National Bioenergy Programme [UPSC Notes]

The Ministry of New and Renewable Resources, GOI has come out with a National Bioenergy Programme for the period from 2021-22 to 2025-26. This is an important development and IAS aspirants must know all the important features of this programme for the IAS exam. In this article, we have discussed all you need to know about the National Bioenergy Programme.

National Bioenergy Programme

The government has been promoting the utilisation of bioenergy since 1980 for leveraging the huge biomass generated in the country in the form of **cattle dung, and industrial and urban biowaste.**

What is bioenergy?

- It is a kind of **renewable energy** derived when **biomass fuels are combusted.** Biomass fuel originates from organic material such as **crop residues**, **waste derived from domestic activities,** etc.

Potential of bioenergy in India:

- According to a study conducted by the **Ministry of New and Renewable Energy (MNRE),** India can generate about **750 million metric tonnes of biomass** per year.
- It further said that 14 **GW of power can be generated** through bagasse-based cogeneration.

National Bioenergy Programme Features

The bioenergy programme will continue from **2021-22 to 2025-26.** This programme will be implemented in **two phases**.

- **Phase 1 of the programme is to be implemented with a budgetary outlay of Rs.858 crores.**
- The National Bioenergy Plan is further dissected into **three different sub-plans**:
    - **Waste to Energy Programme:** This scheme is targeted to utilise the waste from different sectors and generate energy from it. It reflects one of the classic implementations of the concept of a circular economy. In this plan, waste generated from **industrial, domestic and agricultural sectors** will be used for the generation of energy.
    - **Biomass Programme:** This scheme will provide support for the setting up of **pellets and briquettes** to be used for power generation and non-bagasse-based power generation.
    - **Biogas Programme:** Under this head, support would be provided to the family members for setting up small and medium size biogas plants in rural areas.
        - Biogas is produced when bio-degradable organic materials/wastes such as cattle dung, biomass from farms, gardens, kitchens, industry, poultry droppings, night

soil and municipal wastes are subjected to a scientific process, called **anaerobic digestion** in a biogas plant.

Advantages of Bioenergy

It is based on the concept of a **circular economy** where the waste generated by one becomes the raw material for other industries. Thus it reflects the **scientific utilisation of resources for maximum benefits**.

- It is a form of renewable energy; thus it is available in **abundant amounts to meet our energy requirements.**
- **Accessibility** of bioenergy is **very wide and diversified** and therefore energy can be generated with minimum investments.
- Another advantage of bioenergy is that it **reduces waste and filth** in the country thus paving the way for Swachh Bharat i.e clean India.

Conclusion: The robust implementation of this scheme would lead to the generation of energy from waste and thus pave the way for fuller utilisation of the resources of the country.