

**GOVERNMENT OF INDIA  
MINISTRY OF CHEMICALS AND FERTILIZERS  
DEPARTMENT OF PHARMACEUTICALS**

RAJYA SABHA  
STARRED QUESTION No. 27  
TO BE ANSWERED ON THE 05<sup>TH</sup> DECEMBER, 2023

**Potential of phyto-pharmaceutical products in the country**

**27 Dr. Sonal Mansingh:**

Will the Minister of **Chemicals and Fertilizers** be pleased to state:

- (a) whether India, with its rich biodiversity and abundance of flora and fauna, has immense potential to incorporate phyto-pharmaceutical products into the global value chain;
- (b) whether efforts are being made by Government to integrate traditional medicines and phyto-pharmaceuticals into mainstream public practices; and
- (c) whether adequate steps being taken to strengthen Research and Analysis and innovation to achieve global recognition for these medicines, if so, the details thereof?

**ANSWER**

**MINISTER FOR CHEMICALS AND FERTILIZERS & HEALTH AND FAMILY  
WELFARE**

**(DR. MANSUKH MANDAVIYA)**

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

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (c) OF STARRED QUESTION NO. 27 FOR REPLY ON 05.12.2023**

(a) to (c): Council of Scientific & Industrial Research (CSIR) under the Ministry of Science and Technology has informed that they are working in the area of phytopharmaceuticals drug development since 2017, right from the launch of Phytopharmaceutical regulations by Central Drugs Standard Control Organisation (CDSCO).

Under the CSIR-Mission Mode Project on phytopharmaceuticals, preclinical leads have completed IND-enabling studies, and are ready for IND filing. The phase-I of the CSIR Phytopharmaceutical mission (2017-2020) was focused at the captive cultivation of important medicinal plants of therapeutic value and the preclinical development of leads based on eight medicinal plants, *Cassia occidentalis* (CSIR-CDRI), *Murraya koenigii* (CSIR-IICB), *Dysoxylum binectariferum* (CSIR-IIIM), *Picrorhiza* (CSIR-IHBT & CDRI), *Glycyrrhiza glabra* rich extract (CSIR-CIMAP), *Cissampelos pareira* (CSIR-IHBT), *Tinospora cordifolia* (CSIR-CDRI), and *Bergenia ciliata* (CSIR-IIIM). The Mission has developed the capabilities and expertise in the CSIR system to work on phytopharmaceutical route of drug development. This phase has resulted in one IND filing to the CDSCO, for the plant, *Bergenia ciliata* (IIIM-160), the dual inhibitor of IL-6 and nociception, for management of pain in rheumatoid arthritis.

The phase-II of the CSIR-Phytopharmaceutical Mission (2021-2023) was focused at preclinical development of six leads based on *Murraya koenigii* (CSIR-IICB), *Dysoxylum binectariferum* (CSIR-IIIM), *Terminalia chebula* (CSIR-CDRI), *Acorus calamus* (CSIR-CDRI), *Crocus sativus* (CSIR-IIIM), and *Solanum nigrum* (CSIR-NIIST and CSIR-IICT). The three leads from this project are ready for IND filing to the CDSCO.

Besides, CSIR has also been working under the tripartite agreement between CSIR-DBT-ICMR towards preclinical development of phytopharmaceutical leads, *Cannabis sativa* and *Boswellia serrata* for pain management and rheumatoid arthritis treatment, respectively. Both these leads are currently under IND-enabling studies.

Further, CSIR, through its constituent laboratories is pursuing research on various aspects of medicinal plants and traditional medicines. CSIR-CIMAP, Lucknow is working on Indian system of medicine to scientifically validate and standardise these traditional medicines along with dissemination of knowledge associated with medicinal and aromatic Plants. Researches undertaken at CSIR-CIMAP has transformed into many patents and products, many of which have been adopted by small and medium scale industries. To name a few, NBRMAP-DB, an ayurvedic proprietary medicine for diabetes has been there in the market for the past few years. Similarly, 'Relaxomap' a pain relieving formulation based on traditional leads and validated scientifically is being marketed by more than three industries across the country.

CSIR-NBRI, Lucknow has also developed an herbal formulation to alleviate urolithic. An Indian patent has been filed and technology has been transferred to industry for its commercialization. This product is efficacious and cost effective than existing herbal brands against Urolithiasis & nephrolithiasis.

CSIR-CDRI, Lucknow has developed 4 herbal principles having medicinal importance which were patented and also commercialized, namely (i) Bacosides Enriched Standardized Extract of *Bacopa* for memory enhancement (ii) Gugulipid (Hypolipidemic), (iii) CONSAP (Contraceptive cream) and (iv) Reunion (for fracture healing and osteoporosis management).