



KAMARAJ IAS ACADEMY
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Bio-gas

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Why is in news? National Archives of India acquires the valuable collection of acclaimed Bio-gas Scientist Dr. Ram Bux Singh

National Archives of India has acquired the valuable collection of late **Dr. Ram Bux Singh, an internationally acclaimed scientist**, who **revolutionized the field of biogas technology** with his ground breaking contributions on 26 September 2023.

Born in Sitapur District, Uttar Pradesh, India, Dr. Singh pursued his education in engineering and dedicated his life to the promotion, development, and dissemination of renewable energy, specifically focusing on bio-gas technology.

His entire life was devoted to the **establishment of an indigenous, home-grown mechanism for generating and providing low cost fuel** which could be easily produced in a sustainable manner and provide clean energy.

About biogas:

Biogas is based upon the **use of dung to produce gas** which is used as domestic fuel, especially in rural areas

Biomass has always been an important energy source for the country considering the benefits it offers. It is renewable, widely available, **carbon-neutral** and has the potential to provide significant employment in the rural areas

The technique is based on the **decomposition of organic matter in the absence of air**, to yield gas consisting of methane (55%) and Carbon Dioxide (45%), which can be used as source of energy and traces of other gases such as hydrogen sulphide, ammonia and nitrogen.

It can be used as cooking and lighting fuel; and the left over slurry serves as an enriched manure.

This has taken deep roots in India, as it has higher thermal efficiency when compared with Kerosene, firewood, dung and charcoal

About **32% of the total primary energy use in the country is still derived from biomass** and more than 70% of the country's population depends upon it for its energy needs.

Compressed Biogas (CBG):

Biogas can be **purified and upgraded up to 98% of purity** to make it suitable to be used as a green fuel for transportation or filling of cylinders.

The process relies on a high pressure of ~250 bar and hence is called Compressed Biogas (CBG).

Bio-Methane:

It is also known as '**renewable natural gas**'.

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It is a **near-pure source of methane** produced either by ‘upgrading’ biogas or through the gasification of solid biomass followed by Methanation.

Upgradation refers to a process that removes any CO₂ and other contaminants present in the biogas.

National Archives of India:

The National Archives of India is the **custodian of the non-current records** of the Government of India and holds them in trust for the use of administrators and scholars and functions under the provisions laid down under **The Public Records Act, 1993**.

Archives are the **priceless documentary heritage** of any nation and as the **premier archival institution** in the country.

The National Archives of India plays a key role in guiding and shaping the development of archival consciousness both at the national as well as state level.

It is an Attached Office under the **Department of Culture**, Ministry of Culture.

Established in March 1891 at Calcutta as the Imperial Record Department, it was shifted to New Delhi following the transfer of the capital from Calcutta to Delhi in 1911.

National Archives of India has at present in its repositories a collection of Public Records, which includes files, volumes, maps, Bills assented to by the President of India, treaties, rare manuscripts, oriental records, private papers, cartographic records, important collection of Gazettes and Gazetteers, Census records, assembly and parliament debates, proscribed literature, travel accounts etc.

Besides **non-current public records**, NAI has a rich and ever growing **collection of private papers of eminent Indians** from all walks of life, who have all made significant contributions to our national life and identity.