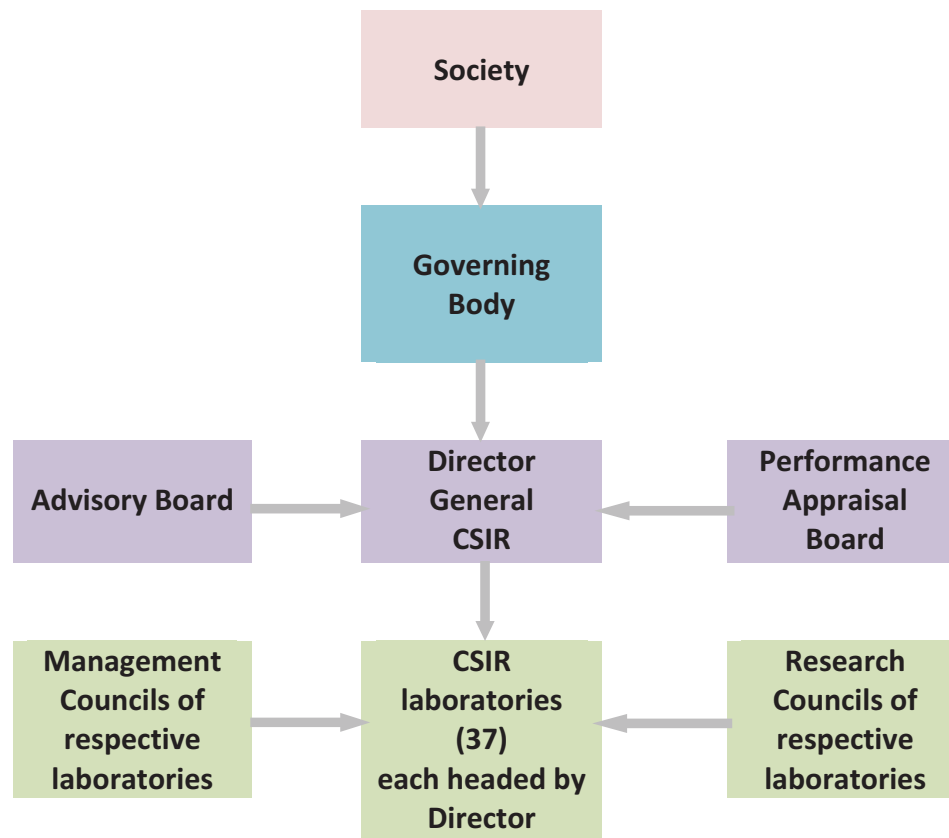


Chapter 1 - Introduction

Council of Scientific and Industrial Research (CSIR) was established in 1942 as an autonomous body registered under Societies Act, 1860 for scientific and industrial research and development (R&D). It is under administrative control of Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India.

1.1 Organisation structure of CSIR

The Society of CSIR comprises of 28 members and is headed by the Prime Minister of India, with the Minister, Science and Technology as its Vice President and Director General (DG), CSIR as the ex-officio Secretary. Functions of the Society include reviewing progress and performance of CSIR, giving policy directions and approving the annual report and yearly accounts of CSIR. The affairs of CSIR are administered, directed and controlled by a Governing Body (GB), which is headed by DG, CSIR. The DG, CSIR is also the Secretary, DSIR. The structure of CSIR is as under:

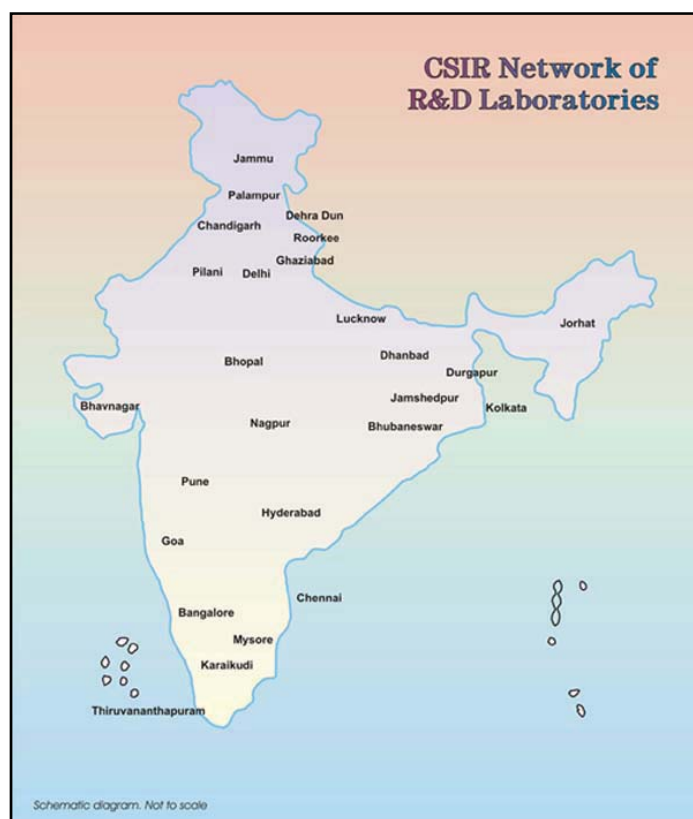


GB is assisted by Advisory Board and Performance Appraisal Board. Advisory Board provides science and technology inputs, reviews major R&D areas of CSIR and suggests new R&D, Networked/Mission oriented programmes. Performance Appraisal Board reviews the performance of CSIR laboratories and suggests remedial measures for improving their performance.

There are 37 laboratories/Institutes under CSIR, each headed by a Director, who in turn is assisted by Research Council and Management Council.

1.2 Network Projects

Government formulated the Tenth Five Year Plan¹ with high expectations from Science and Technology sector in contributing to the growth of the economy. The responsibility of CSIR, as one of the largest research organisations in industrial sector, in helping the industry to achieve higher growth rates and become competitive globally was duly recognised. As CSIR had developed knowledge networks across its constituent laboratories, the Planning Commission suggested that R&D efforts of CSIR should be consolidated and inter-institutional R&D projects should be taken up. Consequently, in Tenth Five Year Plan, CSIR adopted a new approach in selection and implementation of in-house research and development projects in its constituent laboratories by introducing network projects.



¹ Period from 2002 to 2007

Network project was defined as a project, where more than one CSIR laboratory collectively source inputs and implement the identified objectives together. The salient features of such a project were:

- Emphasis on networking of resources and capabilities of CSIR.
- Both competence and resources were pooled and tasks were undertaken by participating laboratories.
- Each network project was coordinated by one lead laboratory designated as the Nodal laboratory.
- Selected network R&D projects were multi-disciplinary in nature.
- The projects targeted substantial increases in value through inputs of science and technology in knowledge driven areas.
- The output of network projects was expected to generate new areas of business.

Planning Commission recommended a budgetary support of ₹2,430 crore for implementation of network projects, against which CSIR took up 54 network projects/programmes during Tenth Five Year Plan at estimated cost of ₹1,860 crore.

The list of 54 network projects along with nodal and participating laboratories is given at **Appendix I**.

1.3 Scope of Audit

The emphasis of Planning Commission on consolidation of R&D efforts of CSIR laboratories and new methodology adopted by CSIR for implementing R&D projects in networking mode, together with significant financial outlay involved, prompted us to undertake performance audit of network projects.

Performance Audit of network projects was conducted under Section 20(1) of Comptroller and Auditor-General's (Duties, Powers and Conditions of Service) Act, 1971. Of total 54 projects, three infrastructure development² projects with cost of ₹700 crore and four basic research³ projects with cost of ₹105 crore were excluded from the scope of audit. Of the remaining 47 projects, 27 projects, all relating to applied research, with total expenditure of ₹622 crore were selected for audit. Projects were selected based on their estimated cost, also giving preference to projects executed by different nodal laboratories. Activities of

² These projects related to setting up world class facility in drug research, development and manufacture of small civilian aircraft and acquisition of oceanographic research vessel.

³ The projects related to comprehensive traditional knowledge digital documentation and library, mathematical modelling and computer simulation, National Science Digital Library and consortium access to Electronic Journals

projects which could not be completed during Tenth Five Year Plan and were extended in the Eleventh Five Year Plan were also examined. Projects selected for audit are also given in **Appendix I**.

1.4 Audit objectives

Audit was conducted with a view to examine:

- whether these projects were planned and executed efficiently and effectively in accordance with the guidelines laid down for network projects;
- whether monitoring and evaluation mechanism of network projects was effective; and
- whether expected benefits from projects in terms of generation of external cash flow⁴, publishing of research papers and filing of patents were achieved.

1.5 Audit criteria

The criteria used to assess performance of network projects of CSIR were drawn from the following sources:

- Guidelines for Financial, Administrative, Scientific, Monitoring and MIS of Networked Projects (September 2004), referred to as the Guidelines hereafter;
- Targets, wherever set by CSIR for deliverables such as number of technologies developed, intellectual property generated, research papers published and amount of external cash flows generated, etc.;
- Minutes of meetings of various monitoring committees;
- Rules and regulations of CSIR e.g. Guidelines for Technology Transfer and Utilisation of Knowledgebase-2005; and
- Government of India rules and regulations.

1.6 Audit methodology

The Entry conference with CSIR was held on 21 November 2011. Audit was conducted between October 2011 and March 2012 during which records and documents at Nodal laboratories as well as participating laboratories were examined. Preliminary audit findings were issued to CSIR for their comments in April 2012. The audit conclusions after taking into

⁴ External cash flow is the total amount from various external sources like royalties, licensing, awards, contract R&D, consultancies, etc.

consideration replies of CSIR were discussed with the audited entity in an exit conference held on 19 October 2012. This report has been prepared after including results of discussions held in the exit conference. The revised report was issued to DSIR/CSIR on 30 October 2013 for their comments. Replies of CSIR on revised report were awaited (30 November 2013).

1.7 Structure of Audit Report

The findings, observations and recommendations of audit on selected network projects of CSIR are given in succeeding chapters, arrangement of which is as follows:

Chapter 2 contains an overview of audit findings in planning, execution and monitoring of network projects by nodal laboratories and participating laboratories.

Chapter 3 contains observations of audit on outcome of network projects, in terms of generation and commercialisation of technologies, generation of patents, publication of research papers, generation of external cash flow and capacity building.

Chapter 4 contains audit findings from specific projects, such as delays in establishment of infrastructure required for the projects, injudicious procurements, inadequate planning, incomplete activities, etc.

Chapter 5 contains conclusion of the report.

1.8 Acknowledgement

We acknowledge the cooperation extended by CSIR Headquarters and various laboratories during conduct of the performance audit.