GOVERNMENT OF INDIA
MINISTRY OF DEFENCE
DEFENCE RESEARCH & DEVELOPMENT ORGANISATION
LOK SABHA
UNSTARRED QUESTION NO.969
TO BE ANSWERED ON THE 22ND JULY, 2016

DRDO PROJECTS

969. SHRI RAMSINH RATHWA:

Will the Minister of DEFENCE j{kk ea=h
be pleased to state:

(a) whether major projects of the Defence Research and Development Organisation (DRDO) are running behind schedule;

(b) if so, the details thereof and the reasons for delay in completion of these projects, project-wise;

(c) the details of funds required, allocated, released and utilized for the purpose during each of the last five years and the current year, project-wise; and

(d) the corrective measures taken / being taken by the Government in this regard?

A N S W E R

MINISTER OF DEFENCE (SHRI MANOHAR PARRIKAR)
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(a) to (c): Major projects of Defence Research and Development Organisation (DRDO) which are running behind schedule, are given at Annexure 'A'.

(d) The following corrective measures have been taken/being taken to address the issues of delay in completion of ongoing projects:-

- **Consortium approach is being used for design, development and fabrication of critical components.**

- **Three-tier project monitoring approach has been instituted in the major projects.**

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- **Project Monitoring Review Committee (PMRC) and Project Appraisal and Review Committee (PARC) meetings are held regularly to monitor the progress of ongoing projects.**
- **Concurrent engineering approach has been adopted in technology intensive projects to minimize time-lag between development and productionisation of the systems.**
- **Information Technology and modern management techniques are being applied.**
- **Encouraging joint funding by users to ensure their commitment towards earliest completion.**
- **Organisational re-structuring:**
  - **Decentralization of authority and responsibility with labs/cluster Director Generals (DGs)**
  - **High empowerment and accountability**
- **Involvement of Services & Production Partners during development process and reviews - To know their views in advance including finalisation of GSQRs.**

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ANNEXURE 'A' REFERRED IN THE REPLY GIVEN IN PARTS (a) TO (c) OF LOK SABHA UNSTARRED QUESTION NO. 969 FOR ANSWER ON 22.7.2016

(a) to (c): Project-wise details, regarding original and revised date of completion, sanctioned cost, expenditure made during last five years and current year (up to 30 June) along with reasons for delay in completion of major ongoing projects of Defence Research and Development Organisation (DRDO) are given in following table:

Sr No	Project	Probable Date of Completion (PDC)		Sanctioned Cost (Rs in Cr)	Expenditure made during					
		Original	Revised		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1.	**Light Combat Aircraft (LCA), Phase-II** **(Sanction for expenditure beyond PDC has been obtained from Hon'ble RM)*	Dec 2008	Mar 2015*	5777.56	449.90	429.38	268.99	298.17	280.91	185.02
	Reasons for Delay: • Re-designing of Composite Wings. Change in build standard & aircraft fabrication. • Technology denial by technological advanced countries • Inadequate production facility at HAL. At present, HAL is achieving production of 4 aircraft/year instead of 8 aircraft/year • Un-anticipated complexities faced in structural design. • Lack of infrastructure and skilled manpower in country. *(Initial Operational Clearance (IOC-I) was achieved in Jan 2011. Initial Operational Clearance-II was obtained in Dec 2013, wherein "Release to Service Certificate" was handed over to the Chief of Air Staff by Raksha Mantri in Bengaluru. LCA has recently been inducted into Indian Air Force).*									
2.	**Naval Light Combat Aircraft (LCA, Navy) Phase-I** **(Sanction for expenditure beyond PDC has been obtained from Hon'ble RM)*	Mar 2010	Dec 2014*	1714.98	177.56	283.07	144.50	74.97	124.12	18.87
	Reasons for Delay: • Country attempting design and development of a carrier borne naval aircraft for the first time. • Technology challenges have been significantly higher than originally anticipated. • New material development for landing gear & arrester hook system took longer time than anticipated. • Un-anticipated complexities faced in structural design. • Delay in development of LCA Air Force led to delay in LCA Navy due to shared resources. *(Shore based test facility has been commissioned).*									

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<table>
<tr><th rowspan="2">Sr No</th><th rowspan="2">Project</th><th colspan="2">Probable Date of Completion (PDC)</th><th rowspan="2">Sanctioned Cost (Rs in Cr)</th><th colspan="6">Expenditure made during</th></tr>
<tr><th>Original</th><th>Revised</th><th>2011-12</th><th>2012-13</th><th>2013-14</th><th>2014-15</th><th>2015-16</th><th>2016-17</th></tr>
<tr><td rowspan="2">3.</td><td rowspan="2">Aero Engine Kaveri
(Sanction for expenditure beyond PDC has been obtained from Hon’ble RM)</td><td>Dec 1996</td><td>Dec 2009</td><td>2839.00</td><td>44.62</td><td>15.39</td><td>10.56</td><td>4.18</td><td>7.27</td><td>0.05</td></tr>
<tr><td colspan="10">Reasons for Delay:
Technology difficulties faced during development due to complexities of engine system.
Non availability of raw material indigenously.
Lack of test facilities, like High altitude test facility, full scale Fan, Compressor, Combustor & After burner test facility.
Denial of critical systems and components.
Introduction of Kaveri core (Kabini) engine development and its altitude testing and Flying Test Bed (FTB) trials, which was not originally included.
(Dry variant of Kaveri Engine is planned to use as power plant for Indian Unmanned Strike Air Vehicle).</td></tr>
<tr><td rowspan="2">4.</td><td rowspan="2">Air Borne Early Warning & Control (AEW&C) System
(Sanction for expenditure beyond PDC from Hon’ble RM is in process)</td><td>Oct 2011</td><td>Jun 2016</td><td>2275.00</td><td>181.46</td><td>157.85</td><td>81.87</td><td>123.45</td><td>235.27</td><td>53.16</td></tr>
<tr><td colspan="10">Reasons for Delay:
27 Months delay due to projection of additional operational requirements by IAF and finalization by issue of mutually agreed Operational Requirements compliance document.
Due to additional requirement of Certification of aircraft for operation under icing certification which in turn has necessitated additional design work on Aircraft and Mission Systems thereby delaying the delivery of aircraft.
A delay of 12 months in reception of first aircraft and 14 months delay in delivery of 2nd aircraft
Estimated 12 months delay in delivery of 3rd aircraft.</td></tr>
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Sr No	Project	Probable Date of Completion (PDC)		Sanctioned Cost (Rs in Cr)	Expenditure made during					
		Original	Revised		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
5.	**Long Range Surface-to-Air Missile (LR-SAM)**	May 2011	Dec 2016	2606.02	20.28	45.09	68.17	51.78	156.58	11.06
		Reasons for Delay: • Mid-way major upward revision of performance requirements by IAI, Israel (Design Authority) • Number of new technologies developed first time. • Delay in Rear Section development & production due to design change of Servo Pneumatic to Electro-mechanical by the prime contractor to meet missile performance in all envelops. • Technological challenge of Combustion Instability of Rocket Motor which took long time								
6.	**Helicopter Version Third Generation Anti Tank Guided Missile, Helina**	Dec 2010	Dec 2017	72.00	9.65	7.79	4.10	6.44	6.93	2.64
		Reasons for Delay: • Project was initiated with the aim of using the hardware of Nag Missile. Since it is air-borne launcher, the propulsion system with four canted nozzles was found not suitable by the User. Hence, the configuration and the propulsion system were re-designed in 2013.								
7.	**Air-to-Air Missile, Astra**	Aug 2012	Dec 2016	955.00	49.24	39.97	28.84	22.80	27.23	7.66
		Reasons for Delay: • Redesign of aerodynamic configuration and reconfiguration of propulsion unit to achieve stability at launch. • Delay in development of smokeless propellant, High band width electro-mechanical actuator system, and Compact seeker of smaller diameter. • Delay in availability of critical components								
8.	**Advanced Light Weight Torpedo**	Aug 2013	Dec 2017	194.53	10.63	14.27	9.01	12.95	11.56	0.38
		Reasons for Delay: • Development of 120 kW warshot battery has taken time by the indigenous development agency HBL, Hyderabad • Non availability of trial platform. • Restriction in time slots for sea trials.								

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Sr No	Project	Probable Date of Completion (PDC)		Sanctioned Cost (Rs in Cr)	Expenditure made during					
		Original	Revised		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
9.	**155mm/52 Caliber Advanced Towed Artillery Gun System (ATAGS)**	Sep 2015	Mar 2017	247.90	-----	0.01	2.23	13.46	15.93	0.88
		Reasons for Delay: • The PSQR was received in Nov 2014, more than two years after the sanction of project and it necessitated reconfiguration and re-design of various systems. • Delay in realization of ordnance and recoil system. • Delay in placing supply orders due to procedural issues for manufacturing of sub-systems.								
10.	**Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) 'Rustom-II' and Development of Aeronautical Test Range (ATR) at Chitradurga**	Aug 2016	Feb 2017	1649.41	2.55	21.68	23.40	93.64	98.53	42.87
		Reasons for Delay: • Design modifications/iterations in sub-systems which led to development delays. • Delay in availability of certified LRUs and associated software. • Export denial of critical items and delay in procurement of imported payloads. • Delay in completion of ATR facility at Chitradurga.								

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