD, Agricultural Finance Corporation, Steel Authority of India Ltd., Iron & Steel Controller and Development Commissioner for Cement Industry, etc. In addition, review meetings with individual states and group of states are also held from time to time."

102. Details of the meeting of State Level Coordination Committee on Biogas furnished by the Ministry showed the position as indicated below:—

(i) In Andhra Pradesh it meets once in two months;

(ii) In Gujarat it met 4 times in 1982-83 and 2 times each in 1983-84 and 1984-85;

(iii) In Karnataka it meets once in a quarter and proceedings sent to DNES;

(iv) In Kerala it met in September, 1983; Meetings to finalise banking plan were held in January and August, 1984; State level meetings were held on 27-6-1984 and 7-12-1984 to review the 20-Point Programme including biogas;

(v) In Madhya Pradesh it met twice during 1985-86;

(vi) In Maharashtra it met 3 times in 1982-83; twice in 1983-84 and once in 1984-85;

(vii) In Orissa it met twice during 1984-85;

(viii) About Punjab it is said that minutes of the meeting are available on office record (silent about number of meetings);

(ix) In Rajasthan it met 4 times in 1982-83, thrice each in 1983-84 and 1984-85 and 4 times in 1985-86;

(x) In Tamil Nadu, only Task Force Committee meets twice a year;

(xi) In U.P. meetings were held thrice in 1985-86;

(xii) In West Bengal Six meetings were held during 1982-83 and 1984-85.

103. The Committee find that Coordination Committees, comprising of representatives of various departments, implementing agencies, KVIC/KVIB, banking institutions, recognised voluntary organisations etc. were to be constituted at the State and District levels for reviewing and monitoring of the programme. Proceedings of the State level Committees are required to be sent endorsed to the Central Government. Besides, the State Governments are also required to send monthly reports to the Government of India and to prescribe fortnightly reporting schedules for the district and block levels so as to monitor the programme. The Committee find that monitoring of the programme was not effective. The State level Coordination Committees met rarely in most of the States, or did not meet at all, States where they met minutes of the meetings were not made available to the Audit. Further, timely action for reviewing the actual achievements against the targets fixed, assessment of actual working of the plants and installation and identification of defective plants for rectification was not done in any of the States test checked.

104. The Committee find it difficult to accept that the programme so vital for the uplift of masses and environmental improvement and involving huge financial outlay should receive so little attention. Monitoring the progress of the programme at regular intervals is indispensable for successful implementation of the programme. The Committee urge the Government to ensure that the prescribed procedure for monitoring the progress of the programme is translated into action so that shortcomings of the systems are identified and remedial action taken with the due promptitude.

Evaluation

105. The Audit has pointed out that implementation of the programme had not been evaluated in any of the States and UTs till March, 1985. Hence, its impact on the rural population *vis-a-vis*, the actual position of fuel wood savings, production and use of enriched manure as a bye-product by the farmers, reduction in

drudgery of village women, reduction in eye diseases, improvement in village sanitation, etc. could not be known.

106. In October, 1984, the Government of India sanctioned evaluation survey studies of biogas plants installed in different States by independent organisations. The Ministry informed Audit in January, 1986 that final reports from the agencies and interim reports from two agencies had been received. The results of evaluation and follow up action taken by the Ministry have not been intimated.

107. Asked if all the States/Union Territories have completed evaluation of the Programme, the Ministry stated as follows:—

> "The programme had been evaluated by the State Governments of Maharashtra, Haryana, Andhra Pradesh, Rajasthan and Madhya Pradesh, mainly to determine the working condition of plants. In many other States/UTs the programme had just started picking up and the need for its evaluation had not arisen up to 1984-85."

108. The Committee were informed that the programme was evaluated at the Government of India's level *inter alia*, to determine saving of fuel wood, benefits from enriched manure, saving in cooking time etc. The studies indicated that biogas programme had helped in saving of firewood, reduction in cooking time and increase in crop production.

109. Asked to elaborate on the agency through which this survey was conducted and its findings the Ministry gave the following position:—

> "Evaluation survey studies were conducted by five independent agencies, namely, National Council of Applied Economic Research, New Delhi, Operations Research Group, Baroda, Kirloskar Consultant Pvt. Ltd., Pune, Desant Raj Consultant Pvt. Ltd., Madras and Centre for Studies in Decentralised Industries, Bombay. The findings of these studies with reference to saving in terms of fire-wood and fertiliser and improvement in sanitation and public hygiene have been quite encouraging. A large majority of the beneficiaries have responded that they recognised the multiple benefits of biogas plants and the plants have resulted in generating savings in firewood and fertilizer. The percentage of saving by users in firewood generally ranges between 68 to 91 in

terms of saving of fertilizer ranges between 62 to 77 and in terms of improvement in sanitation and public hygiene ranges from 45 to 80."

110. The Committee desired to know, following evaluation at national level through the independent agencies what follow up action has been taken by the Ministry. In reply DNES furnished the following information:

"The reports have been considered in an Inter-State meeting held on 15th July, 1986 in DNES. Some of the important recommendations are given below:—

— More training courses for masons and technicians should be organised under strict supervision.

— Users Training Courses should lay emphasis on proper operation and up-keep of plants.

— Special training courses should be organised on the revival and rectification of defunct plants.

— The rates of subsidy for different categories of beneficiaries should be examined periodically keeping in view the prevailing costs of plants the extent of acceptability of this technology and sizes and models to be promoted on larger scale by covering small and marginal farmers and weaker sections.

— Technical literature and publicity material should also lay emphasis on proper and efficient use of biogas, manure. These publications should be brouht out in regional languages.

— Procedure for release of subsidy and bank loans should be further simplified.

— Agency approach should be adopted for construction of biogas plants and also for providing post-installation servicing of plants on regular basis. Biogas Service Centre should be developed in areas which already have high concentration of plants.

— Sample survey of plants set up during 1984-85 and 1985-86, which total to about 3.7 lakh plants, should be conducted with a view to determine not only functionality of plants

but also their impact on socio-economic status of beneficiaries."

111. When the Committee desired to know what was the impact of the programme of the society as a whole, the Secretary, DNES stated in evidence that "the benefits are very nemerous. First of all, provision of energy in a clean, unpolluted form. There is a benefit in terms of fertilizers also. So, there is a reduction of cutting of trees from the forests. By means of Biogas, lung and eye diseases are reduced. So, definitely village women will be getting some sort of relief also. In fact the greatest supporters of this programme are the village women who have been telling us repeatedly through their organisation that these are good programmes and they should be expanded."

112. Summing up the effectiveness of the programme, the Secretary, DNES stated in evidence that the country have at the moment 6,50,000 (6½ lakhs) families using biogas and "if we take 85 per cent of the plants as functioning, and even if we assume that the functioning plants work only for 300 days a year, we can easily calculate that the energy that they give out is equivalent to the saving of 21.6 lakh tonnes of firewood every year, which is valued at today's price of Rs. 400 per tonne, at Rs. 86.5 crores annually.

113. In addition, enriched manure containing about 2.08 lakh tonnes of NPK is produced as a by-product from these bio-gas plants, and it is available for manurial purposes. Even if you discount those not operating, and consider those working partly during the year, the nation gains Rs. 170 crores in fuel and fertilizer terms. From this point of view and from point of environment and drudgery of rural women, and the smoke-free atmosphere which is available now in villages, it seems to be very encouraging. The programme has spread to all parts of India, and is proving very popular with villagers."

114. The Committee find that implementation of the programme had not been evaluated in any of the States and Union Territories till March 1985 and as such its impact on the rural population could not be assessed. In October, 1984, Government sanctioned evaluation survey studies of biogas plants by five independent agencies, namely, National Council of Applied Economic Research, New Delhi; Operations Research Group, Baroda; Kirloskar Consultants (P) Ltd., Puna; Desant Raj Consultant Pvt. Ltd., Madras and Centre for Studies in Decentralised industries, Bombay. The findings of these studies with reference to saving in terms of firewood and fertilizer and improved

sanitation and public hygiene are stated to be quite encouraging. The Committee opine that biogas has not only changed the look of the villagers but also bettered the lifestyle of the villagers. The programme has also provided numerous benefits to the people, i.e., provided energy in a clean and unpolluted form, produced fertilizers, reduced lung and eye diseases and mitigated ecological disturbance and deforestation. The Committee hope that the Government would continue to evaluate the programme periodically to remove deficiencies and bottlenecks and to ensure modifications with reference to latest technological advancement, keep constant watch over release of funds, streamline procedure to loan and subsidy, strengthen the inspection procedures, to eliminate non-existent plants from the scope of subsidy and loans and impart training for proper maintenance and operation of the plants.

NEW DELHI;
April 27, 1987
Vaisakha 7, 1909 (*Saka*)

E. AYYAPU REDDY,
Chairman,
Public Accounts Committee.

APPENDIX I

(Para 27 of the Report of C. & A.G. of India for the year 1984-85 (Civil) Vol. I on National Project on Biogas Development)

27. National Project on Biogas Development

27.1. *Introductory*

During the fifth Plan period, the Ministry of Agriculture initiated a Central Scheme on Development of Local Manurial Resources including development of biogas. Against target of 1,00,000 biogas plants, over 70,000 plants were installed between 1974-75 and 1978-79 involving Central subsidy of Rs. 6.85 crores.

From 1981, National Project on Biogas Development (NPBD) was sanctioned as a Central scheme involving an outlay of Rs. 50 crores on account of subsidy, administrative overheads, organisational support to State Governments, fee for turn-key jobs and training. The target was to set up 4 lakh biogas plants during the Sixth Plan period. An amount of Rs. 150 crores was to be raised through financial institutions for achieving the target. The programme was implemented through the Ministry of Agriculture (Department of Agriculture and Co-operation) upto September 1982 whereafter it was transferred to the Ministry of Energy, Department of Non-Conventional Energy Sources (DNES).

27.1.1 *Objectives.*—The main objectives of the programme are to:

(i) Provide energy in a clean unpolluted form;

(ii) make available enriched fertiliser as a by-product for supplementing and optimising the use of chemical fertilisers;

(iii) reduce pressure on the dwindling fuel wood supplies, indiscriminate felling of trees and deforestation;

(iv) eliminate smoke filled cooking method and reduce drudgery, eye diseases etc. in rural areas; and

(v) bring improvement in rural sanitation. While the area of operation of NPBD was the entire country, the activity was to be focussed in 100 selected districts. This was, however, extended to all the potential biogas districts

numbering about 350 in all the State/Union Territory (UT) Governments with effect from 1984-85.

27.1.2 *Components of the Project and Pattern of Assistance*

The main components of the project assistance were:

(i) Fixed amount of Central subsidy to the beneficiaries for setting up biogas plants at the rates indicated in Annexure 'A'. The implementing agency has to identify the beneficiary and process his application for grant of bank loan repayable in 5 to 7 years with interest. In the case of those beneficiaries who avail of bank loans, amount of subsidy is deposited in their bank accounts. In other cases, it is paid in cash after completion of the plant.

(ii) Core organisational support (100 *per cent* grants-in-aid) to State and U.T. Governments/Khadi and Village Industries Commission (KVIC) including training of Village masons, extension staff, bank functionaries, women's education programme, organisation of demonstrations, etc.

(iii) Service charges for turn key jobs to corporate bodies/societies/agencies etc. at the rate of Rs. 200 per plant set up with guarantee for one year and Rs. 300 per plant with a guarantee period of two years with effect from 1984-85.

(iv) Promotional incentive of Rs. 30 per plant payable to Village functionaries (also to KVIC workers from 1984-85) onwards.

(v) 2½ *per cent* of the cost of construction of biogas plants payable to State/UT Governments in respect of plants installed in districts other than 100 intensive biogas district (to KVIC with effect from 1984-85) in lieu of staff support. Upto 1983-84 subsidy was released in advance to the extent of 75 *per cent* during the first three quarters of each year which was changed to 50 *per cent* from 1984-85 on the basis of approved targets. The balance was payable on installation of plants.

27.2. *Physical target/achievements and Central assistance released*

The physical target of setting up 4 lakh biogas plants during the Sixth Plan period was reduced to 3,35,000 plants as the project was sanctioned late in the year 1981-82 (November). Central assistance

released against the Sixth Plan outlay of Rs. 50 crores and the targets/ achievements during 1981-82 to 1984-85 were as below:—

Year	Central assistance released	Targeted number of biogas plants fixed by Government of India for all the States/UTs/ KVIC	Achievements as per records of the Ministry in all the States UTs/KVIC
			(Rs. in crores)
1981-82	3 38	35,000	25,369
1982-83	9.98	75,000	57,498
1983-84	20 16	75,000	92,590
1984-85	44.47	1,50,000	1,80,430
Total	80.96	3,35,000	3,55,587

State-wise details regarding the targets and achievements for installing biogas plants are given in Annexure 'B'. The overall achievements exceeded the target, but there was shortfall in achievements by 38,070 plants in 10 States and one U.T. and in 6 States and one U.T., targets were exceeded by 59,005 plants. The shortfall ranged between 14 and 33 *per cent* in 9 States.

The figures in the records of the Ministry differed by 3,877 from these as per the State/UT Government records: (21,072 plants shown in excess in 10 States and one UT and 17,195 shown less in 6 States and one UT).

The programme was not implemented by the State Governments of Andhra Pradesh, Haryana, Karnataka, Maharashtra and West Bengal during 1981-82 and Kerala during 1981-82 and 1982-83.

27.3 Test-check of the records in 16 States and two UTs (Annexure 'C') revealed the following:—

27.3.1 *Mis-reporting of achievements*

It was noticed that 13401 plants (1981-82: 422; 1982-83: 2574; 1983-84: 5510; and 1984-85: 4895) had been reported to the Central Government in excess of the plants actually installed by 8 States as shown in Annexure 'D'.

27.3.2 *Non-availability of completion certificate of plants reported as complete*

Subsidy was to be paid to the beneficiaries on the basis of completion certificates issued by Block Development Officers/Technical Officers of KVIC. However, completion certificates were not issued/ produced to Audit in the case of 17,388 plants though reported to have been completed and commissioned. The details are as under:—

State/Uts	No. of plants		Remarks
	Year	Number	
1. Andhra Pradesh	1982-83 1983-84 1984-85	52 330 14,766	Ministry stated (January 1986) the completion certificates for 1982-83 and 1983-84 were submitted by the implementing agencies in May 1985 and that for 1984-85 completion certificates in respect of 2546 plants were yet to be received.
2. Assam	1981-82 to 1984-85	219	
3. Tamil Nadu	1981-82 to 1984-85	154	Information is for 5 districts.
4. Uttar Pradesh	NA	424	Information is for 6 districts only.
5. West Bengal	1982-83 to 1984-85	795	
6. KVIC	NA	648	

N. A. : Not Available

27.3.3 *Faulty selection of beneficiaries*

The beneficiaries for installation of biogas plants were to be identified on the basis of (a) ownership of cattle heads, (b) total collectable quantity of cattle dung, (c) availability of space and (d) availability of water. It was seen in audit that the selection of beneficiaries was done without adequate survey. The test-check revealed the following:—

Bihar.—72 plants were not working in three districts for want of raw materials owing to non-possession of sufficient number of cattle heads by the beneficiaries.

Rajasthan.—Out of 141 beneficiaries selected in Bikaner district, 79 did not own a single animal, while 33 had only one against the minimum requirement of 2 to 3 animals.

Maharashtra.—In Maharashtra, survey conducted by Director of Economics and Statistics, Bombay in July-August 1984 revealed that in 20 *per cent* cases, animal holding was below 4 due to which adequate supply of dung could not be ensured.

27.3.4 *Defective incomplete and uncommissioned plants*

It was noted in test-check that a good number of plants were not functioning successfully as under:—

Andhra Pradesh.—An evaluation study conducted between December 1984 and March 1985 by Bank of Technical Expertise (BOTE) consultants (P) Limited revealed that out of 1353 plants covered in the study, only 69 *per cent* were working well, 19 *per cent* were not working to the expected level and 12 *per cent* were not at all in operation.

Haryana.—Survey conducted in respect of 2148 plants from August to November 1983 by Monitoring and Evaluation Cell of the Agriculture Department revealed that 887 plants completed during 1982-83 were not commissioned; 412 plants were incomplete; 18 plants did not exist at site; 38 plants had low pressure and efficiency problems and 46 plants were not of specified design.

Himachal Pradesh.—Out of 2437 plants set up during 1982-83 to 1984-85 in four districts, 922 plants were not functioning.

Madhya Pradesh.—Survey of 7847 plants out of 10,609 plants installed by KVIC upto February 1985 revealed that 2720 plants (35 per cent) were non-functional due to non-filling of cattle dung (2400) and technical defects (320). The State Government sanctioned 3.00 lakhs and directed KVIC to spend Rs. 1.50 lakhs from their own funds for making the plants operational in Bhopal district. Despite extra expenditure of Rs. 4.47 lakhs (Rs. 3.98 lakhs on completion of 231 incomplete plants and Rs. 0.49 lakh on filling of cow dung in 88 plants during February to June 1984), only 25 out of 655 plants have started functioning (January 1985). Other 630 plants did not work due to non-availability of sufficient cattle dung and non-provision of appliances (222 plants), technical defects (80

plants), being incomplete (95 plants) and beneficiaries not interested in using the plants (233 plants).

Orissa.—91 plants (Janata model) installed in 5 districts (1981-82: 1, 1982-83: 10 and 1983-84: 80) were not commissioned till March 1985 for want of initial feeding of cattledung.

Punjab.—Out of 653 plants installed in Bhatinda district, 286 were defective and 156 were working partially.

Pondicherry.—7 plants were not functioning due to technical defects; 5 plants set up during 1982-83 and 1983-84 were yet to be commissioned (January 1985).

Rajasthan.— 184, 444, 152 and 367 plants (total 1147 plants) set up during 1981-82, 1982-83, 1983-84 and 1984-85 respectively were not in operation. In Bikaner district, out of 141 plants only 29 were working, 8 plants though filled with dung were not in use, 59 technically complete plants were lying half filled or unfilled with dung, 41 plants were lying incomplete and construction of 4 plants was abandoned.

Tamil Nadu.—70 biogas plants, set up in 6 districts, during 1981-82 to 1983-84, were not functioning for 3 to 25 months due to defects like cracks in the domes/side walls etc. Further, 402 plants started during 1982-83 (71) and 1983-84 (331) in 69 blocks were either abandoned or left incomplete.

Uttar Pradesh.—Out of 4103 plants installed in 5 districts, 129 were not working for over one year, 123 for more than 2 years and 175 for more than 3 years.

West Bengal.—15 plants installed during 1982—84 in 2 districts were not functioning. Information in respect of other districts was not available.

KVIC.—A survey conducted by Directorate of Economic Research (KVIC) from December 1983 to June 1984 of biogas plants installed by KVIC during 1974-75 to 1981-82 in 14 districts of Bihar, Maharashtra and Tamil Nadu revealed that out of 13,216 plants covered

under the survey, only 9586 plants were working, 2804 plants were not working and 826 plants did not exist as tabulated below:—

State	No. of districts	No. of plants covered	Working plants	Not working plants	Non-existing plants
Bihar	4	3938	2176	1157	605
Maharashtra	6	7299	6036	1129	134
Tamil Nadu	4	1979	1374	518	87
	14	13216	9586	2804	826

The Ministry stated (January 1986) that as per reports of independent survey agencies, out of 7.6 *per cent* plants covered, 87.9 *per cent* were in working condition.

27.3.5 *Excess issue/allotment, short supply and diversion of cement*

Levy cement was either issued/allotted in excess of actual requirements or short supplied/diverted in the following cases:—

Andhra Pradesh.—For one district, cement had been allotted for two successive years (1982-83 and 1983-84) without any plant being sanctioned while 5 districts, including the one selected for intensive biogas development, suffered from short supply for three successive years.

Goa, Daman & Diu.—16 beneficiaries, to whom 29.5 tonnes of cement were issued, did not utilise the same for the intended purpose.

Haryana.—Against a requirement of 40 bags of cement for construction of one 6 cum capacity plant, 50 bags were issued, resulting in excess issue of 611 tonnes in 4 districts. The Ministry stated (January 1986) that the supply of 50 bags of cement against standard requirement of 40 bags for one 6 cum plant was not considered excessive because cement requirements varied according to the model of plant, site and soil structure, water-table, etc.

Himachal Pradesh.—325.4 tonnes of cement were issued in 3 districts during 1982-83 to 1984-85 for purposes other than construction of biogas plants. This resulted in purchase of 1798 bags of non-levy cement in two districts.

In one district, 5221 bags of cement (Rs. 2.87 lakhs) were issued in excess of the prescribed norms to 428 beneficiaries. Again 6,557 bags of cement (Rs. 3.37 lakhs) issued to extension staff during 1982-83 to 1984-85, cost of 4183 bags of cement was adjusted in subsidy bills or recovered in cash (Rs. 2.15 lakhs). Adjustment/ recovery of balance cost of 2374 bags of cement (Rs. 1.22 lakhs) was not traceable in the records (June 1985). Acknowledgement of receipt of 2465 bags of cement issued by the Project Officer, Intensive Agriculture District Programme (IADP) to another unit of Agriculture Department during 1983-84 to 1984-85 was awaited (June 1985).

Karnataka.—In one district, 700 tonnes of cement costing Rs. 6.32 lakhs were diverted during April 1981 to March 1985 to works on National Rural Employment Programme. Out of 7 districts test checked, account of cement procured and utilised was available only in one district.

Maharashtra.—Against total requirements of 41668 tonnes of cement during 1982-83 and 1983-84, 25948 tonnes were allotted by the Central Government. Details of cement actually received, utilised and balance in stock were not available with the State Government (March 1985). In two blocks of one district, 557 bags of cement were supplied from April 1983 to March 1984 to 16 beneficiaries against admissible quantity of 410 bags. Construction of 13 plants during 1983-84 was stopped in one block for want of cement.

Orissa.—Against 1600 bags of cement issued to 69 beneficiaries, 8 plants consuming 184 bags of cement were only installed. 1416 bags of cement costing Rs. 0.74 lakh were left with 61 beneficiaries who had abandoned the construction after digging foundation, recovery of which was yet to be made (May 1985).

Pondicherry.—19 beneficiaries to whom 551 bags of cement were issued (1982-83: 262 bags in 9 cases and 1983-84: 289 bags in 10 cases) did not take up the work.

Rajasthan.—998 bags of cement issued to 50 beneficiaries during 1981-82 to 1984-85 in 3 districts were not utilised for the intended purpose. 917 bags of cement (Value Rs. 0.42 lakh) were issued during 1982-83 in another district to 36 beneficiaries without any application.

Tamil Nadu.—326.5 tonnes of cement valued at Rs. 3.01 lakhs were issued in excess of the prescribed quantities during 1982-83

to 1984-85 for 702 plants in 7 districts. 86.69 tonnes of cement costing Rs. 0.87 lakh were issued to 75 beneficiaries in 4 districts when the plants had already been completed.

Uttar Pradesh.—8038 tonnes of cement were only supplied to the beneficiaries in 5 districts during 1983-84 and 1984-85 against the estimated requirement of 13454 tonnes.

27.3.6 *Inadequate implementation machinery*

For implementing the programme through State Governments, UTs, KVIC, corporate bodies, etc., 100 *per cent* staff support was to be provided by the Central Government. A test-check of records revealed that Staff actually employed in the intensive biogas districts in the following States/UTs was much less than the sanctioned strength.

Name of State	Period	No. of staff actually employed/sanctioned strength			
		Supervisors	Technicians	Jr. Asstt. Engineer Agr. Clerks, Officers, etc.	All categories together
Andhra Pradesh. . . .	1982-83	0/5	6/25		
	1983-84	1/5	8/25		
	1984-85	4/5	13/25		
Bihar	As on May 1985	3/8	23/40	6/8	
Maharashtra	As on June 1982	4/7	10/35	2/7	
Punjab	1982-83				2/84
	1983-84				12/84
	1984-85				42/84
Uttar Pradesh . . .	1981-82		0/95	0/19	
	1982-83		0/95	0/19	
Goa, Daman & Diu . .	1982-83		0/7	0/1	
	1983-84		0/7	0/1	

27.4 *Financial Outlay*

Total assistance amounting to Rs. 79.91 crores was released during 1981-82 to 1984-85 to 16 States, 2 UTs and KVIC as detailed in Annexure 'E'. However, the assistance accounted for in the books of the recipients did not tally with the assistance released as

per the Ministry's records, except in the case of Kerala. The result is that there has been a short accountal of Rs. 2.49 crores in the records of these States/UTs/KVIC.

A review of the utilisation of total assistance released by the Ministry revealed that while Assam, Gujarat, Himachal Pradesh, Uttar Pradesh, Kerala and Pondicherry had over-utilised the subsidy by Rs. 468.49 lakhs, utilisation in other cases was less by 1 to 99 *per cent* as detailed below:—

Extent of under-utilisation	States/Uts
1 to 25 *Per cent*	Karnataka, Rajasthan, Haryana, Tamil Nadu, Maharashtra. Madhya Pradesh, Goa, Daman & Diu and KVIC.
26 to 50 *per cent*	West Bengal, Orissa.
51 to 75 *per cent*	Andhra Pradesh, Bihar.
76 to 99 *per cent*	Punjab.

The Ministry stated (January 1986) that against total subsidy of Rs. 7384.13 lakhs released to the States, Claims for Rs. 7138.92 lakhs had been received, claims for an estimated amount of Rs. 1852.52 lakhs were pending, Rs. 1607.31 lakhs (overspent) were due to State Governments and reconciliation of figures with the concerned State Governments was being taken up.

Test-check of accounts also revealed the following irregularities/ shortcomings:—

27.4.1 *Payment of subsidy in advance*

In the following cases, subsidy of Rs. 57.01 lakhs, payable to the beneficiaries after completion of the plants, was paid in advance:—

Assam.—Subsidy amounting to Rs. 1.05 lakhs was paid in advance in respect of 27 biogas plants, which were not completed for various reasons. The amount had not so far been recovered.

Himachal Pradesh.—In one district, 16 beneficiaries were paid subsidy of Rs. 0.28 lakh (March 1983) for 16 plants, out of which 14 plants for which cement was issued only from April 1983 onwards were found to be incomplete.

Karnataka.—124 drums costing Rs. 4.82 lakhs were distributed to the beneficiaries for construction of biogas plants without re-

covering the cost. Out of this, a sum of Rs. 2.01 lakhs was awaiting recovery from 38 beneficiaries who were yet to be paid loan and subsidy.

Maharashtra.—Subsidy to the extent of Rs. 1.57 lakhs for construction of 59 plants was paid during November 1982 to March 1983 in one district which were completed between December 1982 to March 1934. Subsidy was paid in some cases from 9 to 12 months in advance.

Orissa.—Cement worth Rs. 1.72 lakhs was issued to the beneficiaries during 1982-83 and 1983-84, the cost of which was to be adjusted from the subsidy to be paid on completion of the biogas plants. By March 1985, Rs. 0.79 lakh remained to be recovered/adjusted, but the records did not show the names of beneficiaries from whom the recoveries were to be made.

Punjab.—Subsidy (Rs. 38.60 lakhs) in respect of 1452 plants (KVIC Model) to be installed in 4 districts was drawn in advance upto September 1983 and paid to Punjab Agro Industries Corporation Ltd. (PAICL), Chandigarh towards cost of gas holders and guide frames to be supplied by the Corporation to the beneficiaries. The PAICL did not supply the equipment in time with the result that the plants could not be installed within the stipulated period.

Rajasthan.—Subsidy was released in 3 instalments, viz. 50 per cent on digging the pit, 50 per cent less and Rs. 200 after filling the plant with cowdung. Rs. 5.47 lakhs had been paid as subsidy during 1981-82 to 1984-85 in respect of 390 biogas plants which were not completed in 6 districts. Recovery/adjustment had not been made so far (March 1985).

KVIC.—Advance subsidy of Rs. 3.50 lakhs paid to banks in Orissa during 1983-84 and 1984-85 had not been adjusted (July 1985).

27.4.2 *Delay in disbursement of subsidy*

Subsidy is payable to the beneficiary on completion of biogas plant where no bank loan is involved. Where bank loan has been taken by the beneficiary, subsidy is payable to the bank for being adjusted against the loan.

In the following cases, delay of one to 24 months in release of subsidy to beneficiaries was noticed during test-check:—

Goa, Daman & Diu.—In 33 per cent cases, out of 247 cases test checked, delay in disbursement of subsidy ranged from 7 to 20

months. In 107 cases, involving bank loan, subsidy was released to banks after 7 to 20 months of payment of loans by banks entailing avoidable payment of interest by the borrowers (Rs. 0.13 lakh).

Haryana.—In 335 out of 3324 cases pertaining to the period 1982-83 to 1984-85 in 4 districts, delay in payment of subsidy ranged from 5 to 20 months, which was attributable to late release of funds by the Government of India and delay in issuing sanctions by the State Government.

Himachal Pradesh.—In one district, Rs. 1.36 lakhs drawn for payment of subsidy during March 1983 were converted into cash orders and shown as paid to the beneficiaries in the same month. During test-check, it was noticed that in 20 cases, Rs. 0.49 lakh were paid during August 1983 to September 1984 (after nearly 18 months) and Cash orders worth Rs. 0.87 lakh (34 cases) were cancelled between March 1984 and November 1985 due to lack of interest shown by the beneficiaries in construction of bio-gas plants.

Karnataka.—Out of Rs. 2.24 lakhs released to a bank, a sum of Rs. 0.98 lakh only was disbursed and the balance amount of Rs. 1.26 lakhs remained with the bank for more than 2 years.

Kerala.—Payment of subsidy after completion of plants was delayed by 1 to 3 months in 13 cases, 3 to 6 months in 77 cases, 6 to 8 months in 12 cases and more than 8 months in 3 cases.

Maharashtra.—Subsidy was not paid to the beneficiaries in time and they had to bear extra burden of Rs. 11.84 lakhs by way of interest due to belated adjustment of subsidy in their accounts by the banks.

Orissa.—Payment of subsidy amounting to Rs. 1.98 lakhs to 115 beneficiaries during 1983-84 was delayed by 6 to 24 months after completion of plants with the result that the beneficiaries had to pay extra interest of Rs. 0.19 lakh.

Rajasthan.—Subsidy of Rs. 16.40 lakhs payable to the beneficiaries in 3 districts during 1981-82 to 1984-85 was not paid.

Tamil Nadu.—Out of 7793 cases reviewed in 5 districts the extent of delay in payment of subsidy in 3926 cases (50.4 per cent) ranged from 2 months to over 12 months.

Uttar Pradesh.—Out of 2088 plants completed in 5 districts during 1984-85, there was time lag of 6 to 7 months between report-

ing achievement by implementing agencies and payment of subsidy in 492 cases and the subsidy was yet (March 1985) to be paid in the remaining cases. In Agra district, subsidy was being paid in March each year entailing delay of 3 to 12 months.

West Bengal.—In 3 districts, subsidy amounting to Rs. 7.29 lakhs for 208 plants completed during 1983-84 and 1984-85 was not paid to the beneficiaries upto May 1985 despite availability of funds.

KVIC.—There had been a delay of 2 to 3 years in payment of subsidy of Rs. 29.46 lakhs to the beneficiaries after construction of the plants during 1979-80 to 1983-84.

The Ministry stated (January 1986) that suitable instructions were being issued to State Governments to avoid delay in disbursement of subsidy.

27.4.3 *Underutilisation of subsidy*

Against the release of 77.42 crores accounted for in the books of the State Governments/UTs/KVIC, utilisation of only Rs. 66.11 crores was available. The unutilised amount was thus nearly 15 per cent of the subsidy. A few cases of subsidy remained unutilised as seen in test-check, are given below:—

Andhra Pradesh.—Subsidy of Rs. 49.81 lakhs in respect of 26.85 cases was refunded by banks to the State Government after a period of 3 to 15 months. Advance subsidy to the extent of Rs. 108.35 lakhs remained unutilised with banks in 5367 cases at the end of March 1985.

Bihar.—Rs. 42.87 lakhs were lying unspent with the Executive Officers (March 1984) in the shape of demand draft and call deposit receipts. In one district, Rs. 0.63 lakh drawn during 1981-82 was refunded into treasury in February 1983. In another district, a sum of Rs. 0.63 lakh allotted during 1981-82 was drawn twice and the amount of Rs. 1.26 lakhs was deposited into the bank in July 1982, out of which Rs. 0.63 lakh was refunded into treasury in August 1984, after two years.

Haryana.—There was unspent balance of subsidy amounting to Rs. 18.89 lakhs as on 31st March 1985. This amount had been drawn in advance and booked in accounts as expenditure, which was irregular.

Karnataka.—Out of Rs. 390.94 lakhs released, subsidy of Rs. 70.00 lakhs was lying unutilised with the DRDAs at the end of March 1985.

Orissa.—Out of Rs. 58.99 lakhs released upto 1983-84, subsidy of Rs. 19.55 lakhs remained unutilised with departmental officers on 31st March 1984.

Rajasthan.—Rs. 55.90 lakhs left unutilised with DRDAs at the end of March 1984 had not been credited to Government account so far (June 1985).

Tamil Nadu.—Rs. 75.62 lakhs remained unutilised with banks/ departmental officers in six districts as on 31st October/31st December 1984.

Uttar Pradesh.—Amount of undisbursed subsidy at the end of March 1984 in 6 districts amounted to Rs. 27.70 lakhs.

West Bengal.—Out of Rs. 138.64 lakhs released to State Government during 1982-83 to 1984-85, subsidy amounting to Rs. 48.94 lakhs remained unutilised at the end of March 1985 (Rs. 32.42 lakhs with the department and Rs. 16.52 lakhs with the General Managers of District Industries Centres).

27.4.4 *Subsidy paid at higher rates*

Subsidy is payable at different rates depending upon the category of beneficiary or type of plant. In the following cases, subsidy of Rs. 10.03 lakhs had been paid at higher rates.

Himachal Pradesh.—In one district, subsidy of Rs. 5.11 lakhs was paid during 1983-84 and 1984-85 at higher rates admissible to SC/ST and small and marginal farmers without production of eligibility certificates.

Orissa.—Subsidy was paid to 55 beneficiaries during 1983-84 at higher rate than admissible without authenticated certificates resulting in excess payment of Rs 0.41 lakhs. In 9 other cases, excess subsidy of Rs. 0.05 lakh was paid at higher rates applicable to small and marginal farmers when the applicants themselves had claimed as general farmers.

Tamil Nadu.—In 7 districts, subsidy of Rs. 3.10 lakhs had been paid in excess to 320 beneficiaries at enhanced rates during 1981-82 to 1984-85 without supporting data whether they were small and marginal farmers.

During 1982-83 to 1984-85, an amount of Rs. 1.36 lakhs was paid on account of subsidy to 50 landless agricultural labourers in 5 districts without adequate data.

27.4.5 *Irregular withdrawal of funds and delay in adjustment/ refund of advances*

Funds to the extent of Rs. 369.45 lakhs were withdrawn and paid as advances in 6 States and KVIC for installation of biogas plants and for supply of cement, but Rs. 129.27 lakhs were yet to be adjusted (March 1985) as detailed below:—

Assam.—Rs. 4.00 lakhs were released in January 1983 to a Sangha in Kamrup district for construction of 85 plants against which only 28 plants had been constructed. Balance amount of Rs. 2.12 lakhs was not refunded till 31st March 1985. Further, a sum of Rs. 0.52 lakh was advanced to a cement company in March 1984 for supply of cement, but neither cement had been supplied nor was the amount refunded by the company (June 1985).

Himachal Pradesh.—Out of an amount of Rs. 76.76 lakhs drawn during 1981-82 to 1984-85 in five districts as advance for payment of subsidy, holding of training camps and purchase of materials, etc., a sum of Rs. 32.84 lakhs was awaiting adjustment (November 1985). Delay in adjustment ranged between 2 and 29 months.

Advances paid during January to September 1984 to two factories for supply of cement had not been adjusted for want of final bills from the factories, although Rs. 0.42 lakh was due from them.

Project Officer, IADP, Palampur deposited Rs. 1.33 lakhs towards cost of cement and accessories after 2 to 17 months from the date of drawal of advance.

Karnataka.—Out of Rs. 15.43 lakhs advanced to the BDOs upto December 1984, details of payments for Rs. 9.37 lakhs only were received by end of March 1985. Account for Rs. 6.06 lakhs was awaited (June 1985).

Rajasthan.—Out of Rs. 218.79 lakhs released to DRDAs during 1981-82 to 1983-84. Rs 55.90 lakhs are lying unadjusted with the implementing agencies.

Against an advance of Rs. 1.71 lakhs paid during June 1983 to August 1984 for supply of 220 tonnes of cement, 114.20 tonnes of cement valued at Rs. 0.87 lakh were supplied by the factory. The balance amount of Rs. 0.84 lakh had not been refunded (April 1985).

Uttar Pradesh.—In Allahabad district, bank drafts for Rs. 0.32 lakh (20 cases) and for Rs. 0.56 lakh (32 cases) pertaining to 1981-82 and 1983-84 respectively were cancelled in March 1985. The amounts had apparently been drawn in anticipation of completion of plants. In another district, Rs. 0.13 lakh drawn from the treasury during 1982-83 had neither been utilised nor refunded till April 1985.

West Bengal.—Rs. 15 lakhs and Rs. 30 lakhs drawn by the Director of Cottage and Small Scal Industries in March 1984 and March 1985 respectively were credited to deposit account of the West Bengal Small Scale Industries Corporation (WBSICL) not connected with the implementation of the biogas programme. Rs. 15 lakhs were released to four District Industries Centres in June 1984 and Rs. 5.50 lakhs to another Centre in May 1985. Rs. 24.50 lakhs were still lying out of the Government Account in the Deposit Account of the WBSICL (May 1985).

KVIC.—Rs. 3.45 lakhs remained blocked with a firm which was closed in July 1984.

27.4.6 *Rush of expenditure*

As per Government of India instructions (July 1982) expenditure on construction of biogas plants was to be spread evenly during the year, viz. April—June 25 *per cent*, July—September 10 *per cent*, October—December 30 *per cent* and January—March 35 *per cent* with a view to avoiding rush of expenditure at the end of the financial year. Test check revealed that bulk of the plants were installed during the last quarter of the year or during March as per details given below:—

(i) In Andhra Pradesh, the percentage of progress was only 58 *per cent* upto February 1985, but it rose to 89 *per cent* in March 1985.

(ii) In Assam, phasing of the implementation of targets was not followed strictly.

(iii) In Bihar, record for quarterwise achievements was not maintained except in a few districts.

(iv) In Gujarat, 66 and 61 *per cent* of the plants were installed during last quarters of 1982-83 and 1983-84 respectively.

(v) In Himachal Pradesh, out of 3128 plants constructed during 1982-83 to 1984-85 (1982-83: 501, 1983-84 : 657 and

1984-85 : 1970) in four districts the number of plants installed during last quarter of each year was 215, 397 and 1175 plants respectively (57 *per cent*).

(vi) In Kerala, out of 2500 plants installed during 1984-85, 733 plants were installed during the first three quarters and the remaining 1767 plants (70 *per cent*) were installed during the last quarter.

(vii) In Maharashtra, 57 *per cent* to 100 *per cent* plants were set up in the last quarter in 5 districts during 1982-83. During 1983-84 out of 21,300 plants 12,625 plants (59 *per cent*) were installed in March 1984 alone.

(viii) In Orissa, out of 1143 plants completed in 7 districts during 1982-83 and 1983-84, 698 plants, (61 *per cent*) were installed in the last quarter.

(ix) In Pondicherry, 53 out of 70 (76 *per cent*) and 43 out of 105 plants (41 *per cent*) were constructed in last quarter during 1982-83 and 1983-84 respectively.

(x) In Uttar Pradesh, against total achievement of 1234, 1614 and 2861 plants, achievements in six districts in last quarter during 1981-82, 1982-83 and 1983-84 were 532 (43 *per cent*) 645 (40 per cent) and 1458 (51 *per cent*) respectively.

27.4.7 *Other irregularities*

Gujarat.—In 247 cases, subsidy of Rs. 1.38 lakhs was paid in excess at revised rates applicable from 1st April 1984 in respect of plants completed prior to 31st March 1984. In 63 cases, it was paid less by Rs. 0.38 lakh at old rates even though the plants were completed after 1st April 1984.

Himachal Pradesh.—Subsidy of Rs. 5.00 lakhs was claimed once again in respect of 250 plants constructed during 1982-83 for which a subsidy of Rs. 4.73 lakhs had been claimed earlier. In 5 districts, subsidy paid at lower rates to 279 beneficiaries was claimed at higher rates resulting in excess drawal of subsidy amounting to Rs. 2.05 lakhs.

Madhya Pradesh.—During 1982-83 and 1983-84, the State Khadi & Village Industries Board (KVIB) claimed subsidy in respect of plants installed in five districts for SC beneficiaries at rates applicable to ST beneficiaries resulting in Over-payment of Rs. 12.12 lakhs.

Subsidy of Rs. 1.80 lakhs (Rs. 1.10 lakhs from the Government of India and Rs. 0.70 lakh from the State Government) was claimed in excess by KVIB for 74 plants which were not installed in the districts of Raisen (36), Vidisha (37) and Khandwa (1).

Against 9355 plants installed by KVIB (1982-83 : 4820 and 1983-84 : 4535) for which subsidy was claimed, existence of 224 plants was not corroborated and 879 plants were found incomplete. Service charges at Rs. 200 per plant amounting to Rs. 1.87 lakhs were also claimed for 1982-83 in respect of 936 plants, 73 of which had not actually been set up, construction of 92 was not corroborated by survey reports and 771 had not actually been completed during 1982-83.

230 plants completed prior to the introduction of this project in November 1981 were reported by KVIB as achieved during 1981-82 and subsidy therefor obtained from the Government of India irregularly.

Tamil Nadu.—Physical verification conducted during April-May 1983 revealed that dimensions of 65 plants constructed were less than those for which subsidy was paid, resulting in overpayment of Rs. 0.33 lakh. Out of this, Rs. 0.22 lakh was yet to be recovered (March 1985). Existence of 8 plants for which subsidy of Rs. 0.26 lakh was paid, had not been verified (March 1985).

27.5 *Institutional finance*

The Project provided subsidy for a portion of the capital cost of the biogas plants and the remaining amount was to be raised by the beneficiaries. The finance to be so raised was estimated to be Rs. 150 crores for achieving the target of 3.35 lakh biogas units during the Sixth Plan period. Test-check of transactions, however, revealed that mobilisation of institutional finance had not been encouraging. The following features generally emerged:—

(i) Non-preparation of credit plans by various implementing agencies.

(ii) Lack of adequate interest taken by the banks in the implementation of the programme.

(iii) Delay in processing applications, sanctioning and payment of loans by banks.

(iv) Delay in payment of subsidy to banks by the department.

The position obtaining in various States is discussed as under:—

Andhra Pradesh.—59,128 applications were received between 1982-83 and 1984-85; out of which, 54,400 applications were sponsored

to banks against which advance subsidy of Rs. 812.39 lakhs was released to banks in respect of 31,921 beneficiaries. Banks, however, did not pay loans in 2,683 cases (1982-83 to 1984-85) on the ground that the beneficiaries were either defaulters in respect of their existing loans or not forthcoming/had developed disinterest in biogas plants. Subsidy amounting to Rs. 49.81 lakhs was refunded by banks after a period of 3 to 15 months.

Gujarat.—Out of 8846 applications (3093 pending on 31st March 1984 and 5753 fresh applications) sent to banks upto January 1985, loan was sanctioned in 1489 cases (17 per cent), 2732 cases (31 per cent) were rejected and 4625 cases (52 per cent) were pending with banks as on 31st January 1985. Fifty two per cent of the beneficiaries had to wait for one to 3 months for getting the loans.

Haryana.—15781 cases were sent to banks upto December 1984. Loans were sanctioned in 5301 cases and actual disbursement made in 3366 cases (1982-83: 781 cases; 1983-84: 1923 cases and 1984-85: 662 cases).

Maharashtra.—39,799 loan applications in 6 districts were sponsored to the banks between 1982-83 and 1984-85; out of which, 14222 applications were accepted and 25.577 applications were pending with banks.

The banks sanctioned loans of Rs. 1.88 lakhs to 57 beneficiaries repayable in 3 years instead of 7 years as per guidelines. In one district, loan of Rs. 2.82 lakhs was sanctioned in 40 cases during 1982-83 and 1983-84 against admissible amount of Rs. 2.19 lakhs. Excess amount of loan (Rs. 0.63 lakh) in these cases deprived about 10 other beneficiaries of the loan facility.

Orissa.—19.831 applications were received in 8 districts upto 31st March 1984; out of which, 18.099 were sent to the banks. Loan was sanctioned in 4.030 cases only. 3,026 applications were returned stating that the beneficiaries were not interested in biogas plant. 3073 applications were rejected and 7,970 cases were pending with the banks (31st March 1984).

Rajasthan.—Out of 4,340 plants completed between 1981-82 and 1984-85 in 7 districts, only 1,487 plants received bank loan.

Tamil Nadu.—35,005 applications were sponsored to banks upto December 1984; of these. 21.265 applications were processed and 13.740 were pending (1981-82: 218 Nos. 1982-83: 2,038 Nos. 1983-84: 4.018 Nos. and 1984-85: 7.466 Nos.). In 51 cases, loan sanctioned was much less than actual cost of the plants.

Uttar Pradesh.—20,998 applications were received during 1981-82 to 1984-85; of these, 16,584 applications were sent to banks. Loan was sanctioned in 8,055 cases, but actual disbursement was made in 2,668 cases only upto 1983-84 (1981-82: 338 Nos.; 1982-83: 580 Nos. and 1983-84: 1,750 Nos.). Figures for 1984-85 were not available.

West Bengal.—10,751 applications were recommended to banks between 1982-83 and 1984-85. Loan was sanctioned in 3,413 cases and only 2,049 beneficiaries actually got the loan. In two districts, out of 492 cases, loan was paid in 156 cases on mortgage of land by beneficiaries in spite of specific instruction of the Reserve Bank of India to the contrary and 236 cases were rejected as no land could be mortgaged by the beneficiaries.

27.6 *Delay in submission of audited accounts*

Statements of audited accounts had not been furnished by the States of Assam (1982-83 to 1984-85), Bihar (1982-83 to 1984-85 in respect of Command Area Development Agencies), Maharashtra (1982-83 and 1983-84), Madhya Pradesh (1981-82 to 1983-84 pertaining to KVIB), Orissa (pertaining to KVIB upto June 1985), Rajasthan (1982-83 and 1983-84) and KVIC (1979-80 to 1984-85).

27.7 *Non-submission of utilisation certificates*

In the following representative cases, submission of utilisation certificates (UC) to Government was wanting:

Sl. No.	Name of State/Union Territory	Total subsidy released	Period	Amount for which UC was not submitted for expenditur incurred
		(Rs. in lakhs)		
1.	Bihar	160.30	1982-83 to 1984-85	33.37
2.	Goa, Daman & Diu	11.13	1982-83 to 1984-85	11.13
3.	Karnataka	388.78	1982-83 to 1984-85	33.30
4.	Maharashtra	2020.25	1982-83 to 1984-85	128.42
5.	Orissa	93.72	1982-83 to 1984-85	30.70
6.	Tamil Nadu	525.99	1981-82 to 1984-85	319.59
7.	Uttar Pradesh	1033.88	1982-83 to 1984-85	288.15
8.	West Bengal	139.61	1982-83 to 1984-85	45.19
	Total :			889.85

27.8 Training

Training formed an essential ingredient of NPBD. The cost of training was to be fully met by the Central Government. Targets for various training courses for construction and maintenance of biogas plants, refresher courses, trainer's training courses, orientation programmes and users' education courses were not met. Further, it was noticed that a number of trained masons who received training stipends were not available for the construction and maintenance of biogas plants. A few representative examples are given below:

Andhra Pradesh.—Against the target of 147 construction and maintenance courses, 113 courses were conducted in which 2325 masons were trained including 350 educated and unemployed youth who were paid stipend of Rs. 1.84 lakhs. Out of the 2325 masons trained, only 10 per cent were available (April 1984) for construction job.

Bihar—300 masons were trained in 15 districts against the target of 760 (1984-85); the number of masons trained during 1983-84 and 1984-85 in 6 districts was not available. 785 women were educated in the use of biogas from 1983-84 to January 1985 in 16 training courses against the target of 40 courses.

Gujarat.—Only 69 training courses (construction and maintenance: 50; refresher training: 8; and users' education 11) were aranged upto December 1984 against the target of 271.

Himachal Pradesh.—Of the 241 masons trained in 2 districts during 1982-83 to 1984-85, 98 masons only were stated to be engaged on construction of biogas plants. 66 persons trained during 1984-85 were again enrolled for training in subsequent months, resulting in avoidable expenditure of Rs. 0.40 lakh. Against the target of 70 women training camps, only 30 camps were organised during 1983-84 and 1984-85.

Karnataka.—Against the target of 454 courses (construction and maintenance: 59 and users' education: 395) approved during 1982-83 to 1984-85 reports in respect of only 9 construction and maintenance and 28 users' education courses were available.

Orissa.—Against the target of 1620 persons, the number of persons trained during 1981-82 to 1983-84 was 752 (users' education: 424, supervisors: 38; training of trainers: 42; and masons: 248).

Punjab.—Out of Rs. 2.60 lakhs released by the Government of India during 1982-83 to 1984-85 for organising various training courses, Rs. 1.25 lakhs were spent on 18 construction and maintenance courses. No other courses were organised.

Rajasthan.—35 courses were conducted in 7 districts during 1982-83 to 1984-85 in which 602 masons were trained. Of these, only 311 masons carried out installation of biogas plants.

Uttar Pradesh.—Against the target of 3979 masons/supervisors including block staff and 53 training of trainers during 1981-82 to 1984-85, the number of trained was 2601 and 34 respectively.

West Bengal.—639 persons were in all trained (masons: 335; users' education: 230; and training of workers: 74) against the target of 1240. Out of 60 masons trained in one district, services of 18 masons could not be utilised. Also, 40 workers were not available for construction job after completion of training.

KVIC.—Of 120 courses (construction and maintenance: 50; women's education: 50; and refresher training: 20) approved during 1983-84 and 1984-85, only 51 courses were organised.

The Ministry stated (January 1986) that the main reasons for inadequate availability of persons trained under NPBD for construction of biogas plants was that they used to get more lucrative employment elsewhere and that efforts for the utilisation of the services of trained masons to the maximum extent possible were being made by the State Governments.

27.9. *Demonstration of biogas plants*

The project contemplated setting up of 200 demonstration plants *per annum* in the selected villages of intensive biogas development districts to publicise the utility of biogas plants for domestic purposes. No information about the demonstration plants actually set up and expenditure incurred thereon was available in various States and UTs except Assam, Gujarat, Orissa, Punjab and Pondicherry.

27.10. *Monitoring*

Coordination Committees comprising of representatives of various departments implementing agencies, KVIC/KVIB, banking institutions, recognised voluntary organisation, etc. were to be constituted at the State and the district levels for reviewing and monitoring of the programme. Proceedings of State Level Committees were required to be endorsed to the Central Government. The State Governments

were also required to send monthly reports to the Government of India and to prescribe fortnightly reporting schedules for the district and block levels so as to watch the progress of installation of plants. A test check revealed that as on 31st March 1985 while coordination Committee constituted at State Level did not meet at all in Bihar and Goa, Daman and Diu, they had met only once in Kerela (September 1983), twice in Himachal Pradesh (June 1982 and January 1984) and Thrice in Tamil Nadu (July 1982, August 1983 and July 1984). The Co-ordination Committees reportedly held several meetings in Punjab and West Bengal, but minutes of the meetings were not made available to Audit.

Timely action for reviewing actual achievement against targets fixed, assessment of actual working of plants installed and identification of defective plants for rectification of defects, etc. was not taken in any of the States test checked.

27.11 *Evaluation*

Implementation of the programme had not been evaluated in any of the States and UTs so far (March 1985). Hence, its impact on the rural population *vis-a-vis*, the actual position of fuel wood savings, production and use of enriched manure as a bye-product by the farmers, reduction in drudgery of village women, reduction in eye diseases, improvement in village sanitation, etc. could not be known.

In October, 1984, the Government of India sanctioned evaluation survey studies of biogas plants installed in different States by independent organisations. The Ministry stated (January 1986) that final reports from 3 and interim reports from 2 agencies had been received. The results of evaluation and follow up action taken by the Ministry have not been intimated.

27.12 *Other points of interest*

Assam.—In addition to the Central subsidy, special subsidy of Rs. 1.54 lakhs was paid by the State Government to 284 beneficiaries in four districts without any basis. Completion certificates for the plants constructed with this special subsidy were not made available to Audit.

Gujarat.—A 35 mm colour film for spreading biogas message in villages was got prepared through Films Division at a cost of Rs. 1.00 lakh (April 1984). The film was not exhibited till March 1985.

Himachal Pradesh.—452 plants were constructed between 1982-83

and 1984-85 in 5 districts during training camps. Masonry charges already incurred during training had not been deducted from the subsidy paid to the beneficiaries, resulting in an overpayment of Rs. 1.41 lakhs to them.

Maharashtra.—Against Rs. 215.60 lakhs drawn on abstract contingent bills during 1982-83 to 1984-85 detailed contingent bills for Rs. 173.64 lakhs were not submitted by the Zila Parishads till March 1985.

Madhya Pradesh.—Plants-wise account of expenditure and materials issued in respect of 560 plants installed by KVIC in one district during 1982-83 and 1983-84 had not been maintained. Detailed account of supplies received and balance outstanding with the suppliers out of Rs. 11.99 lakhs advanced to them during 1982-83 and 1983-84 had not been maintained.

753 gas chulhas were purchased during 1982-83 and 1983-84 for 560 plants constructed during these years. 193 chulhas costing Rs. 0.36 lakh neither appeared in stock nor was their issue established.

Punjab.—Against the rate of Rs. 3920 per plant of 495 cft. capacity for supply of gas holder and guide chambers to the beneficiaries at site, payment at Rs. 4420 per plant was made to Punjab Agro Industries Corporation (PAIC) for 55 gas holders and guideframes resulting in excess payment of Rs. 0.28 lakh.

Rajasthan.—Regular and work charged mistries were engaged in excess of prescribed yardstick, resulting in extra expenditure of Rs. 0.90 lakh.

Tamil Nadu.—1092 biogas plants set up in 75 blocks during 1981-82 to 1984-85 involving subsidy of Rs. 34.24 lakhs, were not of approved type design. Interest of Rs. 0.53 lakh received on amount deposited in banks was not remitted to Government account.

27.13 *Summing up*

Following are the main points that emerges:—

— The National Project on Biogas Development was sanctioned in 1981 as a Central Scheme involving an outlay of Rs. 50 crores on account of subsidy. It envisaged setting up of 4 lakh biogas units during the Sixth Plan period (1980—85) (later reduced to 3.35 lakhs). Additional amount of Rs. 150 crores was to be raised through institutional finances.

— The Government of India released Rs. 80.96 crores to various States, UTs and KVIC during the period 1981-82 to 1984-85. The pattern of assistance included fixed amount of subsidy to beneficiaries and to State Governments/UTs for organisational support, training etc.

— Against the target of 3,35,000 plants fixed by the Central Government, achievement was 3,55,887 plants as per records of the Ministry. In the case of 16 States and 2 UTs test checked, whereas there was shortfall in achievement of targets in 10 States and 1 UT, the targets were exceeded in 6 States and 1 U.T. The figures in the records of the Ministry differed by 3877 from those as per State/UT Government records (21,072 plants shown in excess in 10 States and 1 UT and 17195 plants shown less in 6 States and 1 UT).

— Eight States had reported 13,401 plants to the Central Government in excess of the plants actually installed. Completion of 17,388 plants in 5 States and KVIC was not supported by completion certificates.

— In 10 States, one UT and KVIC, 6238 plants were not functioning properly due to various defects/deficiencies, 3383 plants were not commissioned, 412 plants were lying incomplete and 844 plants did not exist.

— Levy cement was issued/allotted in excess of actual requirements or short supplied or diverted for other purposes in some districts test checked.

— In Andhra Pradesh, Bihar, Maharashtra, Punjab, Uttar Pradesh and Goa, Daman and Diu, sanctioned staff was not fully provided by the Governments for effective and efficient implementation of the programme.

— Subsidy of Rs. 57.01 lakhs was paid in advance in the States of Assam, Himachal Pradesh, Karnataka, Maharashtra, Orissa, Punjab, Rajasthan and by KVIC.

— In 10 States, 1 UT and KVIC, delay in disbursement of subsidy to the beneficiaries was from one to 36 months despite availability of funds.

— Funds to the extent of Rs. 221.64 lakhs in 5 States and Rs. 246.18 lakhs in 4 States remained unutilized with banks/

departmental officers at the end of March, 1984 and March, 1985 respectively.

— Against the release of Rs. 77.42 crores accounted for in the books of State Governments/UTs/KVIC, only Rs. 66.11 crores were utilised. Thus, nearly 15 *per cent* of the subsidy remained unutilised.

— Subsidy to the extent of Rs. 10.03 lakhs was paid to beneficiaries at higher rates than admissible in Himachal Pradesh, Orissa and Tamil Nadu.

— Out of Rs. 369.45 lakhs paid as advance for installation of biogas plants and supply of cement during 1981-82 to 1984-85, an amount of Rs. 129.27 lakhs was not adjusted till March, 1985.

— In 9 States and one UT, the percentage of plants installed during the last quarter of each year ranged from 40 to 100 entailing rush of expenditure at the end of the financial years.

— Subsidy to the extent of Rs. 22.14 lakhs was obtained in excess by Himachal Pradesh and Madhya Pradesh (including KVIB) for incomplete/non-existing plants or at higher rates.

— Out of 97,516 cases recommended to banks, loan was sanctioned only in 48,690 cases and actual disbursement was made to 37,321 beneficiaries in the State of Andhra Pradesh, Haryana, Uttar Pradesh and West Bengal. In Gujarat, Maharashtra and Orissa loan was sanctioned in 19741 out of 66,744 cases. In Tamil Nadu, 21,265 out of 35,005 applications were only processed and the remaining 13,740 cases were pending from 1981-82 to 1984-85.

- Submission of utilisation certificates for Rs. 889.85 lakhs was delayed for 1 to 3 years by 8 States.

— The targets for various training courses were not achieved. A number of trained masons who received training stipends, were not available for the construction and maintenance of biogas plants.

— Adequate number of demonstration plants had not been set up in selected villages of the intensive biogas development districts for publicising the utility of biogas plants for domestic purposes.

— Co-ordination Committee constituted at State level for monitoring the programme, did not meet at all in one State and one UT. They met once in Kerala, twice in Himachal Pradesh and thrice in Tamil Nadu during four years.

— Timely action for reviewing actual achievement against targets fixed, assessment of actual working of plants installed and identification of defective plants was not taken in any of the State test checked.

— Evaluation of the programme had not been done in any of the States and UTs upto March 1985. Evaluation survey reports were stated (January 1986) to have been received by the Ministry from 3 agencies (final) and 2 agencies (interim), but results thereof and follow up action taken was not intimated.

Pattern of Central Subsidy for biogas plants

ANNEXURE 'A

Size of plant (In cum)	Amount of Central subsidy		
	For Scheduled Tribe & for hilly areas	For Small & Marginal farmers	For all others
(1)	(2)	(3)	(4)
		(In Rupees)	
1981-82			
2	1,500	1,000	750
3	1,950	1,000	1,000
4	2,300	1,500	1,200
5	2,000	1,900	1,500
8	..	..	1,500
10	..	..	1,600
15	..	..	1,900
20	..	..	2,650
25	..	..	3,600
35	..	..	5,740
45	..	..	6,470
60	..	..	8,110
85	..	..	12,110

Size of plant (In cum)	For North Eastern Region States/ Sikkim	For ST/small & marginal farmers/ landless labourers/hilly areas other than those covered under Col. 2	For all others
		(In Rupees)	
1982-83/1983-84			
2	2,640	1,500	1,000
3	3,310	1,950	1,300
4	3,800	2,320	1,550
6	4,710	2,910	1,940
7	4,950	3,560	2,370
8	5,680	3,900	2,600
10	7,200	4,760	3,170
15	7,620	6,630	4,420
20	12.930	8,970	5,980
25	..	9,990	6.660
35	..	14.350	9,570
45	..	16,180	10,790
60	..	20,280	13,520
85	..	30.270	20,180

Pattern of Central subsidy for Floating Dome (KVIC Type) Biogas Plant—1984-85 onwards

Size of plant (In cum)	Amount of Central subsidy for North Eastern Region States/ Sikkim & Notified Hilly areas and desert districts	Amount of Central Subisidy for other areas: For ST/small marginal farmers/ landless labourers	For SC	For all others
1	2	3	4	5
		(In Rupees)		
2	2,940	2.350	2.350	1.560
3	3.660	2.860	2.860	1,900
4	4,390	3,220	3,220	2,140
6	5,350	3.970	2,610	2,610
8	6.460	4,640	3,100	3,100
10	8,080	5.540	3,700	3,700
15	11,440	8,150	5,430	5,430
20	15,260	10,960	7,300	7,300
25	17,640	12,280	8,190	8,190

ANNEXURE 'B'

Statement showing targets and achievements for installing Biogas plants during the years 1981-82 to 1984-85

S. No.	States/UTs KVIC	Target fixed by Govt. of India	Achievements as per records of the Ministry	Achievements as per State/UT Government/ KVIC records		Totals of Col. 5(a) and Col.5(B)	Variation between Col. (4) and Col. (6)	Shortfalls between Col. (3) and Col. (4)	Percentage of shortfall as per Col. 8
				State 5(a)	UT!KVIC 5(b)				
1	2	3	4	5		6	7	8	9
1	Andhra Pradesh	37,500	31,393	25,240	5,878	31,118	275	6,107	– 16
2	Assam	970	1,101	478	457	935	166(—)	131	..
3	Bihar	25,400	21.093	13.139	11,923	25,062 (–)	3,969	4,307	17
4	Haryana	8.200	7,837	7,752	86	7.838	(—)1	363	..
5	Gujarat	26,600	22,949	22.922	7.221	30,143(–)	7,194	3,651	14
6	Himachal Pradesh	2,817	3.590	3,580	1	3,581	9(–)	773	..
7	Karnataka	27.500	20.772	15,990	5.387	21.377(–)	605	6,728	24
8	Kerala	8,000	6.488	3,274	3.009	6,283	205	1,512	19
9	Maharashtra	48.500	88.211	76 936	11.147	83,133	78(–)	39,711	..
10	Madhya Pradesh	23,500	16.399	16.410	2.274	18 684(–)	2,285	7,101	30
11	Orissa	8.750	5.900	4,034	518	4.552	1,348	2,850	33
12	Punjab	7.200	4,899	2,956	352	3,308	1,591	2,301	32
13	Rajasthan	14,000	14,304	7.479	120	7,599	6,705(–)	304	..
14	Tamil Nadu	26.000	31,905	19,402	1.918	21.320	10.585(–)	5.905	..
15	Uttar Pradesh	59.000	71.166	71,608	2 688	74.296(–)	3.130(–)	12,166	..
16	West Bengal	9,400	6.273	5.101	1 072	6,173	100	3,127	33
17	Goa, Daman and Diu	570	585	499	97	596(–)	11(–)	15	..
18	Pondicherry	310	287	277	Nil	277	10	23	
	TOTAL :	3.34.217	3.55,152	7,97,127	54,148	3,51,275	3,877		

ANNEXURE 'C'

Statement showing details of states and union Territories with total number of districts and number of districts test checked

Sl. No.	State/Uts.	Total Number of districts	Number of District test checked
1.	Andhra Pradesh	22	8
2.	Assam	16	4
3.	Bihar	38	14
4.	Gujarat	19	5
5.	Haryana	12	4
6.	Himachal Pradesh	12	5
7.	Karnataka	19	7
8.	Kerala	14	4
9.	Madhya Pradesh	45	9
10.	Maharashtra	30	6
11.	Orissa	13	8
12.	Punjab	12	4
13.	Rajasthan	27	7
14.	Tamil Nadu	15	7
15.	Uttar Pradesh	56	6
16.	West Bengal	16	6
17.	Pondicherry	1	1
18.	Goa, Daman, and Diu	3	1

ANNEXURE 'D'

Statement of misreporting of achievements

Sl. No.	States	Year(s)	No. of plants reported in excess	Remarks
1	2	3	4	5
1.	Andhra Pradesh	1982-83	90	
		1983-84	286	
2.	Haryana	1982-83	412	Work on 18 plants (1982-83) had not even been started (December 1983).
3.	Himachal Pradesh	1982-83	14	
		1984-85	4	
4.	Maharashtra	1982-83	331	
		1983-84	375	
		1984-85 (Upto February 1985)	629	
5.	Madhya Pradesh	1982-83	990	Out of 5184 plants reported as completed by KVIB and MP Agro during 1982-83, 224 plants were not actually set up as per records of the district units of Raisen (32) and Vidisha (100) and the construction of 92 plants was not corroborated by the survey report sent by the Director of Agriculture/Government (December 1983/January 1984). Out of 961 plants reported as completed by KVIB in ten districts, 390 plants were incomplete. In addition 489 plants pertaining to 1982-83 to 1984-85 in four districts Bhopal (392), Indore (25), Sidhi (67) and Surguja (5) not covered by the survey report were found incomplete during test check of records by Audit.
		1983-84	111	
		1984-85	2	
6.	Punjab	1982-83	205	Out of 466 plants stated to have been completed in 3 districts for which central subsidy was claimed, 261 plants were actually completed.
7.	Tamil Nadu	1981-82	422	201 plants reported as completed in Madurai district, were not actually installed and subsidy of Rs. 3·99 lakhs advanced to banks was refunded. In one block of Sale mdistrict while no work was started till March 1985, 27 plants were reported as complete.
		1982-83	532	
		1983-84	884	
		1984-85 (Upto December 1984)	4186	
8.	Uttar Pradesh	1983-84	3854	Physical verification by Director of Economics and Statistics revealed that out of 14146 plants reported complete 3854 were found incomplete. The Ministry stated (January 1986) that 1023 plants were subsequently completed.
		1984-85	74	74 plants completed by KVIC had been included in achievement of the district.
			13401	

ANNEXURE 'E'

Statement showing subsidy released by Government of India to various States, UTs and accounted by the States/UTs

Sl. No.	States/UTs/ KVIC	Total assistance released	Total assistance accounted	Total assistance utilised	Unspent balance	Percentage of amount unutilised	Remarks
				(10 lakhs of rupees)			
	Upto March 1985						
1.	Andhra Pradesh .	770·29	788·39	239·22	549·17	68	
2.	Assam . .	21·07	19·28	29·40	(—)10·12	..	
3.	Gujarat . .	375·42	354·82	386·74	(—)31·91	..	
4.	Haryana . .	192·58	225·33	223·84	1·49	1	
5.	Himachal Pradesh	108·42	115·33	210·21	(—)94·88	..	
6.	Karnataka .	338·78	390·94	311·21	79·73	20	
7.	Punjab . .	77·13	62·02	0·89	61·13	99	
8.	Rajasthan .	378·50	367·69	364·43	3·26	1	
9.	Tamil Nadu .	525·99	522·18	497·77	24·41	5	
10.	West Bengal .	139·61	138·64	89·70	48·94	35	
11.	Uttar Pradesh .	1033·88	1005·92	1330·66	(—)324·74	..	
12.	Maharashtra .	2020·25	2001·91	1911·54	90·37	5	
13.	Goa, Daman and diu . . .	11·13	11·07	8·89	2·18	20	
14.	Pondicherry .	5·20	4·34	8·81	(—) 4·47	..	
15.	Bihar . .	84·19	76·52	33·65	42·87	56	
	Upto 1983-84 .						
	1984-85 . .	76·11	65·00	NA	NA		
16.	Kerala						
	Upto 1983-84 .	8·59	8·59	10·96	(—)2·37	..	
	1984-85 . .	37·90	37·90	NA	NA		
17.	Madhya Pradesh						
	Upto 1983-84 .	223·59	220·31	215·63	4·68	2	
	1984-85 .	97·57	NA	NA	NA		
18.	Orissa						
	Upto 1983-84 .	57·04	56·99	37·44	19·55	35	
	1984-85 .	36·68	NA	NA	NA		
19.	KVIC						
	Upto 1983-84 .	787·29	768·96	700·10	68·86	9	
	1984-85 .	533·37	500·00	NA	NA		
	GRAND TOTAL .	7990·58	7742·14	6611·09	528·15		

NA—Not Available.

APPENDIX II

Statement of conclusions and recommendations

Sl. No.	Para No.	Ministry Concerned	Conclusions/recommendations
1	2	3	4
1	46—48	Ministry of Energy (Department of Non-Conventional Energy Sources.)	46. In 1981, the National Project on Biogas Development (NPBD) was sanctioned as a Central Scheme involving an outlay of Rs. 50 crores on account of subsidy, administrative overheads, organisational support of State Governments, fee for turn-key jobs and training, with the target of setting up 4 lakh biogas plants during the Sixth Plan period. An amount of Rs. 150 crores was also to be raised through financial institutions for achieving the target. The main objectives of the project are to provide energy in a clean unpolluted form, produce enriched fertiliser as a by-product for supplementing and optimising the use of chemical fertilisers; preserve dwindling fuel wood supplies, arrest indiscriminate felling of trees and defore-station; eliminate smoke filled cooking method and reduce drudgery, eye diseases of women in rural areas and bring improvement in rural sanitation. The programme was implemented through the Ministry of Agriculture (Department of Agriculture and Cooperation) upto September 1982. Thereafter it was transferred to the Ministry of Energy, Department of Non-conventional Energy Sources (DNES).

The Working Group on new and renewable source of energy constituted for formulation of the draft Seventh Plan documents recommended a target of 15 lakhs biogas plant for the Seventh Plan with an outlay of Rs. 300 crores. Less than Rs. 200 crores were sanctioned as against an allocation of Rs. 600 crores sought by the DNES for the Seventh Plan.

The Committee note that the programme has become widely acceptable and very popular with marginal farmers, village women, adivasis and other economically backward people as it is convenient and economical, has multiple benefits and is the first major steps towards improving rural sanitation and environmental hygiene. The setting of more plants will reduce ecological disturbances and deforestation. Biogas is probably the only programme capable of relieving the miseries and drudgery of village life, especially of village women. Progress of the implementation of the programme is slow due to inadequate finance. The Comttittee urge the Government to give top priority to this project. The Government should take measures to motivate people bring out and literature in regional languages on the advantage of biogas.

2 49 -Do- Higher rates of subsidy having been made available to scheduled castes|scheduled tribes and economically weaker sections of the people, more people are going for it and during 1984-85 about 50 per cent beneficiaries who installed biogas plants belonged to the weaker sections. In addition, the DNES has developed small size biogas plants

1	2	3	4
			capable of being connected to sanitary latrines. This model is becoming more popular among the poor as it minimises dependence on cattle and other feed stock. The Committee recommended that with a view to giving benefit to poor and economically weaker sections of the people, building up of small size biogas plants should be taken up on a priority basis. The objective of providing social justice and aiding poor and economically weaker sections of the people, especially SC/ST and adivasis, would be better served if biogas plants of small size are installed at the premises of such people at nominal cost/subsidised rates.
3	50	Ministry of Energy (Department of Non-Conventional Energy Sources)	Secretary, DNES during evidence said that bio-gas plants were more economical and employment oriented than fertilizer plants. Illustrating this, it was said that while an investment of Rs. 300 crores including Rs. 100 crores in foreign exchange would be required for a coal based fertilizer plant to produce 2.30 lakh tonnes of urea per annum, an investment of only Rs. 261.05 crores would be required for producing an equal quantity of fertilizers. Further, while the former would consume about 35 megawatts of power, the latter would generate energy to the equivalent of 6,35,000 lakh MWH. Again while the former would provide employment to near 1,000 persons, setting up of 26,150 bio-gas plant would give employment to 1,30,750 persons. Besides biogas produces good quality manure from organic waste materials like cattle dung which is rich in humus and

micro-nutrients and provide nitrogen phosphates and potash to crops. The Committee hope that Government especially the Planning Commission, would take note of the economic and employment potential of the biogas projects *vis-a-vis* chemical based fertiliser plants and earmark suitable funds for development and propagation of biogas projects in the country.

4	51	-Do-	Running of community biogas plants by Panchayats will greatly benefit the Panchayat as well as the concerned persons. In the event of running such plants, villagers will have some income by selling their cattle dung to the panchayat, which in turn will induce them to purchase more cattle. Besides they would get good quality manure. The Panchayats will augment their income by selling gas and manure. The Secretary, DNES, informed the Committee that institutional biogas is being encouraged by the Government and all dairies in the country having cattle have been asked to instal these plants. The Approach of Government towards community biogas is, however, very cautious on the apprehension that villagers all over India had good organisational capability. The Committee note that biogas plants can benefit only those farmers owning more than four heads of cattle. In view of the multiple benefits these plants provide the Committee urge the Government to encourage biogas facilities to all those who need it. There are villagers who collect cow dung as a part of their profession and can use it for the biogas plants. As such eligibility criteria on the basis of cattle ownership should be changed.

1	2	3	4
5	92	Ministry of Energy (Department of Non-Conventional Energy Sources)	The Committee were informed that biogas plants upto the capacity of 25 cub. meters are handled by NPRD. Plants above 25 cub. meters are considered for the institutional plants and plants above 45 cub. metres capacity are considered for Community Biogas Plants under Community Biogas Plants/Institutional Biogas Plants Demonstration Scheme. During the Sixth Plan period, against a target of setting up of 100 community biogas plants, 101 plants with institutional biogas capital outlay of Rs. 3 crores were installed. For the Seventh Plan period, a target of 450 plants with a capital outlay of Rs. 17 crores has been envisaged. During the first year of Seventh Plan, 72 plants at a cost of Rs. 3.45 crores were installed and by the end of March 1987, 80 plants at an estimated capital cost of Rs. 4.27 crores are proposed to be installed. The programme has gained momentum in the States of Andhra Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan and Uttar Pradesh, where potential for installation of biogas plants is the maximum. Keeping in view the constraints on the availability of funds and increase in demand from different States, 90 per cent of the capital cost for community biogas plants and upto 70 per cent of the cost of institutional biogas plants are being financed by DNES. Government have been trying to undertake certain joint ventures by setting up Village Community Biogas under Oorja Gram Scheme involving local engineers and technicians and other public with a view to generating energy for use in cooking, heating, lighting, running television and such other

activities. The Committee consider that setting up of and development of institutional biogas and community biogas plants similar to as those set up at Masudpur near Delhi and Tiruchirapalli would be more economical than individual plants and would benefit a large number of individuals with few livestock and little room around to install independent plants. Research and Development Wing must be strengthened and should concentrate on evolving technology of determining the quantity of fuel consumption so that the Gram Panchayats may make optimum use of cattle wealth by way of milk and gobar gas. This concept can be built up slowly and surely. In selected villages where organisations having public participation should participate in accelerated development of biogas projects. The targets for setting up such community biogas plants during Sixth and Seventh Plans are insignificant in relation to the rural area and huge population of the country. The Government should give more stress on this project and make all out efforts to set up more community and institutional biogas plants in near future.

6	53	-Do-	The Committee noted the manifold uses of biogas plants besides cooking and lighting namely use in preparation of medicine, irrigation, thrashing of grains, crushing sugarcane, running of flour mills and oil ghanis and similar other uses. Enriched manure produced from biogas is used for soil fertilisation and biogased slurry is free from pathogens capable of causing diseases like typhoid, dysentry, cholera, harmul organism like egg of hookworm, tapeworms, liver

1	2	3	4
			flukes, etc. Biogas have higher thermal efficiency compared to kerosene, firewood, cow dung and charcoal. The term 'brown revolution' used in the context of changes in life-style among the poor and landless agricultural workers brought out by biogas is quite significant. It is heartening that Government are aware of the developments in this regard and are making efforts to put into use all urban refuse, solid wastes of city garbage including urban refuse of Delhi and organic solid wastes of the urban area. It is also considered imperative that special emphasis is laid on the setting up of biogas plants in slum areas so as to avoid smoke which will ultimately result in qualitative improvement in ecological environment and will result in profitable utilisation of human waste. The Municipalities and urban bodies should profit from the experience of Delhi where human waste is being profitably utilised for commercial use. The Committee urge the Government to draw up an all India plan of action in implementing this suggestion which besides improving environmental climate would also augment national finances. The Committee would like to be apprised of further developments.
54	Ministry of Energy (Department of Non-Conventional Energy Sources)		The Committee note that while the area of operation of National Project on Biogas Development was the entire country, the Ministry of Agriculture in consultation with the State Governments initially focussed its attention to 100 potential biogas districts and was later extended to 350 potential biogas districts, selected on the basis of norms

formulated. Presently the programme is being implemented with equal vigour all over the country. The Ministry have advised State Governments to adopt a cluster approach for better implementation of the programme. Due priority should be given by way of differential rates of subsidy to North Eastern Regional States, hilly and desert districts. With a view to remove the backwardness of the area, some preferential subsidy may also be paid to North-East and North-West frontier States, hilly and desert districts.

8 55 - Do. The Department of Non-Conventional Energy Sources have undertaken intensified Research and Development Programme in biogas so as to reduce the cost of biogas plant, i.e., cost per unit gas production, improve the reliability of biogas plants under different field conditions; diversify the feed materials for biogas to reduce dependence on cowdung, standardise plant designs and integrated utilisation of biogas slurry. The DNES is stated to have sanctioned 50 R&D projects on different aspects of biogas technology and its utilisation. A sum of Rs. 95 lakhs was released to different R&D institutions during 1985-86 and a budget outlay of Rs. 1.5 crores is available for 1986-87. Keeping in view the limited natural energy resources *viz.*, natural gas, oil, kerosene, coal and wood, generation of energy from biogas will be in consonance with the growing developmental need of the country. The Committee trust that the Government will take up research and development of biogas in a more business like manner and ensure appro-

1	2	3	4
			priate investment on R&D Programmes of biogas which can be put to multiple use and had tremendous impact in the rural scene of India.
9	56	Ministry of Energy (Department of Non-Conventional Energy Sources)	The Committee learn from the representatives of Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Rajasthan, West Bengal and Tamil Nadu and KVIC that the biogas programme had become very popular in their respective states. While some States like Andhra Pradesh, Tamil Nadu and Karnataka have already developed administrative and infrastructural facilities required to meet the need of individual biogas owners resulting in expansion of the programme, others such as, Bihar, Madhya Pradesh, Rajasthan and West Bengal are picking up steadily. Mode of selection of beneficiary in different states is similar in nature *viz.*, availability of cattle, water, size of the family holdings, etc. Meanwhile some states like Andhra Pradesh, Karnataka and Tamil Nadu, Government agencies take initiative to motivate the people to avail of biogas facilities, in other states like West Bengal, Bihar and Rajasthan. State Government agencies have failed to take the desired initiative due to one reason or other. Some of the difficulties experienced by the State Governments in implementing the programme are stated to be—(i) Andhra Pradesh needs more fund to meet the growing biogas requirements of the people (ii) in Karnataka implementation of the programme has not been uniform in all the districts (iii) in Rajasthan drought and poverty resulted

in sale of cattle causing setback to the programme (iv) West Bengal does not have any additional manpower sanctioned for implementation of the programme and only agriculturally advanced districts like Burdwan, Birbhum and Midnapore took advantage of the programme and whereas others are yet to pick up (v) in Madhya Pradesh, unscrupulous persons taking advantage of 100 percent subsidy to weaker section, misused the funds without building any plants (vi) in Bihar, administrative machinery does not appear to have been geared up for implementation of the programme. The Committee were informed by the Secretary, DNES that the responsibility for detailed implementation of the programme lies with the State Government agencies and other agencies who are implementing the programme at the grass-root level. However, at the Central level a close watch is kept on the implementation of the programme. The Committee are of the considered view that suitable methodology should be devised to activate and control participation of State Governments in this programme of importance, magnitude and potential. Development of non-conventional energy sources should be utilised as a measure of improving the rural economy, generation of employment and reducing the ecological disturbance and deforestation. Biogas plants have thus become today synonymous with village sanitation. The Committee note that the programme is gaining momentum and it is essential at this stage to give a co-ordinated thrust to this programme by involving the corresponding municipalities, Gram

1	2	3	4
			panchayats, Dairy Farming Units and Co-operatives functioning in the agricultural sector. The Committee urge the Government to chalk out an integrated development programme in consultation with the State Governments and ensure effective control over its implementation.
10	63	Ministry of Energy (Department of Non-Conventional Energy Sources)	The Committee note that there has been a shortfall in achievements in setting up of biogas plants during Sixth Plan period in 10 States and one Union Torritory and in 9 States the shortfall ranged between 14 and 33% Notwithstanding constraints the Government should ensure that targets once fixed are achieved. The Government should also make concrete efforts including payment of increased subsidy for implementation of biogas development projects in the economically backward North-Eastern Region and take effective steps in the removal of constraints noticed in this regard.
11	67	Do.	During the period from 1981-82 to 1984-85, 13,401 plants had been reported to the Central Government in excess of the plants actually installed. Principal reasons for this misreporting are stated to be decentralised nature of the programme, lack of trained personnel capable of systematic compilation of statistical data and frequent change of implementing agencies. DNES is stated to have taken a number of steps such as, disbursement subsidy within a

prescribed time limit, setting up of a monitoring cell directly under the charge of DNES, field inspection of plants by Officers of Regional Project Office of DNES and certain other steps, to prevent over-reporting. The Committee hope that Government would continue to maintain strict vigilance over the reporting agencies to avoid misreporting of facts so that future planning is not impungned due to furnishing of incorrect information.

12 73 Do.

The Committee find that a good number of plants stated to have been completed in the States of Andhra Pradesh, Haryana, Himachal Pradesh, Madhya Pradesh, Orissa, Punjab, Pondicherry, Rajasthan, Tamil Nadu, Uttar Pradesh West Bengal and KVIC plants were not functioning for various reasons such as, technical defects in construction, non-provision of appliances, non-availability of sufficient cattle dung, etc. A limited survey conducted by Directorate of Economic Research of 13,216 biogas plants installed by KVIC during 1974-75 to 1981-82 in 14 districts of Bihar, Maharashtra and Tamil Nadu, revealed that only 9,586 plants were working 2,804 plants were not working and 826 plants did not exist. The Ministry informed that principal reasons for non-functioning|non-commissioning of plants were recurrence of floods and drought, migration of cattle due to drought and such other eventualities. 16 States|Union Territories informed the DNES that as on 31-12-1986, 9,400 plants had already been revived and work was in progress to revive 18,600 non-functional plants detected till then. A 'Repair Scheme' was introduced in 1985-86 with a view to reviving plants with structural defects by providing a grant up to

1	2	3	4
			Rs. 500/- per defunct plant. Users Training Courses are organised in a cluster of villages to educate plant owners particularly women beneficiaries in the proper operation and maintenance of plants including technical methods to be adopted for mixing of dung with water, removal of water condensate from the pipeline, clearing of burner, checking of gas leakage, etc. Besides, organisational infrastructure has been created at Central and State levels, inspection system has been strengthened by introducing pass books/inspection charts and quarterly reports by States indicating detailed performance of plants. As regards non-existence of certain KVIC plants, it has been reported that suitable action was being taken against the erring officials, Instructions had also been issued to State Governments directing them to get completion certificate issued by BDOs. The Committee cannot but strongly deprecate this unsatisfactory state of affairs and are of the considered view that the Government should look into these cases of irregularities with greater care. All cases of fictitious reporting and mis-appropriation of public money should be investigated and penal action taken against those found guilty. The Committee would like to be apprised of further developments in this regard.
13	81	Ministry of Energy (Department of Non-Conventional Energy Sources)	The Committee noted that there were discrepancies in the amounts of assistance as between the books of accounts of recepients and those of Ministries. It is imperative that a discrepancies pointed

			out by Audit are reconciled with due promptitude and care. Delay in settlement of accounts, especially of subsidy amount paid in advance may lead to misuse and misappropriation of public money. The Committee are of the opinion that foolproof procedure should be devised to ensure prompt settlement of all assistance accounts and once the procedure is formulated, it should be strictly adhered to by the Ministry, State Governments and Union Territories.
14	82	-Do-	The Committee learn that the assistance amounting to Rs. 79.91 crores was released by the DNES during 1981-82 to 1984-85 to 16 States, 2 Union Territories and KVIC against expenditure Finance Committee approval of Rs. 50 crores only. While the Committee appreciate the anxiety of Government to pay more subsidy to landless labourers|SCs|STs|people of hill and desert areas they are unable to appreciate that the decision was taken in an isolated manner and would urge the Government to chalk out all future development plans with adequate care sufficiently in advance so that targets are fixed on a realistic basis and ad-hoc decisions are avoided.
15	89	-Do-	The Committee note that subsidy amounting to Rs. 57.01 lakhs payable to the beneficiaries after completion of the plants was paid in advance and its recovery|adjustment was not made till March 1985. The Committee urge Govt. to take adequate steps to recover|adjust subsidy paid to the beneficiaries in advance and ensure proper arrangement of adjusting advance in future.

1	2	3	4
16	95	Ministry of Energy (Department of Non-Conventional Energy Sources)	The project provided subsidy for a portion of the capital cost of the biogas plant and the remaining amount was to be raised by the beneficiaries. The finance to be so raised was estimated at Rs. 150 crores for achieving the target of 3.35 lakh biogas units during the Sixth Plan period. Test-check by Audit revealed that mobilisation of institutional finance had not been encouraging which had retarded the implementation of the programme. They urge upon the Government to review the position and chalk out a workable plan in consultation with RBI, NABARD, AFC and implementing agencies for providing institutional financial support to ensure timely implementation of the programme.
17	98	-Do-	The Committee note that training formed an essential ingredient of National Project on Biogas Development and the cost of the training has to be fully borne by the Central Government. It was brought to their notice that targets for various training courses were not fully met and some trained masons after receiving training stipends were not available for the construction and maintenance of biogas plants. The DNES had issued instructions to the State Governments and programme implementing agencies to keep a watch on the utilisation of the service of persons trained for construction and maintenance of biogas plants and provide sufficient incentives to the trained personnel to arrest their flight to other trades and vocations.

18	103	-Do-	The Committee find that Coordination Committees comprising of representatives of various departments, implementing agencies, KVIC|KVIB, banking institutions, recognised voluntary organisations etc. were to be constituted at the State and District levels for reviewing and monitoring of the programme. Proceedings of the State level Committees are required to be sent endorsed to the Central Government. Besides, the State Governments are also required to send monthly reports to the Government of India and to prescribe fortnightly reporting schedules for the district and block levels so as to monitor the programme. The Committee find that monitoring of the programme was not effective. The State level Coordination Committees met rarely in most of the States, or did not meet at all. States where they met, minutes of the meetings were not made available to the Audit. Further, timely action for reviewing the actual achievements against the targets fixed, assessment of actual working of the plants and installation and identification of defective plants for rectification was not done in any of the States test checked.
19	104	-Do-	The Committee find it difficult to accept that the programme so vital for the uplift of masses and environmental improvement and involving huge financial outlay should receive so little attention. Monitoring the progress of the programme at regular intervals is indispensable for successful implementation of the programme. The

1	2	3	4
			Committee urge the Government to ensure that the prescribed procedure for monitoring the progress of the programme is translated into action so that shortcomings of the systems are identified and remedial action taken with the due promptitude.
20	114	Ministry of Energy (Department of Non-Conventional Energy Sources)	The Committee find that implementation of the programme had not been evaluated in any of the States and Union Territories till March 1985 and as such its impact on the rural population could not be assessed. In October, 1984, Government sanctioned evaluation survey studies of biogas plants by five independent agencies, namely, National Council of Applied Economic Research, New Delhi; Operations Research Group, Baroda; Kirloskar Consultants (P) Ltd., Puna; Besant Raj Consultant Pvt. Ltd., Madras and Centre for Studies in Decentralised Industries, Bombay. The findings of these studies with reference to saving in terms of firewood and fertilizer and improved sanitation and public hygiene are stated to be quite encouraging. The Committee opined that biogas has not only changed the look of the villagers but also bettered the life-style of the villagers. The programme has also provided numerous benefits to the people, i.e., provided energy in a clean and unpolluted form, produced fertilizers, reduced lung and eye diseases and mitigated ecological disturbance and deforestation. The Committee hope that the Government would continue to evaluate the programme periodically to remove deficiencies and bottlenecks and

to ensure modifications with reference to latest technological advancement, keep constant watch over release of funds, streamline procedure related to loan and subsidy, strengthen the inspection procedures, to eliminate non-existent plants from the scope of subsidy and loans and impart training for proper maintenance and operation of the plants.

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