

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

UNSTARRED QUESTION NO:3399  
ANSWERED ON:14.08.2001  
RESEARCH BY CSIR  
NANDIPAKU VENKATASWAMY

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

- (a) whether CSIR is functioning effectively to achieve the objectives for which it was established; and
- (b) if so, the projects/programmes taken up by the Council during 1999-2000 and 2000-2001 with special reference to research ?

**Answer**

MINISTER FOR HUMAN RESOURCE DEVELOPMENT AND SCIENCE AND TECHNOLOGY (DR. MURLI MANOHAR JOSHI)

(a) Yes Sir. CSIR is functioning effectively to achieve the objectives for which it was set up in consonance with national needs and priorities.

(b) CSIR undertakes research programmes & projects of value to diverse socio-economic sectors such as Aerospace, Biology & Biotechnology, Chemicals, Drugs & Pharmaceuticals, Energy, Ecology & Environment, Electronics, Food Processing, Housing & Construction, Leather, Materials, Metals & Minerals, and Mining. Besides the continuing projects/programmes, some of the research project/ programmes taken-up during the year 1999-2000 and 2000-2001 are given sectorwise below :

aerospace : design, fabrication and airworthiness testing of multi-role light transport aircraft; design, fabrication and testing of carbon fibre wings for LCA; hypersonic flow computations;

biotechnology : refurbishing of microbial type culture collection & gene bank ; genetic and physical map of V. cholerae 0139 genome- a global first; bio-enhancers for some commonly used antibiotics; DNA sequencing for study of Human genome diversity ; high yielding menthol varieties;

chemicals: coordinated programme on catalysis and combinatorial chemistry for materials, catalysts and other applications; synthesis of Zeolites for diverse applications ; conversion of natural gas to lower olefins; drinking water by nanofiltration;

drugs & pharmaceuticals : development and commercialisation of bio-active molecules; anti-malarial drugs development; herbal drug development ; diagnostic probes; anti-AIDS drugs by non-hazardous processes ;

ecology & environment : development of r-DNA for methane biosynthesis for organic waste-water treatment; pollution control in brick kilns; fly-ash – soil amendment ; cokeless cupola; studies on carrying capacity of regions; greenhouse gases, monitoring of toxic chemicals ;

electronics : design & fabrication of micro-wave plasma CVD system; high temperature super-conducting squid electronics; C-band microwave tubes for space applications in satellite transponders ; PC based high quality Hindi speech synthesis systems ;  
energy : technology for CNG operation of two-stroke engine for three-wheeler vehicles; eco-friendly mining methods ; coal slurries substitute fuel in retrofit oil fired appliances; life assessment of power plants;

food processing : process development for extraction of ginger oil directly from fresh ginger; bio-technologically modified nutrition supplements for school children ; pre and post harvest technologies for export of Indian fruits; controlled modified atmosphere storage ;

housing & construction : studying disaster affected buildings for recommending repair, flyash for highway embankment construction; rural road tracks ; rehabilitation of concrete structures by fibre reinforced plastic;

leather : leather technology mission to provide technology driven development grid for sustainable development of leather industry ; development of zirconium/aluminium syntans; non-enzymatic and sulphide free dehairing process; environment friendly technologies for liquid and solid waste from leather processing ; and

mining, metals & minerals : establishment and operation of technology proving plant for extraction of nickel from low assay chromite overburden.

