

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

UNSTARRED QUESTION NO:4097
ANSWERED ON:17.12.2014
SURVEY IN FOREST AND HILLY AREAS
Lokhande Shri Sadashiv Kisan

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether any survey has been conducted by the Government in forest and hilly areas on the availability of bio-resources;
- (b) if so, whether any research has been conducted for genetic improvement of plant bio-resources;
- (c) if so, the details thereof and if not, the reasons therefor;
- (d) whether any efforts have been made by the Central Pharmaceuticals and Aromatic Institute to fulfill the demand of herbs in international market and earn foreign exchange therefrom; and
- (e) if so, the details thereof?

Answer

MINISTER FOR SCIENCE AND TECHNOLOGY AND MINISTER FOR EARTH SCIENCES (DR. HARSH VARDHAN)

(a) to (c): Yes, Madam. Council of Scientific and Industrial Research (CSIR) through its constituent laboratories conducts surveys and collects germplasm of the hilly region. These laboratories are CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow; CSIR-Institute of Himalayan Bioresource Technology (CSIR-IHBT), Palampur; CSIR- Indian Institute of Integrative Medicine (CSIR-IIIM), Jammu; and CSIR-North-East Institute of Science & Technology (CSIR-NEIST), Jorhat. The R&D activities are focused at genetic improvement of plant bio-resources through conventional breeding as well as biotechnological methods. Agro-technology of economically important plants, including medicinal and aromatic plants, thus have been developed. Efforts have also been made to develop process technology for phytochemicals.

Besides this, the Department of Biotechnology (DBT) is supporting the programme on Bioresource inventorisation and characterization both spatial and non-spatial for North East, Himalyan Region, Western Ghats, Eastern Ghats and Andaman and Nicobar Islands. The programmes of DBT are focused on characterization, inventorization and conservation for sustainable utilization.

Survey Units of Research Councils working under Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) have conducted surveys of forests and hilly areas of the country to inventorise and document medicinal plants as well as the local plants used in health traditions. The National Medicinal Plants Board (NMPB) of Ministry of AYUSH has supported research studies in the following areas:

- (i) Multiplication of Rare, Endangered and Threatened (RET) plants through Tissue Culture;
- (ii) Bioactivity guided fractionation studies
- (iii) Chemical and Molecular profiling
- (iv) Germplasm and Genotype identification and conservation.

Botanical Survey of India (BSI) surveys the plant diversity of the country – its documentation, including traditional knowledge associated with it at National, Regional, State and Ecosystem level and its conservation in different parts of the country. BSI also conducts floristic surveys for threat (anthropogenic/national) assessment and for inventorying of plants. So far BSI has explored more than 70% area in 17 States and 40-70% area in 9 States. BSI has been carrying out floristic surveys of both flowering and non-flowering plant resources of the country, which are regularly published in the form of district, state and national floras. 17,926 species of flowering plants have been identified in India, as on date.

(d) & (e): CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP) has developed improved agro-technology and plant varieties in several medicinal and aromatic crops, e.g. Ashwagandha, Sarpagandha, Kalmegh, Aloe, Satavar, Artemisia annua, Mints, Aromatic grasses, Rose, etc. These varieties are being cultivated by the farmers in the country. Further, CSIR-CIMAP is promoting cultivation of high yielding medicinal and aromatic plants in the country through trainings, demonstration, awareness camps, farmers` meet, etc. at regular intervals. As a result of such efforts, several commodities such as mentha oil, lemongrass oil, senna, etc. are being produced in the country for meeting domestic requirement as well as for export purposes.