

1. Department: Electricity
2. a) Sector: Energy
- b) Sub-Sector: Non-Conventional Energy Sources
3. Scheme No : NRSE- 9
4. Name of the Scheme: Development of Biomass Based Self Reliant Energy and Wood gasification systems in Andaman & Nicobar Islands.

5. OBJECTIVE OF THE 9TH FIVE YEAR PLAN:

At present the power requirement in Andaman & Nicobar Islands is met by Diesel Generating Sets, by utilizing costly imported HSD oil. The TERI conducted a survey of these Islands during 1987 and submitted a report to the DNES about the potential of Renewable Sources of Energy and it was estimated that about 5 MW of power could be developed by Biomass Technologies. An expert team headed by the Secretary, DNES during its visit to these islands in September 1988 suggested that atleast 500 KW aggregate capacity of power could easily be generated by Biomass Gassification System in the Biomass and Wood waste available zones. The DNES also approved a project for development of self reliant energy system in A & N Islands vide No. 208/18/87-BM. dated-11/10/88 and 100 KW Wood Gasifier Power Generation System was installed near Chatham Saw Mill, during 1989. The DNES team which visited these islands during May 1996, also concluded and recommended that there is a lot of scope for installation of biomass conversion system namely gasifier both in wood and saw dust through biomass briquetting units at various saw mills. It was also recommended that possibility of using biomass gasifier in thermal mode for copra drying and cooking be also explored.

The Andaman & Nicobar Islands are having tropical rain forests and energy plantation can be taken up in large scale, specially in around 10,000 hectares of degraded land at Teressa, Kamorta and Nancowry Islands in the Nicobar District. Appropriate and suitable species of fast growing plants such as casorina, acasia etc., could be planted in these degraded land along with the help and guidance of Forests and Agriculture Department of these Islands and the power requirement of these areas could be met by utilising the generated biomass through gasification system.

It is proposed to establish few more wood and saw dust based gasifiers for generation of power near Govt. and Private Saw Mills, so as to utilize the biomass waste generated in these saw mills. It is also proposed to utilize the wood waste through gasifier in thermal mode for cooking, heating purpose. It is also proposed to conduct detailed study on the availability of biomass waste at different island / blocks and the potential for establishing energy plantation in degraded lands in Nicobar group of islands so as to utilize the biomass generated for meeting the energy requirements. This wood ultimately reduce the dependence on imported costly HSD oil for power generation by utilizing the biomass resources in various forms available in these islands, making some of the islands self-reliant in its energy needs.

6. Approved Outlay for the 9th Five Year Plan: Rs. 15.00 Lakhs.

7. Principal Targets for the 9th Five Year Plan:

1. Survey, investigation & identification of suitable location for installation of biomass / wood gasification system for electric power generation, Thermal & Mechanical utilization of various capacities.
2. Purchase and installation of wood gasifier system for electric power generation of a total capacity of 500 KW (in 100-500KW range units) at identified locations of Govt. / Private wood based industries.
3. Development of self reliant energy system by having energy plantation in 5 hectares of land and wood gasifier power generation system in identified locations such as Havelock, Teressa, Kamorta etc.
4. Construction of suitable accomodation for housing the Gasifier Electric System.
5. Purchase of 5 Nos. gasifiers working on thermal mode for cooking / heating, gasifier engine for pump sets / power generation and its installation, distribution as per MNES subsidy pattern and an U.T. subsidy of 50% of cost.