

CHAPTER VII: GRANT-IN-AID SCHEME OF DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

7. Defence Grants-in-Aid Scheme of Defence Research and Development Organization

The performance of the Grants-in-Aid Scheme introduced in 1969 in DRDO to utilise the indigenously available research talent preferably in areas of interest to Defence was far from satisfactory. There were critical shortfalls in the management and monitoring of the Scheme such as improper budgeting process, awarding the project without arriving at viable and specific research objectives and not defining the quantitative and qualitative targets to be attained, there being no evidence to suggest that all the proposals received through online application were duly considered and properly evaluated to ensure fair competition and selection of best possible proposals. The project closure reports were not being called for by DRDO in majority of cases. DRDO did not ask the Grantee institutions to necessarily deposit the grants received under the Scheme in Savings Bank Account to ensure accrual of interest and to appropriately account for the refund of unspent balances, thus depriving the Government of accrual of such benefits. Though the equipment purchased out of the grants was the property of DRDO, their disposal, however, was left at the discretion of the Grantee institutions in the manner desired.

7.1 Introduction

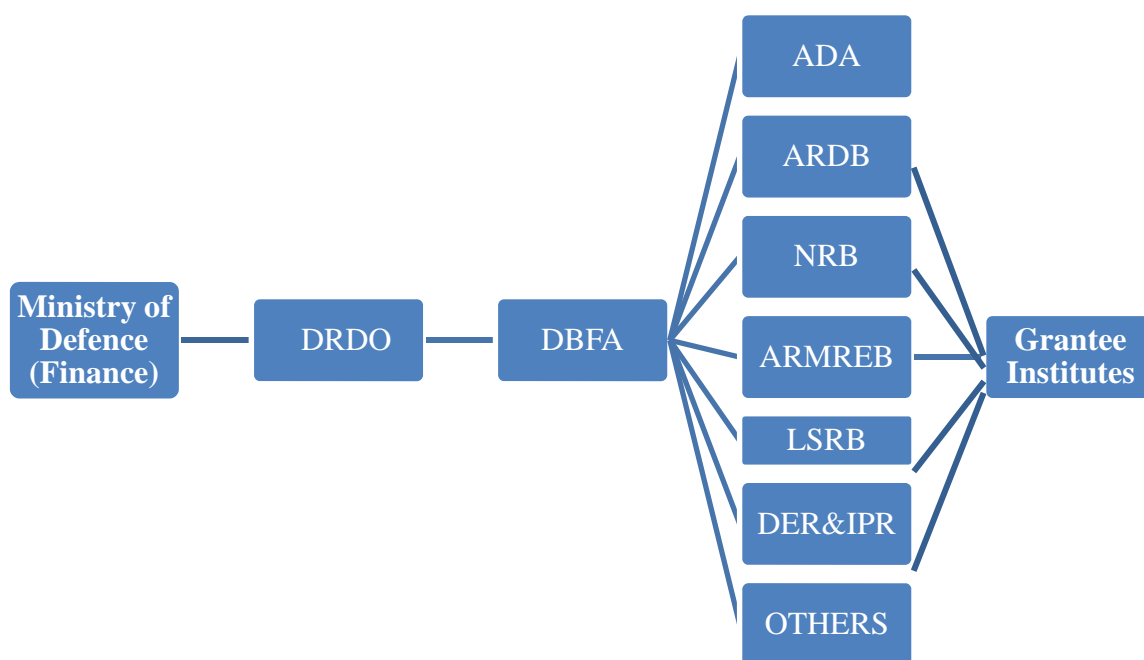
7.1.1 Scheme

Defence Research and Development Organization (DRDO) works under the Department of Defence Research and Development, Ministry of Defence (Ministry). The Ministry of Defence has instituted a "Defence Grant-in-Aid" Scheme (Scheme) in April 1969 so as to utilize the indigenously available research talent and facilities in IITs, Universities, Higher Technological Institute, Engineering colleges, Service Training Schools for undertaking research and development work on problems of scientific value and preferably in areas of interests to Defence. Under this scheme, grants are offered to scientists of standing attached to an approved research institution, university or college, department or laboratory attached to a reputed industrial firm.

Under the Scheme, DRDO receives funds from Ministry and disburses the same to seven agencies/disciplines/research boards/directorate which are

Aeronautical Development Agency (ADA)¹⁰³, Bangalore, Aeronautics Research and Development Board (AR&DB), Naval Research Board (NRB), Armament Research Board (ARMREB), Life Sciences Research Board (LSRB), Directorate of Extramural Research and Intellectual Property Rights (DER&IPR) and 'Others'¹⁰⁴. The budget is allotted by Ministry of Defence (Finance) to Directorate of Budget Finance and Accounts (DBFA), a directorate of DRDO, who in turn sub-allots it to the Research Boards (RBs) and DER&IPR, which is further allotted to Grantee Institutes. The same is depicted in the flowchart given below:

DEFENCE GRANTS-IN-AID SCHEME OF DRDO



7.1.2 Research Boards /Directorate of ER&IPR

The Ministry of Defence has constituted four Research Boards namely AR&DB (1971), NRB (1996), ARMREB (1997) and LSRB (1998) to cover the different focus areas under the respective disciplines and allowed the RBs

¹⁰³ ADA, Department of Defence R&D, Ministry of Defence headed by SA to RM is the nodal agency for the design & development of Light Combat Aircraft.

¹⁰⁴ Bharathiar University, Coimbatore, National Aerospace Laboratories Bangalore and Defence Institute of Advanced Technology (Deemed University), Pune

- (a) The Bharathiar University was established at Coimbatore by the Government of Tamil Nadu in February, 1982 under the provision of the Bharathiar University Act, 1981 (Act 1 of 1982). Its mission includes contribution to the advancement to knowledge through applied research leading to newer products and process.
- (b) CSIR-NAL mandate is to develop aerospace technologies with strong science content, design and build small and medium –sized civil aircraft, and support all national aerospace programmes.
- (c) The Defence Institute of Advanced Technology, previously called Institute of Armament Technology, is a Deemed University specializing in Armament Technologies and is located in Girinagar near Pune.

to formulate their own rules. The four Research Boards¹⁰⁵ process the project proposals, release the funds and are required to monitor the progress of the projects as per their Rules and Guidelines.

DER&IPR¹⁰⁶ was created in May 2000 and is responsible for technology development through basic and applied research in academic / research Institutions in relevant technologies, in general for the Nation and Defence technologies in particular, in tune with current research and development programmes in the world scenario through institutions outside the boundaries of DRDO, keeping in view the future growth.

7.1.3 Projects sanctioned by the RBs/DER&IPR

The details of projects sanctioned by the Research Boards and DER&IPR during the period from 2008-09 to 2012-13 along with the money value are given in Table 14 below:

Table-14: Details of Projects sanctioned during 2008-09 to 2012-13

(₹ in crore)

Name of the RB/Dte.	Total Projects	Total Value Sanctioned	No. of Projects less than ₹20 Lakh	Value	No. Of Projects between ₹ 20-40 lakh	Value	No. Of projects above ₹ 40 lakh	Value
AR & DB	235	59.32	171	22.30	40	10.97	24	26.05
NRB	155	49.04	37	5.27	78	22.20	40	21.58
ARMREB	58	13.88	34	4.06	20	5.34	4	4.48
LSRB	107	25.58	43	6.09	53	14.14	11	5.35
DER & IPR	420	260.85	223	28.68	115	33.64	82	198.52
TOTAL	975	408.67	508	66.40	306	86.29	161	255.98

Source: The details furnished by DRDO

7.1.4 Audit Objectives

The Audit of Defence Grants-in-Aid Projects covering the period 2008-09 to 2012-13 was carried out at DRDO Headquarters, New Delhi with a view to seek assurance that:

¹⁰⁵ AR&DB is chaired by Scientific Advisor to Raksha Mantri (SA to RM) and also includes Defence Secretary, Secretary, Defence Production, DG R&D (Aeronautical Systems) and Chief Controller Research & Development (Technology Management) {CCR&D(TM)} amongst its various members. While the other three Research Boards shall be chaired by a distinguished research scientist/manager, or an eminent person with relevant experience, not currently in DRDO and include DG and CCR&D relating to their assigned discipline.

¹⁰⁶ Grants-in-Aid scheme for funding Extramural research at academic Institutions and Research centres began well before the inception of DRDO. Upon the creation of the DRDO on 1 January 1958, the Extramural Research (ER) activities started performing under the aegis of the erstwhile Directorate of Training and Sponsored Research (DTSR). The relevance of IPR on the outcome of the Science & Technology projects under ER to various DRDO projects led to creation of separate Directorate of ER & IPR on 01 May, 2000.

- Proper procedure is being followed by Research Boards for awarding the projects to the institutions, including selection of Principal Investigators (PIs), in accordance with the framework prescribed in Government orders;
- There existed a sound financial management system conforming to General Financial Rules and internal regulations framed for managing the Scheme;
- Projects achieve intended results in the timeline prescribed;
- The progress of the projects is properly monitored by the specialist panels formed by the Research Boards.

7.1.5 Scope of Audit

Of the seven agencies/disciplines/research boards/directorate covered by the Defence Grants-in-Aid scheme of DRDO, four Research Boards *viz.* AR&DB, NRB, ARMREB and LSRB and one Directorate *viz.* DER&IPR of DRDO were covered under the scope of this audit. The data on Defence Grants-in-Aid projects sanctioned by RBs / DER&IPR during the period 2008-09 to 2012-13 was analysed and 299¹⁰⁷ projects were examined by audit, which includes 186 completed¹⁰⁸ projects.

7.1.6 Audit Methodology

The Audit of Defence Grants-in-Aid commenced with an entry conference held with the Chief Controller Research & Development (Resource & Management) {CCR&D (RM)} on 06th August 2013 at the DRDO Headquarters. The data on Defence Grants-in-Aid projects awarded to various Universities / Institutes / Organizations during the period 2008-09 to 2012-13 was analysed. Replies to the audit observation issued in the course of audit have been taken into account while finalising this audit para. The draft para was issued to Scientific Advisor to RM in July 2014. The Exit Conference was held on 25th September 2014 with CCR&D (RM) and CCR&D (Technology Management) wherein important audit findings were discussed.

7.2 Audit findings

7.2.1 Defence Grants-in-Aid governing rules

The Defence Grants-in-Aid Scheme is governed by General Financial Rules, 2005 (GFR) issued by Ministry of Finance, Government of India. The

¹⁰⁷ All the projects valuing over ₹ 40 lakh, 25 per cent of the completed projects costing between ₹ 20 lakh and ₹ 40 lakh and 10 per cent of the completed projects costing below ₹ 20 lakh were sampled for audit. The overall coverage included 299 projects with sanctioned value of ₹ 338.62crore, out of which 186 were completed projects with sanctioned value of ₹ 109.24crore.

¹⁰⁸ Audit has taken the completed projects where PDC was expired.

Ministry of Defence issued Rules for Defence Grants-in-Aid Scheme in April 1969. In addition to these rules, the RBs, also framed Rules for Defence Grants-in-Aid Scheme in terms of Ministry's sanction for creation of these Boards. Audit observed that each RB formulated its own set of rules which were not approved by the Ministry and were at variance on the issues of overhead charges, date of commencement of project after sanction, time schedule for submission of project closure report, database of project proposal received, specialist panels *etc.* as shown in the **Annexure-VI**.

The DER & IPR was following the Defence Grants-in-Aid Rules, laid down by the Ministry in April 1969, which were modified from time to time with corrigenda upto 31 March 1999. However, approval of the Ministry on these modifications was not made available to audit. The procedure followed by the Directorate is different as they do not have a Research Board to evaluate the project proposals. The proposals are sent to the respective DRDO laboratories for evaluation.

During exit conference in September 2014 the Chief Controller Research & Development (Technology Management) stated that the audit requirement of taking Ministry's approval was noted for compliance. It was also assured that a common Standing Operating Procedure (SOP) would be devised and the procedure be refined with the approval of competent authority.

RBs/DER&IPR Rules and project sanction letters not in conformity with GFR

The broad guidelines on principles and procedure were enumerated in GFR with the stipulation that the Ministry or Department concerned should lay down the rules or pattern of assistance under the rules. Contrary to this, the RBs rules and project sanction letters were at variance with guidelines of GFR and RBs were not even following their own formulated rules as discussed in the following instances:

- (i) As per Rule 215(3) (1) of GFR, apart from the requirement of submission of technical and financial reports on completion of the project or scheme, a stipulation should be made in such cases that the ownership in the physical and intellectual assets created or acquired out of such funds shall vest in the sponsor, whereas the grants sanctioning letters of RBs and DER & IPR stipulate that the same would vest with the Grantee Institution (GI).
- (ii) As per Rule 211 of GFR, the accounts of GIs shall be open for audit, by the C&AG, internal audit by the Principal Accounts Office of the Ministry or Department and Chartered Accountants of its own choice. However, as per rules of RBs and Defence Grants-in-Aid scheme, all accounts maintained by the GI would be subject to audit by their

respective auditors and on termination of the project accounts for the entire project/scheme duly audited by the auditors shall be submitted.

In order to achieve tangible results and smooth implementation of scheme in a fair and transparent manner, DRDO should frame rules strictly as per GFR.

7.2.2 Budget formulation

The Research Boards and DER & IPR formulate/forecast the budget and project it to the Directorate of Budget, Finance and Accounts (DBFA) under DRDO for allotment of funds. The DBFA consolidates the budget requirements of the Research Boards and DER & IPR and projects it to the Ministry. The Ministry allots the budget to DBFA, which is further allotted to the Research Boards and DER & IPR.

The overall year-wise budget allotment and expenditure under the Defence Grants-in-Aid scheme in respect of all the Research Boards and DER&IPR for the years 2008-09 to 2012-13 is as shown in **Annexure-VII**.

Audit observed fluctuating trend in allocation of budget over the five years (2008-09 to 2012-13) varying from ₹ 7.00 crore (2011-12) to ₹ 2.94 crore (2012-2013) for LSRB. Similarly, NRB budget fluctuated between ₹ 3.90 crore (2010-11) and ₹ 11.00 crore (2011-12).

On being pointed out in Audit (April 2014), DRDO (May 2014) stated that the budget demand is on the basis of cash outgo of committed liability and cash outgo for commitments to be entered and the money is released by the DBFA to RBs and DER&IPR on the basis of demand and expenditure pattern of previous year.

The reply is not tenable as during budget formulation the details of committed liabilities and the projects to be undertaken are not reflected. Further, unusual increase/decrease over previous year's budget also shows unrealistic preparation of budget.

However, during exit conference DRDO assured that in future the budgeting procedure would be reviewed and adequate planning would be done to forecast budget for the potential research activities.

In view of inconsistencies observed in audit and to promote sound budgeting process, all Research Boards/DER&IPR should formulate Budget Estimates to project their requirement of funds keeping in view the past trends of expenditure, on-going activities and projects to be undertaken. Proper budgeting and funds flow management ought to be done by DBFA.

7.2.3 Selection and sanctioning of projects

The Boards of all the disciplines are assisted by a number of specialist panels duly constituted by the Chairman of Board. Apart from DRDO's representatives, the specialist panels of NRB, AR&DB and ARMREB also have members from IITs, *etc.*, while those of LSRB, have members from Bhabha Atomic Research Centre (**BARC**), Indian Council of Medical Research (**ICMR**), Indian Council of Agricultural Research (**ICAR**), All India Institute of Medical Sciences (**AIIMS**), Shri Ramaswamy Memorial (**SRM**) University *etc.*

Rules 209(3) of GFR provides that award of grants should be considered only on the basis of viable and specific schemes drawn up in sufficient detail by the Institution or Organisation. The budget for such schemes should disclose, *inter alia*, the specific quantified and qualitative targets likely to be attained against the outlay.

As per extant procedure followed by the Research Boards, they notify the thrust areas through DRDO website and no viable and specific schemes were drawn up in sufficient details as required under GFR. The institutes submit their proposal to the Research Boards, which is deliberated upon by the members of the specialist panel of the respective Research Boards. The panel members analyse the proposals keeping in view the relevance to their field of research and give their recommendations, for further sanction of the projects by the Competent Financial Authority¹⁰⁹ (CFA).

The procedure followed by the DER&IPR is different as they do not have a Research Board to evaluate the project proposals. The proposals are either voluntarily submitted or the Principal Investigator (PI) is requested to submit proposals based on the DRDO's labs requirement to DER&IPR. Only those project proposals which are in the field of the thrust areas¹¹⁰ are selected and sent to the DRDO laboratories working in that field. Experts in the lab evaluate both technical and financial aspects and forward their recommendations, for further sanction of the projects by the CFA at DRDO HQ.

Audit scrutiny revealed that the RBs and DER&IPR had only notified the broad thrust areas on DRDO website instead of specific areas of research. Other than online notification, no formal Expression of Interest is invited by RBs and DER&IPR from prospective institutes for obtaining proposals. The

¹⁰⁹The competent financial authority is decided with reference to the delegation of financial powers within which the project cost/value falls.

¹¹⁰The thrust areas of the DER&IPR are Low Observable Technologies, Gallium Nitride Devices, Silicon Carbide based Technology, Technologies for Soldier support, Nanotechnology, Tera Hertz, Sensors, Laser, Functional materials, Solar Energy, Multiband Conformal Antennas, Gas turbine Technologies, Hypersonics, Nanophotonics, High Energy Materials, High Power Microwave, Network Centric Operations, Micro-Electro-Mechanical System, High Efficiency Aerodynamics and Active Protection System for Armoured Fighting Vehicles.

system of analyzing the project proposals is not satisfactory as except in LSRB, we did not find the database such as details of project proposals received and the Panel's recommendations for selection or rejection of the proposals and in turn intimation to disqualified institute with the reasons for rejection of the proposals by other three RBs and DER & IPR. This is especially significant given the fact that 37 out of 117 institutions to whom 299 projects were awarded belong to private organizations.

In the exit conference it was assured that the data base for project proposals received, reasons for acceptance/rejection by the Specialist Panel would be maintained by all RBs and DER&IPR.

In order to promote transparency and audit trail of the selection procedure, DRDO must maintain a database for the all project proposals received, selected, rejected and their comparative evaluation in order to vividly demonstrate that competition was fair and best grants-in-aid proposals were selected.

7.2.4 Time overrun

The Grants-in-Aid projects are normally undertaken with probable date of completion (PDC) ranging from two to five years. Rules framed by RBs and Defence Grants-in-Aid scheme provide that continuation of the projects beyond the original period will be permitted only under exceptional circumstances after due evaluation of the work done and due justification. Thus, the extension is required to be granted in cases where the circumstances leading to extension of time are beyond the control of the Grantee Institution (GI).

However, audit analysis in July 2014 found that on request of Principal Investigator (PI), the extensions were granted in a routine manner. The position of delayed cases is shown in Table-15 below:

Table-15: Delay in completion of Projects

Dte / Board	No. of Completed Projects Examined	Delayed Projects	Percentage of delayed projects	Period of Delay		
				Up to 6 months	6 to 12 month	More than 12 months
AR&DB	31	24	77.42	6	11	7
NRB	59	47	79.66	18	18	11
ARMREB	13	8	61.54	6	2	0
LSRB	42	20	47.62	8	11	1
DER&IPR	41	22	53.66	13	7	2
TOTAL	186	121	65.05	51	49	21

Source: Details obtained from the Project files of the RBs/DER&IPR.

Out of 186 completed projects examined, in 121 projects (65 per cent) the time schedule was not adhered to. Out of 121 delayed projects the reasons were analyzed in 36 projects and observed that

- 25 projects were delayed due to internal reasons for both DRDO and GIs as some key experiments could not be conducted due to delay in release of funds/completion of publication work/report writing, etc., which was clearly avoidable.
- 07 projects were delayed due to reasons beyond the control of grantee institutions, such as delay in getting equipment/delay in supply of specific items required for experimentation/accomplishing the enhanced scope of work by the monitoring committee, etc.
- In 04 cases no reasons were given by the PIs for the extension/delay.

While admitting the time overrun, DRDO in its reply stated that internet based software for timely submission of progress report, faster correspondence and monitoring of the project status is being developed.

The audit analysis found that in majority of cases delay was attributed to various internal reasons, which were clearly avoidable and extensions were given by RBs and DER&IPR in a routine manner, without seeking reasons on the request of Principal Investigator.

7.2.5 Cost overrun

Efficacy of project management is measured by the delivery of project output within the given time frame and cost. A scrutiny in November 2013 of 186 completed projects revealed that 52 projects (28 per cent) suffered cost escalation amounting to ₹ 1.27 crore as shown in Table 16 below:

Table-16 : Details of Cost Overrun in completed projects

Dte / Board	No. of Completed Projects Examined	Cost Overrun Projects	Percentage of Cost overrun cases in projects examined	Amount (₹ in Lakh)
AR&DB	31	4	12.90	12.40
NRB	59	14	23.73	36.22
ARMREB	13	1	7.69	2.09
LSRB	42	20	47.62	51.48
DER&IPR	41	13	31.71	24.63
TOTAL	186	52	27.96	126.82

Source: Data/ information derived from project files and the details furnished by DRDO

A detailed analysis of 33 cases out of 52, revealed during extended period the salary paid to the research staff and revision in salary coupled with cost of consumables/ chemicals/equipment caused upward revision in cost of the projects.

DRDO replied that the cost overrun is attributed to challenges relating to experiments and getting Junior Research Fellow/Senior Research Fellow.

The reply furnished is not tenable as their rules clearly stipulate that the Grantee Institution would be responsible for recruitment of Research Staff and considerable time is available with the institute once a project is recommended by the respective RBs/DER&IPR. Further, it is the responsibility of the RBs and DER&IPR to check the capability of the Grantee Institutes while sanctioning the project and to give sufficient time to them for getting Junior Research Fellow/Senior Research Fellow.

In the interest of timely completion of projects, DRDO should ensure that monitoring by Research Boards is made more stringent and effective to ensure adherence to laid down procedures and criteria of cost, time and deliverables. Exceptions to norms should be made only in rare unavoidable circumstances.

7.2.6 Non-reflection of interest earned on the Grants in Annual Accounts of Projects

As per the conditions enumerated in the Research Board's letter sanctioning the grants to the Grantee Institute (GI), the amount of grant is to be expended over a period of time and till such time the amount so received would be kept in a separate bank account of the Grantee institution and interest earned thereupon, if any, would accrue to the Research Boards. The DER&IPR is, however, not including similar clause or condition in its grant sanctioning letter.

The details relating to interest accrued or earned by the Grantee institutions and its reflection in their annual accounts is given in Table-17 below:

Table-17 : Details of interest accrued/ earned by the grantee institutions and its reflection in their annual accounts

Dte / Board	No. of Projects Examined	Savings Bank Account			No. of Projects in which grants were deposited in Current Bank Account	No. of Projects in which no information furnished	Percentage of projects wherein interest earned / accrued not shown
		Interest Reflected	Amount of Interest reflected (₹ in lakh)	Interest not reflected			
AR&DB	52	4	22.05	-	-	48	-
NRB	88	23	18.67	35	30	-	60.34
ARMREB	15	-	-	-	-	15	-
LSRB	46	2	1.00	5	39	-	71.43
DER&IPR	98	18	33.32	-	-	80	-
TOTAL	299	47	75.04	40	69	143	61.54

Source: Data/information derived from project files and the details furnished by DRDO

Audit scrutiny in November 2013 revealed that:

- There is ambiguity in the RBs rules/sanction letter for not showing the types of accounts where the money would be kept with the result that in 87 (47+40) projects (29 per cent) the grant was being deposited in Savings Bank Account (SBA) by the GIs and an interest of ₹ 75.04 lakh earned was reflected in the respective annual accounts of the GIs whereas in 40 projects, the interest accrued was not even reflected in the annual accounts.
- In 69 projects (23 per cent), the grant was being deposited in Current Bank Account (CBA) by the GIs and, hence, opportunity to earn interest was missed as the sanction letter did not disclose as to which bank account the amount of grants should be deposited.
- In respect of remaining 143 projects (48 per cent), the details relating to interest accrued/earned on the grants made under the scheme, type of bank account maintained by the GIs and reflection of interest earned on the grants in the annual accounts by the GIs were not made available to Audit.

On pointing out in audit, the DER&IPR replied that only those projects where the institute maintained a CBA, the interest was not reflected and that the point had been noted for future. The AR&DB, ARMREB and NRB all stated that a letter was being written to all the GIs for implementation/compliance of the audit observation. The LSRB stated that it is regularly insisting the institutes through sanction letters to operate the grant through a separate saving bank account where some institutes are complying and some are still not, probably due to strictly following of their own policy and is still insisting the same while sanctioning the new projects. However, the reply was not corroborated by its grant sanctioning letters issued during the period covered in audit.

Contrary to the above, DRDO in September 2014 further stated that IITs and some Institutions follow their own rules and deposit the grants in CBA. Further, DER&IPR has been subtracting the interest amount during subsequent release of funds.

The reply is not tenable as DRDO did not consider it necessary to instruct its RBs and DER&IPR to include the clause in the sanction letter itself to keep the amount in a saving bank account for proper accrual of interest. Further, since the grants are being given by the RBs and DER&IPR, the contention that the GIs are following their own rules is not agreed to.

Considering the different practices being followed, the RB's and DER&IPR Rules should specifically mention about opening of separate Savings Bank Account by the GIs and reflection of interest earned on the Grants-in-Aid account for proper accountal.

7.2.7 Improper system of Certification of Accounts

As per Rule 211(1) of GFR, the accounts of GIs shall be open for audit, both by the C&AG and internal audit by the Principal Accounts Office of the Ministry or Department. However, as per rules of RBs and Defence Grants-in-Aid scheme, all accounts maintained by the GIs would be subject to audit by their respective auditors. On termination of the project accounts for the entire project/scheme duly audited by the auditors shall be submitted.

Audit analysis disclosed that the GIs had got their accounts audited through their internal financial wings/accounts officers in 118 cases out of 186 completed projects. In the absence of audited accounts through Chartered Accountant (CA) or an external auditor, the assurance of fair certification of accounts is not established.

Table-18 : Details of submission of audited/unaudited accounts

Dte / Board	No. of completed Projects examined	Total amount of sanction (₹in crore)	No. of Projects in which accounts were audited by CA / external auditor	No. of Projects in which accounts certified by internal financial wing of GI	Percentage of accounts certified by internal financial wing
AR&DB	31	14.09	4	27	87.10
NRB	59	21.78	28	31	52.54
ARMREB	13	3.56	7	6	46.15
LSRB	42	13.30	14	28	66.67
DER&IPR	41	56.51	15	26	63.41
TOTAL	186	109.24	68	118	63.44

Source: Data/ information derived from project files and the details furnished by DRDO

In reply DRDO stated that though audited accounts are received from all the grantee institutions but submission of audited accounts are delayed due to audit of the institutions.

The reply is not tenable because the RBs' rules are also not in line with Rule 211(3) of GFR provisions for getting the accounts audited by an external auditor/CA. In the absence of which fair reflection of accounts maintained for public money is not established.

In order to enforce financial discipline, through external and independent audit, DRDO should ensure to keep in place stringent rules for certification of accounts by appropriate authority.

7.2.8 Delayed and incomplete Project Closure Reports

As per the Rules for Defence Grants-in-Aid scheme/the grant sanctioning letter; on completion / closure of the project a consolidated closure report will be submitted within 60 days in respect of AR&DB, ARMREB and DER&IPR and within 90 days in respect of LSRB and NRB with all necessary certificates and financial information. The closure report should give/entail complete/sufficient technical details of the project, software activity, final statement of accounts, list of equipment purchased under the project, request for retention of the equipment, information about refund of/Demand Draft in respect of the unutilized funds, achievements in relation to the originally stated objectives of the project and utilisation of results.

Despite the above provisions, we observed that Project Closure Reports were not being submitted by the PIs within the stipulated period as shown in Table-19 below:

Table-19 : Details of delay in submission of Project Closure Reports

Dte / Board	No. of completed projects	No. of projects where closure reports were submitted within the prescribed time limit	No. of Projects where Closure Reports were not furnished at all by PI	No. of Projects involving delay in furnishing of Project Closure Report	Range of delay		
					Less than 6 months	6months to less than 12 months	12 months or more
AR&DB	31	05	12	14	8	8	10
NRB	59	08	21	30	15	13	23
ARMREB	13	04	0	09	05	03	01
LSRB	42	09	7	26	15	10	08
DER&IPR	41	06	17	18	21	05	09
TOTAL	186	32	57	97	64	39	51
			154		154		

Source: Data/ information derived from project files and the details furnished by DRDO

Audit scrutiny in December 2013 revealed that:

- In 57 out of 186 completed projects (31 per cent) examined, the closure reports were not furnished by the PIs despite lapse of a period of over 12 months from expiry of the PDC. However in one project which was sanctioned in October 2007 and was to be completed by October 2009, GI did not furnish the closure report even after a lapse of five years (September 2014).

- In 97 out of 186 projects (52 per cent) the closure reports were furnished with delays ranging up to six months to over 12 months.
- In the absence of closure report or delay in the submission of progress reports, achievements in relation to the originally stated objectives of the project and effective utilisation of funds could not be ensured.
- In addition to delay in submission of Project Closure Report, GIs have submitted incomplete closure reports as in 73 cases, the inventory details were not submitted and in 85 cases, the details of unspent amount were not furnished.

While admitting the facts, DRDO in its reply stated that GIs had been requested to submit project closure reports by repeated reminders.

The reply furnished is general as action should have been taken to debar the institutes/universities from further Grants-in-Aid because closure report is a vital document which brings out research carried out and objectives achieved, in absence of which outcome of project could not be measured. Further, the disposal of equipments, refund of unspent balance and finalisation of accounts remains pending for want of project closure report.

In view of the stated significance, the RBs/DER&IPR should monitor to ensure timely submission of project closure report by the GIs.

7.2.9 Non-refund of unspent balance

As per the conditions enumerated in the Research Board's letter sanctioning the grants to the Grantee Institute (GI), the unspent balance, on completion of the project should be refunded by the GI. Further, as per the DER&IPR grant sanctioning letters, moneys remaining with the GIs at the close of the project shall be returned to DRDO.

Audit observed in December 2013 that only in 72 of the 186 completed projects (39 per cent), the GIs had refunded the unspent balance of ₹ 1.64 crore after completion of the projects. In respect of the 85 cases (45.7 per cent), the details of unspent amount were not available with DBFA/DRDO. It is the duty of the GIs to furnish the annual accounts every year and final accounts at closure of the projects but DRDO/DBFA have failed to enforce this provision leading to continuation of unspent balances with GIs.

DRDO in their reply stated that the grantee institutes refund the balance amount after completion of projects. However, in some cases the same is inordinately delayed.

The reply is not specific and only general comments have been offered as the concerned RBs/DER&IPR are responsible for ensuring that the unspent

balance, if any, on the completion of project is refunded within a specified time and deposited in the Government account.

In order to safeguard Government interest, it is recommended that the DBFA, RBs and DER&IPR should ensure that the unspent balances on the completion of projects are reflected and timely refunded while submitting final accounts by the GIs failing which there should be a provision for charging of penal interest.

7.2.10 Non-submission of inventory details and retention of the equipment by the GI

Rule 215(3)(1) of GFR stipulates that apart from the requirement of submission of technical and financial reports on completion of the project or scheme, a stipulation should be made in sponsored projects that the ownership in the physical and intellectual assets created or acquired out of such funds shall vest in the sponsor. Rule 215(3)(2) of GFR stipulates that on completion of the Projects or Schemes and the receipt of technical and financial reports, the Ministries or Departments should decide and communicate to the implementing agencies whether the assets should be returned, sold or retained by them. Rule 215(3) (3) of GFR stipulates that if the assets are to be sold, the proceeds there from should be credited to account of the sponsor. If the assets are allowed to be retained by the Institution / Organisation, the implementing agency should include the assets at book value in their own accounts.

Further, RBs' rules provide that all inventory details of the equipment purchased out of the Grants-in-Aid should be sent by the Grantee institutions to the RBs/DER&IPR in a prescribed format by reflecting the description of the equipment (whether expendable / non expendable) with cost thereof, date of purchase and name of the supplier, *etc.* along with certification by the Auditor of the Grantee institutions that necessary checks have been made and inventory has been found in order. The Rules also stipulate that the equipment / surplus stores will be the property of the respective Boards / Directorate, who will be responsible for their future transfer or disposal after culmination of the projects. The Board / Directorate at the written request of the grantee institution may agree to outright transfer of some or all equipment to the institution concerned based on the recommendation of the concerned Specialist Panel.

In 186 completed projects examined, the details of expenditure incurred on purchase of Plants and Equipment (P&Es) and information on P&Es not furnished by the Grantee institutions have been shown in Table-20 below:

Table-20 : Directorate/Research Board-wise details of the inventory of P&Es furnished by the GIs

Dte / Board	No. of completed Projects	Total amount of sanction (₹ in crore)	Amount catered for eqpt in the sanctions (₹ in crore)	Expenditure on purchase of eqpt (₹ in crore)	No. of projects in which inventory details not furnished by GI	Percentage of projects in which inventory details not furnished
(1)	(2)	(3)	(4)	(5)	(6)	(7)
AR&DB	31	14.09	7.02	5.71	16	51.61
NRB	59	21.78	10.07	9.10	18	30.51
ARMREB	13	3.56	1.43	1.61	2	15.38
LSRB	42	13.30	3.38	2.90	28	66.67
DER&IPR	41	56.51	25.91	26.28	9	21.95
TOTAL	186	109.24	47.81	45.60	73	39.25

Source: Data/ information derived from project files of DRDO

Audit scrutiny in December 2013 revealed that:

- Out of 186 completed projects, GIs did not furnish details of P&Es purchased, in 73 projects leading to inadequate accountal of grant money disbursed by DRDO;
- No stipulation was made in sanction letter of the sponsored project that the ownership of physical assets created would vest with the DRDO.
- In respect of 186 completed projects, the amount of ₹ 47.81crore was catered for the procurement of P&Es and against which an expenditure of ₹ 45.60 crore was incurred by the Grantee institution as reflected in their accounts.
- Contrary to the rule, the GIs requested for retention of equipment in 51 cases. Out of which permission for retention by RBs/DER&IPR was given in 31 cases and for the balance 21 cases the disposal decision was not given as per the records examined. In 135 projects, no details were available on record to show about the retention of equipment. The RBs/DER&IPR did not ensure the compliance to rules.

DRDO in their reply stated that P&Es purchased, duly countersigned by the Administrative Authority of the Institution are submitted by the GI in all the projects in Form GFR-19.

The DRDO's reply is factually incorrect as seen from Table-20 above, 73 GIs out of 186 GIs have not submitted inventory details in any form. Further, in 135 cases the GIs have not sought permission for retention of the P&Es and in these cases the RBs/DER&IPR did not enforce the GIs to furnish the request

for retention of P&Es. The RBs/DER&IPR also did not ensure to seek the details of P&Es purchased along with cost and also P&Es surplus to the requirement of GIs and the disposal of the same.

To ensure proper accounting and accountability, RBs/DER&IPR should maintain the database of P&Es retained by the GIs. The disposal of the equipment by the Grantee institutes should be bound by the condition that the value realized there from is invariably refunded to the Government and any transfer to other organizations is done only with the prior permission of DRDO. It should also be ensured that the detail of P&Es purchased along with value thereof is shown invariably by the GIs in the requisite format.

7.2.11 Outcome of Scheme

Under the Defence Grants-in-Aid Scheme, only projects or schemes of real scientific value and having Defence interest would be supported. Further, the rules stipulate that the result and any inventions or patents arising from the work will be the property of DRDO who will have the exclusive right to decide whether or not the result should be published and/commercially exploited and if so on what conditions. Transfer of Technology (TOT) for new output developed will be done with the objective of self-sufficiency and minimization of import in the field. As per rules of the Research Boards for Grants-in-Aid, the modality of TOT could be decided based on the recommendations of the Know-how Transfer/TOT Committee which could consist of concerned panel coordinator sponsoring the project, PI of the project, representatives of the Grantee Institution and representatives of the Research Board. The Know-how Transfer Committee would consider the modalities of TOT based on the applications received after advertisement in the leading newspapers.

Audit scrutiny revealed that no patents/TOT had ever resulted from the Defence Grants-in-Aid scheme of DRDO under any of the Research Boards/DER&IPR so far. As a result, tangible scientific value added by the grant-in-aid scheme in acquiring self-sufficiency in critical technologies needed for design and development of world class equipment/systems could not be confirmed in audit.

In reply DRDO stated that TOT is not applicable to RBs and DER&IPR because projects sanctioned are in basic research areas and normally do not result into development of technology. Steps are being taken to promote the filing of patents.

The reply is not specific as the projects of scientific value for the Defence needs are awarded to the institutes and universities and technical outcome of the research would be helping in the R&D activities of the DRDO. Further, their own rules provide for Patents/TOT, however, while releasing funds for

Scheme, no mention is made in the project sanction letter about the tangible output from the research done by the Universities/Institutes. Further, no effort is visible in bringing out a compendium on the completed projects and its circulation to the labs to make use of the research talent of the Universities/Institutes, etc.

7.2.12 Monitoring and Control of the Defence Grants-in-Aid scheme

The Ministry of Defence introduced the Defence Grants-in-Aid scheme for DRDO in April 1969. During audit scrutiny we observed that no regular evaluation of the functioning and management of Research Boards and the DER&IPR was carried out. Since, inception of the scheme, only one review meeting chaired by the SA to RM, was held in August 2011, wherein it has been *inter alia* suggested that:

- Effective review mechanisms need to be put in place;
- Mechanism to avoid duplication of sanctioned projects within the boards and DER&IPR should be evolved;
- There is an absolute necessity for the boards to bring out a compendium on the completed projects and circulate among the labs for proper utilization;
- A Central database on the projects, shared through DRONA¹¹¹ is to be created for DRDO and shared.

In the absence of any review of the scheme by the Ministry/DRDO, we observed deficiencies in the system of proper budgeting, selection and sanctioning of project without consolidated and comprehensive database, delay in completion of projects, cost overrun, non-reflection of interest earned from the grants, retention of P&Es by the GIs without the approval of RBs/DER&IPR and lack of data on the outcome of research activities undertaken under the Scheme.

While admitting the fact, DRDO stated that the effective review mechanism is already in place and measures for improvement will be adopted.

The reply is not tenable because there was no fixed timeframe decided to accomplish stated suggestions, so no action has been taken for effective review of the Scheme.

7.3 Projects sanctioned by DER & IPR

Upon the creation of DRDO on 01st January 1958, the Extramural Research (ER) activities were performed under the aegis of the erstwhile Directorate of

¹¹¹DRONA stands for DRDO Rapid Online Network Access *system*, comprising of a Mail Server and Firewall Server.

Training and Sponsored Research (DTSR). The relevance of Intellectual Property Rights (IPR) on the outcome of Science & Technology projects under ER to various DRDO projects led to creation of separate Directorate of Extramural Research & Intellectual Property Rights (DER&IPR) on 01st May 2000. However, Ministry's sanction of creation of this Directorate was not made available to audit. Irregularities noticed in some of the projects sanctioned by the DER&IPR are discussed below:-

Case-I: Irregular Creation of Centre of Excellence-Advanced Centre for Research in High Energy Materials (ACRHEM) at University of Hyderabad

The Rules for Defence Grants-in-Aid provide that the R&D organization cannot entertain applications for assistance to build up basic facilities in a research lab.

Based on a proposal received from University of Hyderabad (UOH) for setting up of an advanced centre of research in High Energy Materials, Ministry of Defence sanctioned in March 2005 grants-in-aid of ₹ 34.79 crore to University of Hyderabad (UOH) for creation of Advanced Centre for Research in High Energy Materials (ACRHEM), as a separate entity of UOH. The project was to be completed by March 2010 which was extended up to May 2011. The sanction catered ₹ 13.35 crore for equipment, ₹ 2.04 crore for building, ₹ 2.50 crore for library, ₹ 4.78 crore for maintenance and balance ₹ 12.12 crore for various administrative costs and overheads.

A Memorandum of Collaboration (MOC) was entered into between DRDO and UOH on 09 March 2005 for five years. However, the Phase-I was completed in May 2011 after incurring expenditure of ₹ 38.99 crore against the grant of ₹ 34.64 crore, thereby incurring excess expenditure of ₹ 4.35 crore without obtaining prior approval of the Ministry.

Audit scrutiny in November 2013 revealed the following:

- The building/infrastructure was created at a cost of ₹ 4.47 crore from the Defence Grants-in-Aid which is contrary to the rules of the Scheme.
- There has been time over run of more than a year and excess expenditure of ₹ 4.35 crore over & above the sanctioned amount.

In reply, DRDO while furnishing the comments on creation of building and infrastructure stated that the proposal is within the framework of the Scheme and necessary action was being undertaken for obtaining Ministry's approval for excess expenditure.

The reply is not tenable because as per rules grant is to be given for research project to institutions having the necessary basic infrastructure. However, autonomous Centre of Excellence has been created in a University as a separate entity by building up basic facilities/infrastructure in contravention to the rules for Defence Grants-in-Aid scheme. Further, excess expenditure of ₹ 4.35 crore was incurred over and above the sanctioned cost.

Case-II: Short closure of project

Rule 21 of GFR stipulates that no authority should exercise its powers of sanctioning expenditure to pass an order which will be directly or indirectly to its own advantage.

The Defence Grants-in-Aid projects are required to be awarded to the institution where basic research facilities for the work and staff with necessary competence and relevant technical background are available.

Based on the discussion held in June 2010 between representatives of CR RAO Advanced Institute of Mathematics, Statistics & Computer Science (AIMSCS) Hyderabad and DER&IPR (DRDO HQ), the Secretary Defence (R&D) in July 2010 sanctioned the project on Multiple Input Multiple Output (MIMO) Radar to be undertaken by AIMSCS¹¹² at a cost of ₹ 2.88 crore for three years with PDC of September 2013 the installment of ₹ 90.30 lakh for first year was released to the institution in September 2010.

However, based on Project Advisory Committee (PAC)¹¹³ recommendations, the Chief Controller Research & Development (CCR&D) in June 2012 short closed the project on the grounds of scarcity of the manpower.

Audit scrutiny in October 2013 revealed the following:

- The project was sanctioned by Secretary Defence (R&D), however, it was short closed by the lower Competent Financial Authority *i.e.* CCR&D in DRDO HQ on the grounds of scarcity of the research fellows, which proves that availability of staff with necessary competence and relevant technical background as required under rule was not ensured. The short-closure of the project not only resulted in non-achievement of the desired objectives of the project, but also in wasteful expenditure to the tune of ₹ 62.05 lakh.
- Incidentally, it was seen that the project was sanctioned by the Secretary Defence (R&D)/DG DRDO/SA to RM, who also happened to be the President of the Governing Body of the Institute and Vice President of the association responsible to run the affairs of the institute.

¹¹² A private institute registered under the Andhra Pradesh Societies Act, 2001

¹¹³ Project Advisory Committee of DER&IPR, DRDO

In reply, DRDO stated that when the project was awarded it had experts in the area of research but the PI left the institute, which adversely affected the project. The efforts were made to identify alternative expert but did not work. The effort was also made to augment resources from the lab but project could not be progressed. Further, the Secretary, Defence (R&D)/DG DRDO/SA to RM was the President of the Society, which is purely honorary position bestowed on a renowned scientist and he is not involved in day to day functioning of the society.

The reply is not acceptable as in terms of Rules of the Scheme, the Project would be sanctioned only to Universities/Institutions where basic facilities in the form of equipment/personnel exist. In contravention of this rule the project was awarded to institute, which did not have research fellows and the project was short closed without taking it to a logical conclusion. The fact remains that Ministry sanctioned and released funds to a Private Society, which could not ensure retention of adequate and suitable research fellows so as to complete the sanctioned project, resulting in wasteful expenditure due to short closure of the project. Further, the sanctioning authority of the project was holding the post of the President of the Governing Body of the Institute.

Case-III: Sanctioning of project for a study

Ministry sanctioned a project on “Science and Technology Dimensions of National Security” for a five years’ duration at a cost of ₹ 4.72 crore in April 2008 to National Institute of Advanced Studies (NIAS) Bangalore, a private institute registered under the Karnataka Societies Registration Regulation Act 1960. The PDC of the project was up to June 2013 which was later extended by one year up to June 2014. The scope of the project entailed study, analysis and reporting on the Science & Technology capabilities on strategic areas of other countries as follows:

- Assessment of S&T Capabilities.
- Updating and Consolidation of the NIAS work on Ballistic Missiles;
- Nuclear Weapons and their role in National Security;
- Identification and assessment of sensitive installations using openly available satellite images and other data; and
- Organizing dialogues and discussions with National and International Specialists Groups on security and strategy related issues.

Audit scrutiny in November 2013 revealed the following:

- The Defence Grants-in-Aid scheme was instituted for undertaking research & development work on areas of scientific value and preferably of interest to Defence. However, sanctioning of the project for carrying

out study on the topics mentioned above under Defence Grants-in-Aid Scheme was not justified.

- The sanctioning of study project does not fall in the mandate of DER&IPR.

In reply, DRDO stated that these study projects are of strategic importance to country's security, which helps in understanding the science and technology presently available and those being acquired by the adversaries.

The reply is not tenable because the Institute of Defence Studies and Analysis (IDSA), an autonomous body funded by the Ministry of Defence is dedicated for research and policy relevant studies on all aspects of defence & security. Further, as the objective of Defence Grants-in-Aid scheme is to utilize the available research talent in the country for undertaking research and development work of scientific values and hence carrying out work relating to general areas of concern does not fall in the mandate of DER&IPR.

Case-IV: Creation of DRDO Chairs and DRDO Fellowships

Rules for Defence Grants-in-aid scheme do not provide for creation of Chairs and Fellows and making payments out of the Defence Grants-in-Aid. However, in disregard to this, DRDO created Chairs and Fellows in the name of former Scientists of DRDO.

Case A

The Ministry of Defence in August 2007 sanctioned creation of four Chairs¹¹⁴ in the names of former Scientific Advisors to Raksha Mantri, with each having a term of three years and an estimated expenditure of ₹ 20.46 lakh per annum on honorarium to DRDO Chair, stenographic assistance, payment to Research Fellows, travel assistance, cost of consumables, etc., later revised to ₹ 27.69 lakh per annum in November 2010 to be booked under relevant Head¹¹⁵ of the Scheme. Thereafter, DRDO made functional three of these Chairs at DRDO laboratories/Establishments as per the details given in **Annexure-VIII**

Further, Ministry of Defence in May 2012 sanctioned creation of 10 Chairs¹¹⁶, 20 Dr. Raja Ramanna DRDO Distinguished Fellows and 30 DRDO Fellows at honorarium of ₹ 80,000/-, ₹ 75,000/- and ₹ 65,000/- per month respectively. The expenditure was to be debited to Major Head 2080-Defence Services-R&D, Minor Head 110 Stores.

¹¹⁴ (a). Padma Vibhushan Dr DS Kothari (1 chair) (b). Prof S Bhagavantham (1chair) (c). Dr BD Nagchaudhuri (1 chair) (d). Padma Bhushan Prof MGK Menon (1chair)

¹¹⁵ Major Head 2080-Defence Services-R&D, Minor Head 004 Research/R&D Sub Head (C)-Extramural Research (Grants-in-aid head).

¹¹⁶(a) Padma Vibhushan Dr DS Kothari (3chairs) (b). Prof S Bhagavantham (3chairs) (c). Dr BD Nagchaudhuri (3chairs) (d). Padma Bhushan Prof MGK Menon (1chair)

Audit scrutiny in November 2013 revealed following irregularities:

- The sanctioning of Chairs and Fellowships did not fall in the ambit of Defence Grants-in-Aid Scheme.
- There were other irregularities like unaudited annual accounts and interest accrued on the funds was not reflected in the Accounts as shown in **Annexure-VIII**.

In reply, DRDO stated in September 2014 that the Chair appointees are required to be familiar with DRDO and its programmes. So, Chair appointments are recognition of noted scientists made with a view to benefit from their immense scientific knowledge and experience. DRDO further stated that they had taken remedial action by funding of Chairs under Stores (Revenue) Head.

The reply is not tenable as the Minor Head 110 (Store) covers expenditure on stores *etc.* for all activities related to Projects, Programmes, Schemes, Maintenance of existing infrastructure facilities, Technical literature, Stores supplied by Services, Ordnance Factories, and Information Technology related activities, *etc.* However, the expenditure on chairs included honorarium to DRDO Chair, stenographic assistance, payment to Research Fellows, travel assistance, cost of consumables, *etc.* The expenditure on creation of chairs was thus not accounted for correctly.

Case B

The DRDO in April 2005 and May 2005 sanctioned an amount of ₹ 3.00 lakh and ₹ 2.00 lakh to the IIT Kanpur as an 'Outright One Time Grant' under the scheme, towards creation of Prof. Srinivasa Sampath Chair. The grant was paid to the Institute in May 2005 and August 2007.

Audit scrutiny in November 2013 revealed that above payments were not authorised under the Rules for the Grant-in-Aid Scheme, which do not cover grants for creation of basic facilities or personal payments to members of GI without assigning any task or project.

The DRDO, in reply, stated (December 2013) that points raised by audit were noted and actions needed for resolving the issues would be undertaken.

Thus, DRDO agreed to the audit contention that grant made to a chair created at IIT Kanpur was irregular.

Conclusion

The Scheme was introduced in 1969 with a view to utilize the indigenously available research talent preferably in areas of interests to Defence. The

Annual Budget of the Scheme for four RBs and DER&IPR rose from ₹54.50 crore in 2007-08 to ₹ 86.67 crore in 2012-13.

Audit observed that there were critical shortfalls in the management of the Scheme such as improper budgeting process, awarding the project without arriving at viable and specific research objectives and without defining the quantified and qualitative target attained against the outlay, circulation of the Scheme so as to ensure adequate response from all interested parties and there was no evidence to suggest that all the proposals received through online applications were duly considered and properly evaluated to ensure fair competition and selection of best possible proposals. The Project Closure Reports, which contain vital information on objectives achieved, is not being called for by DRDO in majority of cases. DRDO did not consider it prudent to ask the Grantee Institutions to necessarily deposit in Savings Bank Account all grants under its Grants-in-Aid scheme and appropriately account for the refund of unspent balances, thereby depriving the Government of accrual of such benefits. The disposal of the equipment to a major extent was left at the discretion of the Grantee institutions in the manner desired, despite these being the property of DRDO. On all these issues, recommendations have been made by audit.

In light of above, the Scheme is far from satisfaction and requires a review at Ministry's level.