

**GOVERNMENT OF INDIA
MINISTRY OF AYURVEDA, YOGA & NATUROPATHY, UNANI,
SIDDHA AND HOMOEOPATHY (AYUSH)**

**LOK SABHA
STARRED QUESTION NO. 229
TO BE ANSWERED ON THE 4TH AUGUST, 2023**

SETTING UP OF RESEARCH CENTRES FOR MEDICINAL PLANTS

***229. MS. DEBASREE CHAUDHURI:**

Will the Minister of AYUSH be pleased to state:

- (a) whether the Government has established any research centres to promote research and development on medicinal plants, State/UT-wise;
- (b) if so, the details thereof?
- (c) whether the Government proposes to establish any research centre in West Bengal;
- (d) if so, the details thereof along with the details of ongoing projects pertaining to medicinal plants; and
- (e) if not, the reasons therefor?

**ANSWER
THE MINISTER OF AYURVEDA, YOGA & NATUROPATHY, UNANI,
SIDDHA AND HOMOEOPATHY (AYUSH)**

(SHRI SARBANANDA SONOWAL)

(a) to (e) A Statement is laid on the Table of the House.

**STATEMENT REFERRED TO IN REPLY TO LOK SABHA
STARRED QUESTION NO. 229* FOR 4TH AUGUST, 2022**

(a) & (b). Yes, presently, various Research Institutes/Centres/Units of different Research Councils under the Ministry of Ayush, Government of India, *viz.* Central Council for Research in Ayurvedic Sciences (CCRAS), Central Council for Research in Unani Medicine (CCRUM), Central Council for Research in Homoeopathy (CCRH), Central Council for Research in Siddha (CCRS), North Eastern Institute of Ayurveda & Folk Medicine Research (NEIAFMR) and National Institute of Sowa Rigpa (NISR) have been established and engaged in the area of medicinal plant research across the country.

1. Central Council for Research in Ayurvedic Sciences (CCRAS) is an autonomous organization for undertaking, coordinating, formulating, developing and promoting research on scientific lines in Ayurveda. This Council executes its research programmes with a network of 30 peripheral Institutes/centres/units throughout India, with the headquarters office in New Delhi. Besides performing research work through Intra mural and collaborative studies in the different areas of Clinical Research, Fundamental Research, Pharmacology Research (Preclinical Safety/Toxicity and Biological Activity Studies) and Literary Research, it is also actively involved in research and development on medicinal plants by the various programs *viz.* Medico Ethno-Botanical Survey (MEBS), Drug Standardization Research and Pharmacology Research. State/UT-wise details of the CCRAS Institutes/Centres are appended in **Annexure-I**.
2. Central Council for Research in Unani Medicine (CCRUM) is undertaking research on various parts of medicinal plants through its network of 31 Institutes/Units/Centres. These activities include Pre-Clinical Research, Clinical Research, Drug Standardization Research, Fundamental Research, Literary Research, Survey and Cultivation of Medicinal Plants. State/UT-wise details of the Institutes/Centres are attached in **Annexure-II**.
3. Central Council for Research in Homoeopathy (CCRH), through its various regional research centres, is actively working in the standardizaion of drugs, including medicinal plants and maintaining and cultivating exotic & indigenous medicinal plants used in Homoeopathy. State/UT-wise details of the Institute involved in medicinal plant research are attached in **Annexure-III**.

4. Central Council for Research in Siddha (CCRS) is actively involved in promoting research and development on medicinal plants through its peripheral Unit, namely Siddha Medicinal Plants Garden (SMPG), Mettur Dam, Salem district, Tamilnadu. It is engaged in the documentation of ethno-medicinal uses of medicinal plants from the nearby tribal communities and also to promote, propagate, conserve and cultivate medicinal plants along with Medico Ethno Botanical Study on medicinal plants of Tamilnadu. Details are appended in **Annexure-IV**.
5. North Eastern Institute of Ayurveda & Folk Medicine Research (NEIAFMR), Pasighat, is an autonomous National Institute under the Ministry of Ayush, Government of India. The Institute is located in Pasighat, in the East Siang district of Arunachal Pradesh. The institute is actively engaged in documenting and validating folk medicine practices, remedies and therapies for possible usage in public healthcare and further research. It is also involved in documenting and conserving medicinal plant diversity and developing agro techniques for the propagation of endemic medicinal plants in the North Eastern Region.
6. Further, National Institute of Sowa Rigpa (NISR), an autonomous body under the Ministry of Ayush, Government of India, located at Leh, Ladakh, is actively involved in researching and developing medicinal plants used in Sowa Rigpa. The institute has established Trans-Himalayan Garden on ten hectares of land and cultivated 110 medicinal plant species.
7. In addition various National Institutes under Ministry of Ayush *viz.* All India Institute of Ayurveda (AIIA), New Delhi; National Institute of Ayurveda (NIA), Jaipur; National Institute of Unani Medicine (NIUM), Bangalore; National Institute of Siddha (NIS), Chennai; Institute of Teaching and Research in Ayurveda, (I.T.R.A.), Institute of National Importance (INI), Jamnagar and North Eastern Institute of Ayurveda and Homoeopathy (NEIAH), Shillong are the apex teaching institutes also involved in academic research activities related to medicinal plants in the concerned systems of medicine across the country.

More over various organizations in the country, like the Council of Scientific & Industrial Research (CSIR), Indian Council of Medical Research (ICMR) and Indian Council of Agricultural Research (ICAR) under different ministries, are also widely engaged in research and development activities related to medicinal plants.

CSIR -North East Institute of Science and Technology (NEIST), Jorhat, Assam; CSIR- Institute of Himalayan Bioresource Technology (IHBT), Himachal Pradesh; CSIR- Indian Institute of Integrative Medicine (IIIM), Jammu and CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow are the frontier medicinal plant research laboratories actively engaged in promoting research and development activities on medicinal plants throughout the country. State/UT-wise details of the CSIR Institutes/Centres involved in medicinal plant research are appended in **Annexure-V**.

Further, ICMR-National Institute of Traditional Medicine (NITM), Belagavi, Karnataka, is established for research on Traditional Medicine. One of the mandates of this institute is to scientifically validate the traditional medicines and practices from codified and non-codified systems. As medicinal plants are an integral part of Indian Traditional Medicinal Systems, the Institute is working on documentation and validation (*in-silico*, *in-vitro*, *in-vivo* and clinical evaluation) of various selected medicinal plants. Besides, the Directorate of Medicinal and Aromatic Plants Research (DMAPR), Anand, Gujarat, under the Indian Council for Agricultural Research (ICAR), primarily conducts basic, applied and adaptive research on medicinal plants.

(c) & (d). No, there are already various established Research Institutes / Centres / Units under different Research Councils of the Ministry of Ayush, Government of India, are actively engaged in the area of medicinal plant research in West Bengal, *viz.-*

- CCRAS has a research Institute, Central Council for Research Institute (CARI), located in Kolkata, West Bengal.
- CCRUM, Regional Research Institute of Unani Medicine, Kolkata, is functioning in West Bengal.
- CCRH has two Institutes for undertaking scientific research in Homoeopathy in the State of West Bengal-
 - I. Dr. Anjali Chatterjee Regional Research Institute of Homoeopathy, Kolkata, West Bengal.
 - II. Regional Research Institute (Homoeopathy), Siliguri, West Bengal.

The details of ongoing projects pertaining to medicinal plants in the different Research Councils of the Ministry of Ayush in West Bengal State are appended in **Annexure-VI**.

In addition, the National Medicinal Plants Board (NMPB), Ministry of Ayush, under its Central Sector Scheme on ‘Conservation, Development and Sustainable Management of Medicinal Plants’ provides project-based financial support to carryout research activities on various aspects of medicinal plants to Government as well as private universities/research institutions/organizations across the country. Details of the ongoing project supported in West Bengal are placed in **Annexure VII**.

(e). Not applicable.

State / UT-wise details of Research Institute / Centre / Unit under Central Council for Research in Ayurvedic Sciences (CCRAS) involved in medicinal plant research:

S.No.	State/UT	Name of Institute/Centre
1.	Andaman & Nicobar Islands	1) Regional Ayurveda Research Institute, Port Blair
2.	Andhra Pradesh	2) Regional Ayurveda Research Institute, Vijayawada
3.	Arunachal Pradesh	3) Regional Ayurveda Research Institute, Itanagar
4.	Assam	4) Central Ayurveda Research Institute, Guwahati
5.	Bihar	5) Regional Ayurveda Research Institute, Patna
6.	Delhi	6) Central Ayurveda Research Institute, New Delhi
7.	Goa	7) Regional Ayurveda Research Institute for Mineral and Marine Medicinal Resources, Goa
8.	Gujarat	8) Regional Ayurveda Research Institute, Ahmedabad
9.	Himachal Pradesh	9) Regional Ayurveda Research Institute, Mandi
10.	Jammu & Kashmir	10) Regional Ayurveda Research Institute, Jammu
11.	Karnataka	11) Central Ayurveda Research Institute, Bengaluru
12.	Kerala	12) National Ayurveda Research Institute for Panchakarma, Cheruthuruthy
		13) Regional Ayurveda Research Institute, Thiruvananthapuram
13.	Madhya Pradesh	14) Regional Ayurveda Research Institute, Gwalior
14.	Maharashtra	15) Raja Ramdeo Anandilal Podar (RRAP) Central Ayurveda Research Institute, Mumbai
		16) Regional Ayurveda Research Institute, Nagpur
		17) Regional Ayurveda Research Institute, Pune
15.	Nagaland	18) Regional Ayurveda Research Centre, Dimapur, Nagaland
16.	Odisha	19) Central Ayurveda Research Institute, Bhubaneswar
17.	Punjab	20) Central Ayurveda Research Institute, Patiala
18.	Rajasthan	21) M.S. Regional Ayurveda Research Institute, Jaipur
19.	Sikkim	22) Regional Ayurveda Research Institute, Gangtok
20.	Tamil Nadu	23) Captain Srinivasa Murthy Central Ayurveda Research Institute, Chennai
		24) Dr. Achanta Lakshmi pati Regional Ayurveda Research Institute, Chennai
21.	Telangana	25) National Centre of Indian Medical Heritage, Hyderabad
22.	Tripura	26) Regional Ayurveda Research Centre, Agartala, Tripura
23.	Uttar Pradesh	27) Central Ayurveda Research Institute, Jhansi
		28) Regional Ayurveda Research Institute, Lucknow
24.	Uttarakhand	29) Regional Ayurveda Research Institute, Ranikhet
25.	West Bengal	30) Central Ayurveda Research Institute, Kolkata

Annexure-II

State / UT-wise details of Research Institute / Centre / Unit under Central Council for Research in Unani Medicine (CCRUM) involved in medicinal plant research:

S. No.	State/UT	Name and address of the Institute
1.	Andhra Pradesh	1) Clinical Research Unit, Dr. Abdul Haq Unani Medical College, Kurnool
2.	Assam	2) Regional Research Institute of Unani Medicine (RRIUM), Veterinary Bazar, Ghungoor, Silichar.
3.	Bihar	3) Regional Research Institute of Unani Medicine, Guzri, Patna City, Patna.
4.	Delhi	4) Regional Research Institute of Unani Medicine, Jamia Nagar, Okhla, New Delhi.
		5) (Extension Centre of RRIUM, New Delhi) Unani Medical Centre, Dr. RML Hospital, New Delhi.
		1) (Extension Centre of RRIUM, New Delhi) Unani Speciality Centre Dr.Deen Dayal Upadhaya Hospital, New Delhi.
		6) (Extension Centre of RRIUM, New Delhi) Unani Medical Centre, Safdarjung Hospital New Delhi.
		7) AUYSH wellness Center, President Estate, New Delhi.
		8) Integrated Ayush Clinic, All India Institute of Ayurveda SaritaVihar New Delhi.
		9) Hakim Ajmal Khan Institute of Literary and Historical Research in Unani Medicine, Dr. M. A. Ansari Health Centre, Jamia Millia Islamia, Okhla, New Delhi.
		10) Drug Standardization Research Unit, Janakpuri, New Delhi.
5.	Jammu & Kashmir (UT)	11) Regional Research Institute of Unani Medicine, University of Kashmir Campus, Hazrat Bal, Srinagar, Jammu & Kashmir)
6.	Kerala	12) Clinical Research Unit (Unani), Kurupatil Nina Memorial, Alweye, Kerala
		13) Extension Research Centre for Unani (Clinical Research Unit, Edathala), Pattiam Gram Panchayat, Kannur, Kerala
7.	Karnataka	14) Clinical Research Unit (Unani), National Institute of Unani Medicine, Kottigepaliya, Magadi Main Road, Bengaluru.
8.	Madhya Pradesh	15) Clinical Research Unit (Unani), Department of Pharmacology Gandhi Medical College, Bhopal.
		16) Clinical Research Unit (Unani), S. H. Unani Tibbiya College, Ganpati Naka, Burhanpur.
9.	Maharashtra	17) Regional Research Institute of Unani Medicine, Kharghar, Navi Mumbai.
		18) Extension Centre of RRIUM, J.J. Hospital Compound, (Behind Eye Bank), Byculla, Mumbai.
		19) Unani Speciality Clinic, An Extension Centre of RRIUM, Mumbai, Goa.

10.	Manipur	20) Clinical Research Unit, Lamphel Road, Lamphelpat, Imphal, Manipur.
11.	Odisha	21) Regional Research Institute of Unani Medicine, Chandbali Bypass Road, Near Rural Police Station, Bhadrak.
12.	Tamil Nadu	22) Regional Research Institute of Unani Medicine, 1, West Meda Church Street, Royapuram, Chennai.
13.	Telangana	23) National Research Institute of Unani Medicine for Skin Disorders (Erstwhile Central Research Institute of Unani Medicine) Opp. E.S.I., Hospital, A.G. Colony Road, Erragadda, Hyderabad.
14.	Uttar Pradesh	24) Central Research Institute of Unani Medicine, Post & Village, Basaha Kursi Road, Lucknow.
		25) Regional Research Institute of Unani Medicine, Shah Jahan Manzil, Aligarh Muslim University Aligarh.
		26) Drug Standardization Research Institute, PLIM, Ghaziabad.
		27) Regional Research Centre (RRC), Kareli, Allahabad.
		28) Clinical Research Unit (Unani), Cantonment General Hospital (Sotiganj), Begum Bridge, Meerut.
		29) Chemical Research Unit, Department of Research in Unani Medicine, Near Office of Dean, Faculty of Science, A.M.U. Aligarh.
15.	West Bengal	30) Regional Research Institute of Unani Medicine, Near Jaiswal Hospital, Liluah, Howrah.

Annexure-III

State / UT-wise details of Research Institute / Centre / Unit under Central Council for Research in Homoeopathy (CCRH) involved in medicinal plant research:

S. No.	State/UT	Name of the Institute
1	Uttar Pradesh	Dr. D.P. Rastogi Central Research Institute (H), Noida.
2	West Bengal	Dr. Anjali Chatterjee Regional Research Institute for Homoeopathy, Kolkata.
3	Telangana	Drug Standardisation Unit (H), Hyderabad.
4	Tamil Nadu	Centre of Medicinal Plants Research in Homoeopathy, Ooty.

Annexure-IV

State / UT-wise details of the Research Institute / Centre / Unit under Central Council for Research in Siddha (CCRS) involved in medicinal plant research:

S. No.	State/UT	Name of the Institute
1.	Tamil Nadu	Siddha Central Research Institute, Chennai.
2.	Kerala	Siddha Regional Research Institute, Thiruvananthapuram.

Annexure-V

State / UT-wise details of Research Institute / Centre / Unit under Council of Scientific & Industrial Research(CSIR) involved in medicinal plant research:

Sr. No	State/ UT	Name of the Institute
1.	Assam	Council of Scientific and Industrial Research (CSIR) - North East Institute of Science and Technology (NEIST), Jorhat.
2.	Himachal Pradesh	Council of Scientific and Industrial Research (CSIR)-Institute of Himalayan Bioresource Technology (IHBT), Palampur.
3.	Jammu & Kashmir (UT)	Council of Scientific and Industrial Research (CSIR)-Indian Institute of Integrative Medicine (IIIM), Jammu.
4.	Uttar Pradesh	Council of Scientific and Industrial Research (CSIR)-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow.

Annexure-VI

Details of ongoing projects pertaining to medicinal plants in the various Research Institutes / Centres / Units under different Research Councils of the Ministry of Ayush, Government of India in West Bengal State

1. List of ongoing Projects pertaining to medicinal plants conducting at Central Council for Research Institute (CARI), Kolkata, West Bengal:

S. No	Name of the ongoing research projects pertaining to medicinal plants in West Bengal	Year	Sanctioned Amount (in Rs.)
1.	Pharmacognostical and chemical Profiling of selected Indian medicinal Flowers. (RARI, Jammu & CARI, Kolkata)	2021	Rs. 24,90,000/-
2.	Optimization of extraction process for the enrichment of extract with selected markers of some important Ayurvedic plants (CARI, Kolkata)	2021	Rs. 15,70,000/-
3.	To establish the best procurement time for certain herbs by analyzing the seasonal variation in bioactive secondary metabolite with quantitative HPLC, PART-II. (CARI, Kolkata)	2020	Rs. 39,70,560/-
4.	Digitalization and indexing of herbarium sheets at CARI, Kolkata collected from the year 1970-2000	2022	Rs. 25,49,880/-
5.	Development of Quality Control Standards of selected extra pharmacopoeial (<i>Anukta Dravya</i>) drugs used in local health tradition collected from different regions of India.	2022	Rs. 61,29,760/-
6.	Comparative Pharmacognostical and Phytochemical Standardization of Commonly Adulterating Ayurvedic Drugs and Their Adulterants.	2022	Rs.97,94,880/-
7.	Evaluation of antibacterial, anti-oxidant and immuno-modulatory properties of selected Ayurvedic formulations	2022	Rs. 36,10,000/-
8.	Evaluation of <i>Kanchnar Guggulu</i> and <i>Varunadi Kashaya</i> against letrozole induced polycystic ovarian syndrome associate conditions in female wistar rats	2021	Rs. 26,50,000/-
9.	Evaluation of <i>Kalyanaka Ghrita</i> against rat model of Alzheimer's disease	2021	Rs. 22,20,000/-
10.	Evaluation of Anti-diabetic and hepatoprotective Activity of coded formulation AYUSH-64 in experimental Animal Models.	2021	Rs. 17,50,000/-
11.	Mechanistic investigation on the efficacy and mode of action of <i>Ashwagandha</i> and <i>Yograj Guggulu</i> , using a hybrid proteomics-chemo-informatics-network medicine approach for the treatment of Osteoarthritis.	2021	Rs. 1,37,05,808/-

12.	Evaluation of Cytotoxicity, Pharmacokinetics, Anti-Cancer Activity, Detailed Molecular Mechanisms of <i>Bhallatakadi Modaka</i> in In Vitro (2D and 3D Culture) and in vivo Tumor Xenograft Models.	2021	Rs. 38,81,600/-
13.	Deciphering Pharmacodynamics of Ayurvedic formulations (<i>Ayush Manas, Amrita Bhallataka Ghrita and Jyotismathi taila</i>) used in the treatment of neurodegenerative diseases by integrating reverse pharmacological approaches.	2022	Rs. 1,53,48,600/-
14.	Anticancer potential and molecular mechanism of <i>Rasa Sindhoor</i> on Ovarian cancer cells	2023	Rs. 41,64,880/-
15.	Evaluation of anti-cancerous potential, in silico pharmacological analysis and molecular mechanism of <i>Kanchanara guggulu</i> in ovarian cancer μ Tumor spheroids, and in vivo models	2023	Rs. 75,39,760/-
16.	Toxicity profile of <i>Rasamanikya Rasa</i> in experimental animals	2023	Rs. 87,70,400/-
17.	Aqueous and Hydroalcoholic Extraction of selected <i>Anukta Dravya</i> Plants and Evaluation of their Therapeutic efficacy for various diseases	2023	Rs. 1,15,84,320/-
18.	Development of Quality standards and SOP's for Formulation AYUSH-HR	2020	Rs. 3,25,000/-
19.	Rationalization of hydro-alcoholic extractive protocols for selected plant roots/rhizomes of Ayurvedic importance for strategic drug development".	2022	Rs. 27,00,000/-
20.	Development of Quality standards for formulation "AYUSH KVM Syrup	2023	Rs. 12,10,000/-
21.	Isolation of Phytoconstituents from some selected Ayurvedic medicinal plants.	2022	Rs. 46,00,000/-
22.	Development of SOP and Quality Standards for the formulation of AYUSH- 56	2022	Rs. 20,60,000/-
Total			11,26,25,448/-

2. List of ongoing projects pertaining to medicinal plants conducting at Dr. Anjali Chatterjee Regional Research Institute for Homoeopathy, West Bengal:

Sl. No.	Name of the project	Year	Sanctioned Amount (in Rs.)
1.	Laying down pharmacopoeial standards of drugs used in Homoeopathy on drugs <i>Hippophae rhamnoides, Sambucus nigra, Nigella sativa</i> and <i>Wrightia tinctoria</i>	2023-24	This is a regular assignment no special fund is allocated.
2.	Standardization of the homoeopathic drugs an in-depth yet pragmatic approach on drugs <i>Allium cepa</i> and <i>Calendula officinalis</i>	2023-24	50,86,440
3.	Comprehensive Standardization and chemical profiling of the homoeopathic drug <i>Ocimum sanctum</i> .	2023-24	6,79,800
Total			57,66,240

Annexure-VII

Details of ongoing projects supported by NMPB, Ministry of Ayush, under its Central Sector Scheme on Conservation, Development and Sustainable Management of Medicinal Plants in West Bengal State:

Sr No	Project No.	Project Title	Details of Organization	Sanctioned Amount (in Lakh)
1.	R&D/WB-02/2016-17	Bioactivity-guided fractionation of phytochemicals from medicinal plants against brain malignancy authenticated by DNA barcoding	Indian Institute of Engineering Science and Technology (Former BESU), Shibpur, Howrah-711103	37.546
2.	R&D/WB-04/2016-17	Introduction, evaluation and standardization of nursery technology of living fossil <i>Ginkgo biloba</i> (Ginkgoaceae) in Hill and Terai Agro – climatic zones of West Bengal	Uttar Banga Krishi Viswavidyalaya, Kalimpong-734301, Darjeeling, West Bengal	25.769
3.	R&D/WB-01/2017-18	Survey of pests and diseases of Medicinal Plants in West Bengal	Uttar banga Krishi Viswavidyalaya (UBKV), Pundibari-736165, Cooch Behar, West Bengal	34.01
			Bidhan Chandra Krishi Viswavidyalaya (BCKV), Kalyani- 741235, Nadia, West Bengal	34.01
4.	R&D/WB-03/2017-18	Medicinal orchid: A step towards population for commercial cultivation through collection, conservation and multiplication in Himalayan region of Darjeeling and Sikkim Himalayas	Uttar Banga Krishi Vishwavidyalaya, Regional Research Station (Hill Zone), Kalimpong	40.958

5.	WB-02/20 18-19	Assessment of production potentiality of secondary metabolites of some important medicinal plants under changed climatic condition in two important agroclimatic zones of West Bengal.	Bidhan Chandra Krishi Viswavidyalaya, P.O Krishi Vishwavidyalaya, Mohanpur, Nadia, West Bengal-741252	43.95
6.	WB-01/20 19-20	Bioactivity guided fractionation of selected Indian Medicinal Plants to isolate and characterize HCV RNA dependent RNA Polymerase (NS5B) inhibitors.	Calcutta University, Kolkata, 35, Ballygunge circular road, Kolkata Pin-700019	30.369
7.	WB-01/20 22-23	Chemotyping, quality assessment, in vitro propagation of Indian olibanum (<i>Boswelliaserrata</i> Roxb.) from Eastern part of India and their plantation in a new area	Ramakrishna Mission Vivekananda Centenary College, Rahara, West Bengal, Kolkata- 700118	22.51
Total				269.122