

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
STARRED QUESTION NO. 131
ANSWERED ON 01/08/2023

ACHIEVEMENTS OF SSS-NIBE

*131. SHRI MUKUL BALKRISHNA WASNIK

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

- (a) The details about the objectives of the Sardar Swaran Singh National Institute of Bio Energy (SSS-NIBE) and the physical targets it achieved since 2020, year-wise including the number of scientific papers published, training of post graduate and post doctoral fellows and capacity building activities;
- (b) whether it is a fact that the SSS-NIBE could not function efficiently and to its optimal capacity due to acute shortage of manpower; and
- (c) if so, the details thereof and the steps taken to rectify the situation?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) to (c) A statement is laid on the Table of the House.

STATEMENT

Statement referred to in reply to parts (a) to (c) of the Rajya Sabha Starred Q.No. 131 to be answered on 01.08.2023 regarding “Achievements of SSS-NIBE”

(a) The objectives of the Sardar Swaran Singh National Institute of Bio Energy (SSS-NIBE) are to carry out and facilitate research, design, development, testing, standardization and technology demonstration eventually leading to commercialization of R&D output with a focus on:

- i) Bioenergy, biofuels and synthetic fuels in solid, liquid and gaseous forms for transportation, portable and stationary applications
- ii) Development of new technologies for effective utilization of different type of wastes and production of value-added products
- iii) To undertake and facilitate human resource development and training including doctoral and postdoctoral research in the area of bio-energy

Details of physical targets and other achievements since FY 2020-21 are provided below:

- i) Year-wise summary of scientific papers published, training provided to postgraduate & post-doctoral fellows, patents filed and capacity-building activities conducted since 2020 are as under:

Year	Number of Publications, including books etc.	Number of Patents (filed)	Number of post graduate and post-doctoral fellows trained	Capacity building (training) sessions conducted
2020-21	15	0	1	1
2021-22	8	1	5	5
2022-23	37	3	13	3
Total	60	4	19	9

- ii) SSS-NIBE has developed the following technologies/prototypes at Lab scale:
 1. Technology for production of 2G ethanol from paddy straw with higher yield and productivity.
 2. Biorefinery from bagasse to produce ethanol, biogas, xylitol, and lignin-based products.
 3. Technology for the production of biogas from paddy straw, Napier grass, and MSW with high product yield and low HRT.
 4. Activated carbon from corn cobs for multiple applications
 5. Biomass-based dryer.
- iii) Other significant activities:
 1. SSS-NIBE actively participated in the formulation and finalization of the standard 'Design, Construction, Installation, and Operation of Biogas (Biomethane) Plant Code of Practice' in collaboration with the Bureau of Indian Standards (BIS), New Delhi.
 2. SSS-NIBE acted as a knowledge partner in developing standards and guidelines for biomass briquette/pellets.
 3. SSS-NIBE successfully organized the 3rd International Conference on RECENT ADVANCES IN BIO-ENERGY RESEARCH (ICRABR-2022) - March 09-11, 2022.

(b) & (c) The details of posts sanctioned and filled up in SSS-NIBE from FY2020-21 are as under:

Year	Total Sanctioned Posts (Scientific and non- scientific)	Total Filled Posts
2020-2021	26	8
2021-2022	26	8
2022-2023	26	17

Despite the institute facing manpower shortage earlier, significant progress has been made by SSS-NIBE in the fields of research & development, knowledge management, scientific publications, patents filed, training and capacity building activities as brought out in reply to (a) above. However, the following steps have been taken, *inter-alia*, by SSS-NIBE to attract and recruit skilled professionals:

- i) A full-time Director General was recruited during 2022.
- ii) Eight new scientists were recruited to carry out high-end research work and also to undertake teaching/training of M.Tech, doctoral, and post-doctoral students.
- iii) Collaboration with the National Institute of Technology, Jalandhar, was established to offer an M. Tech. program in Renewable Energy since 2020. This programme has seen two batches of successful graduates.
- iv) In addition to the sanctioned posts, Junior Research Fellows are also being taken who contribute to ongoing scientific research, further enhancing the research output and capabilities.