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**STANDING COMMITTEE ON DEFENCE
(2019-20)**

(SEVENTEENTH LOK SABHA)

MINISTRY OF DEFENCE

**DEMANDS FOR GRANTS
(2019-20)**

**ORDNANCE FACTORIES, DEFENCE RESEARCH AND DEVELOPMENT
ORGANISATION, DIRECTORATE GENERAL OF QUALITY ASSURANCE AND
NATIONAL CADET CORPS**

(DEMAND NOS. 19 AND 20)

FOURTH REPORT



LOK SABHA SECRETARIAT

NEW DELHI

December, 2019 / Agrahayana, 1941 (Saka)

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ORGANISATION, DIRECTORATE GENERAL OF QUALITY ASSURANCE AND
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(DEMAND NOS. 19 AND 20)

Presented to Hon'ble Speaker, Lok Sabha on 20.12.2019

Laid in Rajya Sabha on 13.12.2019



LOK SABHA SECRETARIAT

NEW DELHI

December, 2019 / Agrahayana, 1941 (Saka)

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COMPOSITION OF THE STANDING COMMITTEE ON DEFENCE (2019-20)

SHRI JUAL ORAM

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CHAIRPERSON

Lok Sabha

2. Shri Deepak Adhikari (Dev)
3. Shri Hanuman Beniwal
4. Shri Ajay Bhatt
5. Shri Devusinh J. Chauhan
6. Shri Nitesh Ganga Deb
7. Shri Rahul Gandhi
8. Shri Annasaheb Shankar Jolle
9. Prof (Dr.) Ram Shankar Katheria
10. Smt. (Dr.) Rajashree Mallick
11. Shri Pashupati Kumar Paras
12. Shri Kapil Moreshwar Patil
13. Shri Anumula Revanth Reddy
14. Shri Jugal Kishore Sharma
15. Dr. Shrikant Eknath Shinde
16. Shri Prathap Simha
17. Shri Brijendra Singh
18. Shri Mahabali Singh
19. Shri Kotagiri Sridhar
20. Shri Durga Das Uikey
21. Dr. Kalanidhi Veeraswamy

Rajya Sabha

22. Dr. Ashok Bajpai
23. Shri Prem Chand Gupta
24. Shri V. Lakshmikantha Rao
25. Shri Sanjay Raut
26. Dr. T. Subbarami Reddy
27. Smt. Vijila Sathyananth
28. Dr. Abhishek Manu Singhvi
29. Shri Kamakhya Prasad Tasa
30. Lt. Gen. Dr. D. P. Vats
31. Vacant

SECRETARIAT

- | | | | |
|----|------------------------|---|-----------------------------|
| 1. | Smt. Kalpana Sharma | - | Additional Secretary |
| 2. | Smt. Jyochnamayi Sinha | - | Director |
| 3. | Shri Rajesh Kumar | - | Assistant Committee Officer |

INTRODUCTION

I, the Chairperson of the Standing Committee on Defence (2019-20), having been authorised by the Committee, present this Fourth Report (Seventeenth Lok Sabha) on Demands for Grants of the Ministry of Defence for the year 2019-20 on 'Ordnance Factories, Defence Research and Development Organisation, Directorate General of Quality Assurance, and National Cadet Corps (Demand No. 19 and 20)'.

2. The Demands for Grants of the Ministry of Defence were laid on 17 July, 2019 in Lok Sabha. The Committee took evidence of the representatives of the Ministry of Defence on 14, 15 and 18 November, 2019. The draft Report was considered and adopted by the Committee at their Sitting held on 09 December, 2019.

3. The Committee wish to express their thanks to the officers of the Ministry of Defence and representatives of the Services/Organisations for appearing before the Committee and furnishing the material and information which the Committee desired in connection with examination of the Demands for Grants.

4. For facility of reference and convenience, Observations/Recommendations of the Committee have been printed in bold letters in Part II of the Report.

**New Delhi
09 December, 2019
18, Agrahayana 1941 (Saka)**

**JUAL ORAM
Chairperson
Standing Committee on Defence**

ABBREVIATIONS

SL. NO.	ABBREVIATION	FULL FORM
1.	ATS	Action Tracking System
2.	ALWT	Advanced Light Weight Torpedo
3.	AMCA	Advanced Medium Combat Aircraft
4.	ATAGS	Advanced Towed Artillery Gun System
5.	ATR	Aeronautical Test Range
6.	ADAEC	Air Defence Artillery and Engineer Corps
7.	AWACS (I)	Airborne Warning & Control System (India)
8.	APAR	Annual Performance Appraisal Report
9.	AS	Anti Ship
10.	AFV	Armoured Fighting Vehicles
11.	AHQ	Army Head Quarters
12.	ASSOCHAM	Associated Chamber of Commerce and Industry of India
13.	ACADA	Automatic Chemical Agent Detector & Alarm
14.	BMP-II	Boyevaya Mashina Pekhoty, (Russian)
15.	BLT	Bridge Laying Tank
16.	BE	Budget Estimates
17.	CCS	Cabinet Committee on Security
18.	CFA	Competent Financial Authority
19.	CAPFs	Central Armed Police Forces
20.	CPC	Central Pay Commission
21.	CEM	Concurrent Engineering Model
22.	CII	Confederation of Indian Industry
23.	CM	Consortium Model
24.	DIQA	Defence Institute of Quality Assurance
25.	DPSUs	Defence Public Sector Undertakings
26.	DRDO	Defence Research & Development Organization
27.	DRDS	Defence Research Development Services
28.	DoE	Department of Expenditure
29.	DcPP	Development cum Production Partners
30.	DP	Development Partner
31.	DPM	Development Partner Model
32.	DGQA	Directorate General Quality Assurance
33.	FCS	Flexible Complementing Scheme
34.	FMS	Full Mission Simulator
35.	FICV	Futuristic Infantry Combat Vehicle
36.	GSCR	Gear Spect Czech Republic
37.	GOCO	Government Owned and Company Operated
38.	GDP	Gross Domestic Product
39.	GPRS	Guided Pinaka Rocket System
40.	GSQRs	General Staff Qualitative Requirements
41.	HEAUV	High Endurance Autonomous Underwater Vehicle

42.	HARM	High Speed Anti Radiation Missile
43.	HAG	Higher Administrative Grade
44.	IPE	Individual Protective Equipment
45.	ICM	International Collaboration Model
46.	JDM	Joint Development Model
47.	LA	Land Attack
48.	LCW	Large Calibre Weapon
49.	LAToT	Licensing Agreements for Transfer of Technology
50.	LSP	Limited Series Production
51.	LTIPP	Long Term Integrated Perspective Plan
52.	LTOs	Long Term Orders
53.	LTTPP	Long Term Technology Development Plan
54.	M&E	Machines & Equipment
55.	MPB	Manpower Planning Board
56.	MGO	Master General of Ordnance
57.	MALE	Medium Altitude Long Endurance
58.	MRSAM	Medium Range Surface to Air Missile
59.	MoU	Memorandum of Understanding
60.	MES	Military Engineer Service
61.	MV	Military Vehicles
62.	MPV	Mine Protected Vehicles
63.	MoEF	Ministry of Environment and Forest
64.	MoF	Ministry of Finance
65.	MHA	Ministry of Home Affairs
66.	MPDS	Multi-Purpose Decontamination System
67.	NCC	National Cadet Corps
68.	NCAER	National Council for Applied Economic Research
69.	NCSA	National Cyber Security Architecture
70.	NRDC	National Research Development Corporation
71.	NGS	Naval Gun System
72.	NGMBT	Next Gen Main Battle Tank
73.	NGTD	Next Generation Technology Demonstration
74.	NBC	Nuclear, Biological And Chemical
75.	OTE	Open Tender Enquiry
76.	OF	Ordnance Factories
77.	OFB	Ordnance Factory Board
78.	OEM	Original Equipment Manufacturer
79.	PDK	Personal Decontamination Kit
80.	P&M	Plant & Machinery
81.	PFFC	Pre Fragmented Fringing Cubes
82.	PSQR	Preliminary Staff Quality Requirement
83.	PPFM	Procedures for Project Formulation and Management
84.	PDC	Project Delivery Capability
85.	QRs	Qualitative Requirements
86.	QA	Quality Assurance

87.	QC	Quality Check
88.	QRSAM	Quality Quick Reaction Surface to Air Missile Liaison Meet
89.	RM	Rakshya Mantri
90.	RRM	Rakshya Rajya Mantri
91.	RR	Renewal and Replacement
92.	R&D	Research & Development
93.	RE	Revised Estimates
94.	SSC	Short Service Commission
95.	SFDR	Solid Fuel Ducted Rocket Ramjet Technology for Air Launched Tactical Missiles
96.	SPMs	Special Purpose Machines
97.	SLCM	Submarine launched Cruise Missile
98.	TDF	Technology Development Fund
99.	ToT	Transfer of Technology
100.	UAV	Unmanned Aerial Vehicle
101.	UCAV	Unmanned Combat Aerial Vehicle
102.	UATT	User Assisted Technical Trial
103.	Vol	Value of Issue
104.	VEDA	Vehicle for Defence Applications
105.	VL-SRSAM	Vertical Launch Short Range Surface to Air Missile based Weapon System

REPORT
PART – I
CHAPTER – I
ORDNANCE FACTORIES

Ordnance Factories are an integrated base for indigenous production of Defence equipment and ammunition and form the backbone of the country's Defence production. Defence production is a highly specialized sector, full of complexities and challenges where products have to be safe, reliable, consistent and capable of operating under varying terrains as well as climates and in extreme conditions. Accordingly, the technologies applied, which cover a wide spectrum of engineering, metallurgy, chemical, textile, leather, optical technologies etc. have to ensure high quality and productivity, apart from meeting the primary objective of self-reliance. Ordnance Factories also fulfill certain requirements of Paramilitary and Police Forces for arms, ammunition, clothing and equipment. Ordnance Factories endeavour to enhance their capacity utilization not only by securing orders from the Defence forces but also through sustained efforts in diversification to non-Defence customers and exports. However, priority of the Ordnance Factories is to supply quality arms, ammunition and equipments to Armed Forces.

1.2 They produce a wide range of arms and ammunitions for the Infantry, Armoured Corps, Artillery, Air Defence Artillery and Engineer Corps of the Army. Ordnance Factories produce ammunition for Navy and Air Force and have taken up indigenous development of Naval armaments. The factories produce military transport vehicles, infantry combat vehicles, armoured vehicles, optical and opto-electronic instruments, summer and winter uniforms, parachutes, miscellaneous leather goods and general stores. To summaries the role of Ordnance Factory Board include to provide a dedicated manufacturing base for military hardware, indigenization and Transfer of Technology(ToT) absorption, maintenance of 'War Reserve' capacity and 'Life Cycle' support to arms and ammunition supplied etc.

1.3 The Ordnance Factories Organization is a blend of old and state-of-the-art factories, with the first Ordnance Factory established in 1801 at Cossipore, near Kolkata, and two new

ordnance factories are coming up at Nalanda in Bihar and Korwa in UP. At present Ordnance Factories manage 41 manufacturing units and 32 other establishments. Ordnance Factories have been continuously upgrading their infrastructure, with induction of state-of-art technologies to meet futuristic requirements of users.

BUDGETARY PROVISIONS

1.4 The details of the budgetary provisions of last five years of Ordnance Factory are as under:

		(Rs. in Crore)			
		Budget Estimates (Projection)	Budget Estimates (Approved)	Revised Estimates	Actual
2014-15	Total Revenue Expenditure	16,666.97	14,316.65	14,237.40	12,827.65
	Defence Issues	11,538.14	10,880.75	10,430.06	9,830.57
	Other Receipts/Recoveries	2,260.47	2,160.47	2,134.69	2,156.13
	Total Receipts/Recoveries	13,798.61	13,041.22	12,564.75	11,986.70
	Total revenue Net	2,868.36	1,275.43	1,672.65	840.95
2015-16	Total Revenue Expenditure	16,242.30	14,705.73	15,376.69	14,133.38
	Defence Issues	11,988.37	9,717.57	11,747.62	11,496.36
	Other Receipts/Recoveries	2,103.93	2,103.93	2,376.59	2,215.16
	Total Receipts/Recoveries	14,092.30	11,821.50	14,124.21	13,711.52
	Total revenue Net	2,150.00	2,884.23	1,252.48	421.86
2016-17	Total Revenue Expenditure	17,749.59	17,582.69	17,441.11	16,403.34
	Defence Issues	13,730.90	14,006.22	13,819.99	12,961.94
	Other Receipts/Recoveries	2,513.11	2,951.01	2,757.10	3,120.75
	Total Receipts/Recoveries	16,244.01	16,957.23	16,577.09	16,082.69
	Total revenue Net	1,505.58	625.46	864.02	320.65
2017-18	Total Revenue Expenditure	19,984.35	19,212.99	14,792.74	14,562.83
	Defence Issues	16,778.61	15,825.44	12,392.77	12,434.59
	Other Receipts/Recoveries	2,191.77	2,203.28	2,323.43	2,274.82
	Total Receipts/Recoveries	18,970.38	18,028.72	14,716.20	14,709.41
	Total revenue Net	1,013.97	1,184.27	76.54	-146.58
2018-19	Total Revenue Expenditure	19,236.00	15,644.12	14,856.00	13,689.92
	Defence Issues	15,992.14	12,862.14	11,764.74	10,780.82
	Other Receipts/Recoveries	2,054.70	2,054.70	2,618.44	2,589.84
	Total Receipts/Recoveries	18,046.84	14,916.84	14,383.18	13,370.66
	Total revenue Net	1,189.16	727.28	472.82	319.26
2019-20	Total Revenue Expenditure	17,050.38	15,653.09	-	-
	Defence Issues	12,546.32	12,546.32	-	-
	Other Receipts/Recoveries	3,056.19	3,056.19	-	-
	Total Receipts/Recoveries	15,602.51	15,602.51	-	-
	Total revenue Net	1,447.87	50.58	-	-

1.5 During oral evidence the representatives of Defence Finance has submitted the following on the requirement of budget and budget projected by the Ordnance Factory Board:

“महोदय, ओएफबी हमें एक एस्टीमेट देता है कि उन्हें मैटीरियल वगैरह का कितना रिक्वायरमेंट चाहिए। इनका बजट अलग से नहीं होता है, वह आर्मी का पार्ट होता है और वह नेट बजटिंग होती है। हमें एमजीओ के अंडर ग्राँस बजट देते हैं और उसमें ये अपना मैटीरियल बुक करते हैं या खरीदते हैं। जब ये आर्मी को सेल करते हैं, उसी में ग्राँस एंट्री होती है और वह रिसिट्स में आ जाता है। भारत सरकार इसके लिए हमें जो बजट देती है, वह नेट बजट देती है।

हमें ग्राँस बजट नहीं मिलता है। वह एक्सपेंडिचर का फीगर होता है, रिसिट्स का फीगर होता है और नेट बजटिंग होती है। प्रॉब्लम यह है कि आर्मी इंडेंट देता है, इंडेंट्स लेट आते हैं, तो फिर प्रोक्योरमेंट चालू होता है, प्रॉसेस चलता है, इनकी बुकिंग नहीं हो पाती है। आज भी इनकी बुकिंग बहुत लो है, इनके रिसिट्स बहुत लो हैं, वह एक्सपेंडिचर नहीं हो पा रहा है। एट टाइम्स, आर्मी इंडेंट विद्वा कर लेती है या कह देती है कि आप स्लो जाइए। इनके पास एक्युम्लेट हो जाते हैं, जो मैटेरियल खरीदा, यह इश्यू है।

During oral evidence, a representative of the Defence Finance, on the issue of reduced allocation, submitted as under:

“बजट प्रोजेक्शन 17,164 करोड़ रुपये पर हुआ था, जब हम ने मिनिस्ट्री ऑफ फाइनेंस को भेजा था। उसके बाद हमारे एलोकेशंस हुए। ये इसको रिवाइज्ड कह रहे हैं, पर यह वह है जो फाइनल बजट है। यह जो फर्स्ट पार्ट के बारे में कह रहे हैं, that was at the time of Vote on Account. So, the amount of Rs.1556 crore was the figure at the time of the regular budget. इनका टोटल नेट रिसिट रिकवरी इसके अगेनस्ट, जो इन्होंने दिया है, वह 15,602 करोड़ रुपये है। इनकी नेट बजटिंग 50.58 हुई है।”

Further on the budget, representatives of Army:

“आप स्लाइड दिखाइए। स्लाइड में यह दिखाया गया है कि वर्ष 2017-18 और वर्ष 2018-19 में पहले इनको बजट ज्यादा मिला और बाद में उसे कम कर दिया गया। यह कोशिश की गई थी, लेकिन ओएसबी की रिप्रजेंटेशन के बाद इनको पूरा बजट वैसा का वैसा मिल गया था। दूसरी बात यह है कि यह तालमेल है कि इनको कितना पैसा मिलना चाहिए और हम इनको कब बताएं, हम ने इनको अगले साल का पहले ही बता दिया है और आगे भी ऐसे ही चल रहा है। उनको एक साल पहले बता दे रहे हैं कि अगले साल हम आपको कितना बजट या कितना ऑर्डर देंगे, ताकि ये उसकी प्लानिंग कर सकें।”

1.6 On the issue of Order Book position in the Ordnance Factories for the next five years, Ministry stated in its written replies:

“Order Book position as on 30-06-2019 was Rs. 26,487.27 Crore for supply of Ammunitions, Weapons, Troops Comfort items and Armoured Vehicles. Ordnance Factory Board receives Order in the form of Five Years Roll on Indent from Army for Ammunition items to meet their war wastages as well as annual training requirement. In case of Armoured Vehicles and its spares fixed quantity Indents are received from time to time. Roll on Indents/Indents are placed by Services for supply of items with indicative delivery schedule.

However, year wise targets are finalized by the services during annual target fixation Meetings based on availability of Budget, priority of the requirements and capacity of OFB. All the equipment including Ammunition supplied to Army as per mutually agreed annual targets.

At present capacity created at Ordnance Factory Board to supply equipment to the tune of Rs. 17,000 Crore (With GST) to all indents subject to availability of Orders. Accordingly, vision 2024, comprising 4 years plan of Value of Issue (VOI) has been prepared. Details of the same are appended below:

	(Rs in Crore)			
Year	2020-21	2021-22	2022-23	2023-24
Target Vol(Including GST)	17,870	19,600	21,500	23,600

MODERNIZATION

1.7 The Committee enquired about the details of the steps have been/are being taken to modernise Ordnance Factories across the country through introduction of state-of-the-art technologies, the Ministry in its written reply stated as under:

“Modernization in Ordnance Factories is a continuous process. To keep pace with the contemporary manufacturing technologies, Ordnance Factory Board prepares a modernization plan for technological up-gradation as well as capacity enhancements. Modernisation plan in respect of capital investments are broadly divided in following categories:

- i) Renewal and Replacement (RR) of Plant & Machinery (P&M) which are beyond economical repairs.
- ii) Acquisition of Plant & Machinery (P&M) under capacity creation/ Augmentation under New Capital.
- iii) Development of Civil Works infrastructure.

Details of Fund utilization on Modernization during last five years (2014-15 to 2018-19)

(Rs. in Crore)

Expenditure Head	Financial Year	Capital Outlay Provided	Actual Expenditure
Machines & Equipment (M&E)	2014- 2015	489.00	485.74
	2015- 2016	305.00	312.30
	2016-2017	314.61	368.62
	2017-2018	472.58	488.93
	2018-2019	332.00	292.27
	Total	1913.19	1947.86
Works	2014- 2015	314.96	300.66
	2015- 2016	343.00	339.82
	2016-2017	339.67	337.84
	2017-2018	317.00	314.54
	2018-2019	293.00	289.8
	Total	1607.63	1582.66
Renewal and Replacement (RR)	2014- 2015	500.00	441.87
	2015- 2016	400.00	385.73
	2016-2017	450.00	451.77
	2017-2018	460.00	422.80
	2018-2019	400.00	398.33
	Total	2210.00	2100.50

DELAY OF PROJECTS

1.8 The Committee raised issues regarding delay in delivery of products by Ordnance Factories. In this regard, the Ministry of Defence submitted that certain delays have been observed during implementation stage of some projects due to various reasons related to procurement process of Plant & Machinery(P&M) and execution of civil works. Problems are encountered at different stages like tendering, supply and erection of Plant & Machinery(P&M).

1.9 On being asked about the reasons for delays of projects, the Ministry in its written reply has identified the following individual and collective reasons for delays:

“Certain delays have been observed during implementation stage of these projects due to various reasons related to procurement processes of plant & machinery (P&M) and execution of civil works. Procurement of plant & machinery (P&M) is a long lead

time process. Problems are encountered at different stages like tendering, supply and erection of P&M. Some of the main reasons are listed below:

Tendering Stage:

- i. Limited vendor base: Since majority of machines require customised special purpose/ tooled up solutions, few offers are received and process gets prolonged to ensure healthy competition.
- ii. Non-availability of indigenous sources for technologies like, Forging Plant, Chemical Plants, Metallurgical Plants leads to processing through longer global procurement route.
- iii. Explosive manufacturing plants have very limited global manufacturers.
- iv. Due to financial crisis in Europe during this period, some of the European suppliers failed to respond to tender enquiries leading to retendering the cases.
- v. The P&M Procurement Manual, prior to the current edition of OFBPM- P&M 2013, had no provision for advance payment. Hence, many suppliers of certain cost intensive machines did not participate in tenders.

Supply Stage:

- i. Being customised Special Purpose Machines (SPMs)/tooled up machines, delivery periods are long and delays occurred on the part of P&M supplier in design, manufacture & supply of the machine.
- ii. M/s Hindustan Machine Tools(HMT) is a major supplier of machine tools to Ordnance Factories. Because of financial crisis, HMT has not been able to supply all machines to Ordnance Factory Board within stipulated delivery schedule.
- iii. During the period from 2014 – 2018, some of the European supplier failed to execute the supply timely due to financial constraints at their end.

Erection & Commissioning Stage:

Availability of Building and Services was at times delayed due to delayed execution of civil works by Military Engineering Services(MES), the resulting in longer time taken for erection and commissioning of some of the machines.

1.10 When asked whether there is any delay in supply of items to the Forces and give details of the products delayed and the system in place to bring accountability in case of such delay, the Ministry in its reply stated as under:

“Ordnance Factory Board supply the items to the Services based on mutually agreed targets fixed on yearly basis in consultation with Services. Supply is restricted within available budget with Services. Value of Issue of the Ordnance Factories has improved over the years. Year wise value of Issue of Ordnance Factory Board as a

whole during last five years is furnished in table below with percentage achievement with respect to the target.

Performance of Ordnance Factory Board in terms of value of issue during the last five years is as below:

(Rs. in Crore excluding Taxes)

Year	Target	Value of Issue	% Achievement
2014-15 RE	12120	11391	94.0%
2015-16 RE	13552	13111	96.7%
2016-17 RE	15393	14825	96.3%
2017-18 RE	14115	14127	100.1%
2018-19 MA	13249	12801	96.6%

1.11 On the issue of the extent the delays have affected the Defence preparedness of the country, the Ministry in its written reply has stated as below:

“Ordnance Factory Board supplies items to the Armed Forces based on consultation by mutually agreed targets fixed on yearly basis. In this regard, Ordnance Factory Board has achieved 97% of Value of Issue (VOI) against their targets.

Further, regular review is being done in the Ministry with the Ammunition Group along with Master General of Ordnance(MGO) and Director General of Quality Assurance(DGQA) to resolve quality issues and timely supply issue of ammunition to Army. Interaction of OFB officers with the Depot Heads for the purpose of getting first hand feedback has resulted in addressing the deficiencies in Supply of quality ammunition immediately. Thus, there is no delay in supplying items by OFB, which may affect the Defence preparedness”.

1.12 During oral evidence, a representative of the Ministry deposed on the issue of delay projects and timeline and what is the satisfaction level of Army of the products:

सर, हमारा जो 'धनुष' प्रोजेक्ट था, वह हमने एंटीसिपेटिड डिमांड पर लिया था, क्योंकि यह पहली बार था और आर्मी के लिए जब हम आर्टिलरी गन्स और इस तरह के प्रोजेक्ट्स शुरू करते हैं तो चार-वर्ष इसके ट्रायल इवैल्युएशन में लग जाते हैं। बीच में अगर कोई प्रॉब्लम आती है तो पाटर्स को रीडिज़ाइन करना पड़ता है। यह एक कॉम्प्लेक्स सिस्टम है, जिसके कारण हमें ज्यादा टाइम लगता है

Further, representatives of the Ordnance Factory Board stated that:

‘Sir, actually, this is the capacity augmentation projects, which you are referring to. There were 2-3 reasons for it. Of course, there were certain problems like delay in supply of machines and finalization of contract in our internal procedures. In some cases, it was also due to the delays in the civil works to be done by the MES also. So, I admit that there are slippage in it’.

Expenditure on Research & Development

1.13 The Committee enquired about the in-house Research and Development conducted in Ordnance Factories for development of new products and the percentage of expenditure in Research and Development to the overall allocations during each of the last five years, the Ministry in its reply submitted as under:

OFB takes up in-house Research & Development projects for design & development of new product of armament, ammunition and equipment. OFB has developed 124 armament & ammunition items so far, out of which 61 items have been designed and developed by Ordnance Factories on their own in-house R&D.

Approximately 24.57% of the output value of Ordnance Factory Board is from items developed through in-house R&D by OFB, R&D under foreign ToT and R&D with DRDO.

Percentage of expenditure in Research and Development during each of the last five years is as follows:

(Rs. in Crore)					
Expenditure Component	2014-15	2015-16	2016-17	2017-18	2018-19
R&D Expenditure	55.82	87.97	59.86	69.72	90.81
Overall allocation	11354	13047	14806	14121	12766
R&D Expenditure to overall allocation to OFB as percentage	0.50%	0.67%	0.40%	0.49%	0.71%

During the oral evidence, on the R&D budget, Chairman, Ordnance Factory Board clarified that:

‘Sir, the low value of R&D expenditure is basically due to accounting problem. Lot of people who are working are from the production side’.

Further, in this regard, Defence Secretary stated that:

“सर, आपने बिलकुल उचित कहा है। इनको डीआरडीओ का भी सपोर्ट है और इनको इन्डस्ट्रीज़ से भी सपोर्ट मिलता है, जो ये कॉन्ट्रैक्टिंग करते हैं। इन्क्रीमेंटल आरएंडडी यहां पर भी हो रही है। धीरे-धीरे इस आरएंडडी एक्सपेन्डिचर को बढ़ावा दिया जा रहा है”।

Further, Chairman, Ordnance Factory Board clarified that:

“Sir, actually, it is an accounting issue. हमारे बहुत से लोग जो आरएंडडी में काम कर रहे हैं, एक्चुअली they are working in the factory also. So, their salary, their expenditure and the cost of machine is not booked on the R&D. That is the actual reason”.

1.14 On projection and allocation for Twelfth Plan and Thirteenth Plan in respect of Research and Development and if any decline, reasons for decline in the allocation the Ministry in its written note has stated as under:

“The projection and allocation for Twelfth Plan and internal plan of Ordnance Factory Board for Thirteenth Plan Period in respect of Research & Development is as follows:

Projection/ Allocation	12th Plan (April 2012 to March 2017)	13th Plan (April 2017 to March 2022)
Projection of R&D (Rs. in Crore)	360.00	615.00
Allocation to R&D (Rs. in Crore)	352.12	265.53* (Upto19-20 only)

*Allocation for remaining years of 13th Plan will be made by Ministry of Defence at appropriate stage.

Projection made by Ordnance Factory Board for in-house R&D has been allocated by Ministry of Defence over successive years”.

On the reasons for decline in the allocation made in R&D, Ministry in its written replies stated:

The expenditure in Research and Development during the last five years is as under:

(Rs. in Crore)					
Financial Year	2014-15	2015-16	2016-17	2017-18	2018-19
R&D Expenditure	55.82	87.97	59.86	69.72	90.81

From the above, it is seen that since last three years, there has been no decline of expenditure made on Research and Development in Ordnance Factory Board”.

1.15 The Ministry was asked to apprise the Committee about the progress made by the OFB in respect of Research & Development [R&D] in manufacturing the entire weapon system platform - along with its ammunition and related accessories. what is domain of the R&D projects and What are the major products developed through in-house R&D by Ordnance Factory Board, Ministry in its written replies stated:

“Ordnance Factory Board gradually moved up the ladder in R&D and undertook projects for development of weapon platforms. Some of the major weapon platforms developed by OFB through Research & Development [R&D] and its ammunition/ accessories are indicated below:

(a) Artillery Gun 155mm x 45 Calibre ‘Dhanush’

For Artillery modernization - Its ammunition is already manufactured by Ordnance Factories (OFs). Dhanush Gun has undergone elaborate tests & trials and bulk production clearance has been given by Army Head Quarters(AHQ) for 114 Nos. OFB has handed over 06 guns.

(b) Up-gunning of 130mm Gun to 155mm

For enhancing the capability of Artillery Gun - 130mm Artillery Gun is modified with higher caliber 155mm x 45 Caliber Gun. Its ammunition is already manufactured by OFs. Ordnance Factory Board participated in Army RFP competing with two other private manufacturers, who fielded equipment in association with foreign Original Equipment Manufacturer(OEMs). After extensive trials, OFB’s gun has emerged as the only compliant Gun System meeting all Quality Requirements. Contract for supply of 300 nos. upgraded guns has been placed on Ordnance Factory Board.

(c) Protective Carbine 5.56 x 30mm

For modernization of Infantry Weapons - This weapon system (i.e. weapon and its ammunition) is being supplied to MHA forces after successful development.

(d) Air Defence Gun

A high rate of fire gun for defence of vulnerable area/ point against incoming enemy aircraft/ missile. First prototype has been developed and initial firing trial has been done internally by Ordnance Factory Board.

Various varieties of its ammunition are already being manufactured by Ordnance Factories. The same is being augmented by developing 30mm PFFC ammunition.

(e) Electronic Fuzes for 155mm Ammunition

In house Tests & Trials of Electronic Point Detonating Fuzes have been done successfully and the same has now been offered for User Assisted Technical Trial.

(f) Extreme Cold Weather Clothing System

Prototypes are under evaluation.

Domain of the R&D projects is focused on Land Systems i.e. Artillery & Air Defence Gun Systems, Small Arms Weapon Systems, Armored Fighting Vehicles and futuristic smart ammunition systems.

1.16 During the oral evidence, on the issue of, complaint about the clothing and producing systems for user at 18,000 feet altitude, the Chairman, Ordnance Factory Board, replied:

“We have not been able to develop products for 18,000 feet and above. It is extremely cold climate. That is up to minus 40 degree centigrade. We are going some work in collaboration with IIT, Kanpur. We are trying to develop new technology for electrically heated vests. But we could not develop those type of clothing for extremely cold weather which is required for Siachen and above”.

1.17 On the issue of contribution of Services towards the Research & Development of high Technology Military Projects, in terms of budget and providing inputs for their operational requirement, Ministry in its written reply stated as under:

“Budget for in-house R&D projects of Ordnance Factories is provided by the Ministry. However, High Technology Military Projects of Ordnance Factories (i.e. 155mmx45

Calibre Artillery Gun System ‘Dhanush’, Armament Upgrade of The BMP-II (*Bojevaya Mashina Pekhoty*, (Russian): literally "infantry combat vehicle") (BMP-II), FICV (Futuristic Infantry Combat Vehicle), Air Defence Gun & Bridge Laying Tank (BLT)), have been taken up with the association of the Services from the initial i.e. Preliminary Staff Quality Requirement formulation stage.

Services participate in the Armament Development Monitoring Committee & Project Management Team and carry out evaluation trials & technical evaluation. Resources of the Services in terms of field firing ranges & its equipment, expert manpower for operating the equipment & weapon and proof stock components where required are provided by the Services.

In case of development of 155mm x 45 Calibre Artillery Gun System ‘Dhanush’, Services Headquarters constituted a Weapon Development Team providing the highest order of involvement of the User. Similarly, development & bulk production & issue of Bi-Modular Charge System for 155 mm Gun, Pinaka Rocket & Rocket 140mm (Navy) have been done with the active involvement of the Services”.

1.18 The Committee wanted to know Whether Ordnance Factories have indigenous industrial capability which is very crucial for the country to manufacture and supply quality products to Armed Forces and also about the products manufactured by way of indigenous industrial capability and supplied to Armed Forces, Ministry in its written replies stated:

“Ordnance Factories have crucial indigenous technological and industrial capability for supply of the armament, ammunition & equipment items as follows:

Weapons	Artillery Guns 105/155mm, Tank Guns 120/125mm, Small Arms from 5.56 to 20mm including Assault Rifle, Protective Carbine, Pistol, Revolver etc., Mortars 51/81/120mm, Rocket Launcher 84mm, Under Barrel Grenade Launcher 40mm and Multi Shell Launcher.
Military Vehicles	Mine Protected Vehicles, Military Vehicles
Ammunition, Explosives & Propellants	Around 150 types of Ammunitions including State-of-the-Art Pinaka Rocket, Bi-Modular Charge System for 155mm Ammunition, Artillery Ammunition, Air Defence Ammunition, Cannon Gun Ammunition, Naval Gun Ammunition, Signaling and related stores, Rockets, Bombs, Fuzes, Explosives & Propellants, Detonators and Igniters
Armoured Fighting Vehicles (AFV)	Tank T-90, Main Battle Tank Arjun, Variants of T-72, Infantry Combat Vehicle BMP-II and its variants, AFV Engines, Night Vision Devices, Sensors and Fire Control System
Equipment Stores	Brake Parachutes, Man dropping & Supply dropping Parachutes, Combat Uniform, ECC clothing etc.

It is worth mentioning that indigenous content in supplies of Ordnance Factories is 88.20% (by value).

1.19 On the effective steps taken by Ministry to quantify the level of indigenization in defence equipment in Ordnance Factories, the Ministry stated as under:

“Ministry has directed Ordnance Factory Board to increase level of Indigenization through “Make-II Procedure” and “Long Term Orders (LTOs)” apart from existing system through in-house efforts and source development Open Tenders. Accordingly, OFB has identified items for indigenization during next 5 years and taken action to achieve the year-wise targets set”.

1.20 The Committee also desired to know about the progress made by the Ordnance Factories in respect of the indigenization in manufacturing the entire weapon system platform along with its ammunition and related accessories, the Ministry in its written reply stated:

“Ordnance Factories have been a regular recipient of world-class technologies through Transfer of Technologies. Technologies have been absorbed in full and indigenized through in-house R&D & Indian Private Industry. Due to its persistent efforts towards indigenization, Ordnance Factory Board is able to achieve overall indigenous content of about 89% during last year.

Ordnance Factory Board has successfully absorbed technologies received under Transfer of Technology(ToT) which is evident from the details given below:

Sl. No.	Item	Present Indigenous Content 2017-18 (As % of cost)
Under ToT from OEMs		
1.	High Resolution Binocular	93.06%
2.	T-90 Tank	78.50%
3.	Naval Gun System AK-630	92.78%
4.	40mm PFFC (Pre Fragmented Fringing Cubes) Ammunition	86.00%

Absorption of Transfer of Technology(ToT) has also imparted capability for in-house Design & Development, leading to its mass manufacture with the help of Indian Industry.

EXPORT AND IMPORT ORDNANCE FACTORIES PRODUCTS

1.21 On the issue of steps have been/are being taken to increase the exports of arms and ammunitions? Please apprise the Committee about the details of the total turnover of the

Ordnance Factories earned from exports of arms and ammunitions during the last five years, Ministry in its written replies stated that:

“The following initiatives are being taken to increase the export of arms and ammunition:

- (a) A separate post of Member/Export & Marketing has been created at Ordnance Factory Board for achieving boost in export orders and implementation of various measures for enhancing export.
- (b) Ordnance Factory Board has implemented procedural enablement related to pricing of Ordnance Factory Board products and operating instructions for boost in export through channel partners.
- (c) Ordnance Factory Board is participating in various international exhibitions to promote its products in foreign countries.
- (d) Indian Defence Attaché posted abroad are being contacted for assistance in boosting export. Ordnance Factory Board has been included in the itinerary of pre posting exposure of the newly appointed Defence Attachés to various countries.
- (e) Nodal officers have been nominated at factory level for improving export performance and identifying potential products which can be offered from the respective unit as per the market requirement.
- (f) OFB has identified major target countries and country specific analysis is being done for offering exportable products as per the target country's existing and futuristic requirements.
- (g) For targeted countries Ordnance Factory Board has also started preparing Bilingual product catalogues in English & country's local language.
- (h) Available comparative international prices are being referred to at the time of making offers.
- (i) Ordnance Factory Board has also started working on export potential against offset requirements.
- (j) Ordnance Factory Board has invited various delegations from OEM and foreign countries for technical discussions to explore export potential.
- (k) Ordnance Factory Board has started customization of products as per user requirements.
- (l) Ordnance Factory Board is certifying products & packing as per International standards accepted by international buyers.

The year wise turnover from export during the last five years is as follows:

Year	Value in INR (in Crores)
2014-15	26.64
2015-16	6.51
2016-17	24.43
2017-18	13.51
2018-19	264.60

1.22 On the question of share of import content of spares and components of the Ordnance Factory Board, the steps taken by the Ordnance Factory Board to bring down import of spares and components, the Ministry in its written replies stated:

“At present, import content of Ordnance Factory Board items is approximately 10% only in which spares and components are also included. Efforts are in hand to reduce import content further through source development Open Tender Enquiry (OTE), Make-II procedure and “Long Term Orders (LTOs)”etc.”

Challenges before Ordnance Factories

1.23 During oral evidence the representatives of the Ordnance Factory Board stated the following challenges:

1. Work load fluctuation
2. Non Uniform order book across product segments
3. Reduction in targets by Army after BE finalization has serious adverse effect on costing of OFB products and budget.

CHAPTER - II

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

Defence Research & Development Organization has come a long way since its modest beginning in 1958. Starting with only 10 laboratories, DRDO has grown multi-dimensionally and has evolved to be a core research organization with a vast network of 52 laboratories and establishments spread across the country. With a vision to empower India with cutting-edge technologies and equip our Services with internationally competitive systems, DRDO has proven its competence to produce state-of-the-art strategic and tactical military hardware and related technologies in diverse disciplines such as Aeronautics, Armaments, Combat Vehicles, Combat Engineering, Electronics, Missiles, Life Sciences, Materials and Naval Systems. At the core of this technological strength of DRDO is its expertise in system design, system integration, testing and evaluation and project management built over the last five decades, which has enabled it in developing indigenous capabilities in weapons and their delivery systems. DRDO also plays significant roles to provide scientific and technological advice on aspects of weapons, platforms surveillance to the Ministry of Defence in support of Defence policy to support National Cyber Security Architecture – testing capabilities, security solutions, testing hardware, indigenous NW systems, Defence tools, support operations. The Organization also advises the Government to make technical assessments of international security threats and the military capabilities of both current and potential adversaries.

BUDGETARY PROVISIONS

2.2 Projected Amount, Budget Estimates (BE), Revised Estimates (RE) and actual allocations in respect of DRDO for the last five years along with the Projections and Budget Estimate allocation for the year 2018-2019 are given in the following table:

Year	BE Proposed	BE Approved	RE Approved	MA Approved
2014 - 15	18495.46	15282.92	13447.19	13716.14
2015 - 16	19641.56	14358.49	12491.21	13540.11
2016 - 17	18782.86	13593.78	13454.54	13501.00
2017 - 18	19935.60	14818.74	15463.25	15399.25
2018 - 19	22203.74	17861.19	17610.38	17121.99
2019 - 20	22953.95	19021.02		

On being asked about whether the budget provided is sufficient for the plans as envisaged by DRDO, the Ministry in written reply submitted as under:-

The budget of DRDO has always been around 5-6% of the Defence Budget. Keeping aside expenses for Strategic schemes & Cabinet Committee on Security (CCS) projects, pay & allowances and other non-salary revenue expenditure, each of which essentially keeps growing every year, the amount left for R&D activities is very less. For the current year, the quantum of funds for projects is ~Rs 3500 Cr (excluding strategic schemes). DRDO needs additional funds to take up projects in futuristic areas, significant/high-cost projects. Some of the projects for which funds may be sought are: Advanced Medium Combat Aircraft (AMCA), Airborne Warning & Control System (India) (AWACS (I)), Unmanned Combat Aerial Vehicle (UCAV Ghatak), Next Gen Main Battle Tank (NGMBT), High Endurance Autonomous Underwater Vehicle (HEAUV), Marinised Engineered AIP Energy Module (MAAREEM) etc.

It can be seen from the above table that against the projection of Rs. 22953.95 cr at BE stage during the FY 2019-20 Ministry has allocated an amount of Rs 19021.02 cr. However, it is a fact that budgetary allocations are much less than the projections made by the Department of Defence R&D. However, the Department is managing within the allocations by re-prioritizing the project activities'.

EXPENDITURE ON RESEARCH & DEVELOPMENT

2.3 The Ministry was asked to furnish the details regarding percentage of expenditure on Research and Development to the overall Gross Domestic Product(GDP) during each of the last five years and how does this percentage compare with that of the developed countries, the Ministry supplied the following information:

(Rs. in Crore)

TOTAL GDP Vs R & D EXPENDITURE			
YEAR	TOTAL GDP	D R & D EXPENDITURE	DR&D EXPENDITURE AS % OF TOTAL GDP
2014-15	12445128.00	13716.14	0.110
2015-16	13682035.00	13540.11	0.098
2016-17	15183709.00	13501.00	0.088
2017-18	16847455.00	15399.25	0.091
2018-19	19010164.00	17121.99	0.090

In comparison to Defence funding in countries such as the US, Russia, and China, our Defence R&D spending is very less. As per published data, India funding 6% on Defence R&D of the Defence Budget whilst, USA and China are spending approximately 12% and 20%, respectively on Defence R&D as compared to their Defence Budget. Vibrant economy is possible only when both saving and spending go hand in hand. Spending the tax payers money wisely is as important as saving if not more for the stimulation of growth in Defence R&D capability.

2.4 The Ministry was asked to furnish the details of the projection and allocation for Thirteenth Plan in respect of Research and Development, the Ministry supplied the following information:

The projections for XIII Plan vs. allocation are presented in the Table below:

(Rs. in Crore)

Year	R&D Projections	R&D Allocations
2017-18	19936	15400
2018-19	22204	17611
2019-20	22954	19021
2020-21	29816*	-
2021-22	33949*	-

*as projected in 15th Finance Commission subject to sanction of high value projects

2.5 The Ministry was asked to furnish the reasons for decline, if any, in the allocation made on Research and Development to the total Defence Budget during the Thirteenth Plan period and projects which have suffered due to reduced allocation, if any, the Ministry supplied the following information:

“Reasons for decline in allocations as compared to projections may be due to constraints in the overall Defence budget. The budget of DRDO has always been around 5-6% of the Defence Budget. Keeping aside expenses for Strategic & Cabinet Committee on Security (CCS) projects, pay & allowances and other non-salary revenue expenditure, each of which essentially keeps growing every year, the amount left for R&D activities is very less. For the current year, the quantum of funds for projects is ~Rs 3500 crore (excluding strategic schemes), which would be consumed to meet the already committed project expenses. DRDO needs additional funds to take up new projects in futuristic areas, significant/high-cost projects. Some of the projects for which funds may be sought are: Advanced Medium Combat Aircraft (AMCA), Airborne Warning & Control System (India) (AWACS (I)), Unmanned Combat Aerial Vehicle (UCAV Ghatak), Next Gen Main Battle Tank (NGMBT), High Endurance Autonomous Underwater Vehicle (HEAUV), Marinised Engineered AIP Energy Module (MAAREEM) etc.”

MANPOWER

2.6 As regard to the authorised and existing strength of Scientists in DRDO, the Ministry in a written note furnished to the Committee stated:

“The present authorized strength of scientists in DRDO is 7353. The existing held strength of Scientists in DRDO is 7107”.

The Committee also desired to know about the number of scientists who have left DRDO during the last five years with reasons. The Ministry in its written replies stated as under:

“142 Scientists have left DRDO during last five years on personal grounds (2014-2018)”.

During the oral evidence, on the issue of augmentation of Scientific Manpower, Secretary, R&D stated that:

“Since 2001, DRDO has been managing with same authorization inspite of more than 6 times increase in outlay from the IX plan to XIII plan

	IX (1997-2002)	X (2002-2007)	XI (2007-2012)	XII (2012-2017)	XIII (2017-2022)
Budget allotted	13866	21055	42733	60165	90000*
No. of scientist	7255	7255	7255	7255	7255

*as per allocation upto 19-20, BE 20-21 and projections for 21-22

Current manpower is grossly insufficient for the committed R&D projects under progress in DRDO. Manpower Planning Board (MPB) in April 2010 recommended enhancement of manpower by 4966. Ministry of Finance(MoF) recommended 1316 posts (Phase I – 436 approved by Department of Expenditure(DoE). Case pending with CCS”

2.7 On the steps being taken by DRDO to put a check on brain drain, if any, from DRDO and to make a career for scientists in DRDO an attractive one, the Ministry through a written note submitted as under:

In order to arrest the brain drain and make the career of Scientists in DRDO more lucrative the following incentives are given to Scientists in DRDO.

Financial Incentives

- **Additional Increments:** There was a provision of two additional increments for the Scientists C, D, E & F at Level 11, 12, 13 & 13A respectively in the Pay Matrix in 7th Central Pay Commission (CPC) terms. However, the same has been stopped presently after observation put by Finance.
- **Professional Update Allowance.** Scientist ‘B’, ‘C’ & ‘D’ are granted Rs. 22, 500 p.a., Scientists ‘E’ & ‘F’ Rs. 45,000 p.a. and Scientists ‘G’ & above Rs. 67, 500 p.a. as Professional Update Allowance.
- **Variable Increments.** Up to six increments are granted to deserving Scientists at the time of promotion under Flexible Complementing Scheme (FCS) based promotion Scheme on the basis of the Performance of the Scientists in Assessment Board.

Career Growth related Incentives

DRDO follows the Merit Based Flexible Complementing Scheme (FCS) for Defence Research Development Services (DRDS) Cadre, where promotions are based purely on merit without any linkage to availability of vacancies or seniority. The merit is assessed by the duly constituted Assessment Board for the purpose. Under the Flexible Complementing Scheme (FCS), Scientist recruited at the level of Sc 'B' in the feeder Grade of Group 'A' can move up to the level of Scientist 'H' in Level 15 i.e. Higher Administrative Grade (HAG) scale and thereafter, the level of Distinguished Scientist in the Level 16 (HAG+ scale), which is achievable on personal up-gradation basis.

During the oral evidence, on the issue of recruitment of officers, short of officers and the quality of officers in DRDO, the Secretary, R&D replies:

“.....महोदय, सर्विस सलेक्शन सेन्टर्स का रिक्रूटमेंट प्रोसेस डी.आई.पी.आर. ने बनाया है, जो वहां पर इंप्लीमेंट होता है। उसके स्टैंडर्ड्स दोनों संस्थाओं ने मिलकर बनाए हैं। डिफेंस सर्विसेज के सभी अफसर वहीं से रिक्रूट हुए हैं। अगर भारत सरकार का ऐसा मानना है कि उसे रिलेक्स किया जाए तो जो भी कॉल है उसे सर्विसेज को लेना होगा और अगर उसमें बदलाव के लिए कहा जाएगा तो उसे डी.आई.पी.आर. और डी.आर.डी.ओ. करेगा”

INDIGENISATION

2.8 The Committee wanted to know about the indigenous production of Defence equipment designed and developed by the DRDO vis-a-vis the imported ones. In this connection, the Ministry in written reply stated as under:-

“DRDO develops products based on Qualitative Requirements (QRs) issued by the Services. Latest technologies are adopted in development of these systems by DRDO. These systems are developed as per state of the art technologies and normally at par with international standards. These systems are subjected to comprehensive trials and evaluation involving various terrain and climatic conditions during summer, winter, MET, Quality Assurance(QA) trials compared to the limited trials at Original Equipment Manufacturer (OEM) premises and Original Equipment Manufacturer (OEM) certification for acquisition of foreign systems.

However, it can be stated with a fair degree of certainty that the indigenous systems are cheaper than the import variants in terms of direct cost, besides the larger saving in opportunity cost in terms of the availability of technology and support within the country, boost of industrial growth, savings in foreign exchange and availability of critical know-how within the country.

The production value of DRDO developed systems/equipment for the Services is over Rs. 2.75 lakh crore today.

2.9 On the question of foreign exchange, DRDO was asked whether they are able to save in absolute and relative terms because of its own indigenous research during the last five years. In this regard, the Ministry in its written reply stated:

“Production value of DRDO developed products, which have been inducted by the Services is approximately Rs 66,141 cr.

So far, Foreign exchange money corresponding to above mentioned value has been saved by DRDO. (This does not include strategic systems)”

2.10 During the oral evidence, the Committee desired to know about the indigenous and dependency on imports for our Defence hardware, representative of Ministry of Defence replies:

“Sir, the systems what DRDO is developing today, we are self-sufficient in many areas. The areas where we are completely self-reliant, we are only importing the components like electronic components, where the country does not have a foundry here. So, these systems where we are completely self-reliant are the missile systems, the radars, the sonars, the electronic warfare systems, the torpedoes and also now, of late, in the guns and ammunitions, we are able to completely develop within the country. Whereas, in every area, the electronic components, we are dependent on imports as the foundry is not available in the country and in respect of some critical sensors and materials, we dependent on imports. One area, we have mentioned in the presentation also, is aero-engine which our country is yet to develop for its requirements today, even though some technological base has been created in the country but for the requirements of our aircrafts this is one area where we are seriously working on and in the coming five to seven years we should be able to develop this with some collaborations with complete indigenous base in that area also. These are the top-level capability of the indigenous systems in the country”.

DELAY IN DEFENCE PROJECTS

2.11 On being asked to furnish delay in the major projects of DRDO, the Ministry submitted that delay in completion of projects is a part and parcel of DRDO functioning. 20 Major projects of DRDO got delayed valued more than 15 crore. Different reasons are attributed to

such delay viz. technological complexities, technological denial, enhancement of project cost, change in configuration of missile, additional trials and involvement of decision of various stakeholder etc.

2.12 The Ministry was asked to furnish the reasons for the cost & time overruns in the DRDO projects and remedial measures adopted to check the cost and time overruns, the Ministry in written reply stated as under:-

“There are many factors which lead to increase in the development period for R&D projects some of them are:

- 1) Ab-initio development of state-of-the-art technologies
- 2) Technological/technical complexities
- 3) Lack of availability of:
 - a) Critical equipment; special materials
 - b) Infrastructure and testing facilities like wind tunnel, floating test range
 - c) Technically skilled and specialized manpower
 - d) Manufacturing base like Aero engines, FPA Fab
- 4) Mid-term revision in Qualitative Requirements (QRs)
- 5) Extended and repeated trials, non-availability of platforms (Su-30, ALH, Ship) for trials
- 6) Delay in production of systems by designated production agencies
- 7) Legal problems in setting up of infrastructure including acquisition of land and environmental issues

2.13 The steps taken/being taken by DRDO for strengthening the functioning of DRDO and expediting the completion of defence projects are:

- 1) Procedures for Project Formulation and Management (PPFM) are a set of guidelines which is periodically updated to include remedial measures to control time overruns. Procedures for Project Formulation and Management-2016 has been revised with following changes- mandatory focus on pre-project activity including completion of preliminary/configuration design and procurement plan before project sanction.
- 2) Revision of Procurement Manual-2016.
- 3) More stringent review mechanisms in place - various high level committees including, Steering Committees, Advisory Committees and Monitoring Boards.

- 4) Involvement of Services & Production Partners during development process and reviews - To know their views in advance including finalisation of General Staff Qualitative Requirements (GSQRs).
- 5) Synergy among stakeholders – Regular interactions
- 6) Revision in Delegation of Financial Powers - Powers for sanctioning of projects and for procurements that were hitherto with the Secretary Defence R&D has now been delegated to the cluster Director General(DGs) of DRDO. Delegation to the Secretary Defence R&D has been doubled. Other delegations have been made to cut down time for procedural delays”.

2.15 On the issue of whether any performance audit of work done by scientists/technicians undertaken in DRDO, Ministry in its written reply stated as under:

“Performance audit of DRDO laboratories is being done on case-to-case basis by audit authorities during the last few years.

Apart from this, DRDO has been audited by a number of Committees in the recent past as listed below:

- i) Kelkar committee – suggestions have been implemented
- ii) Rama Rao committee – suggestions under the purview of DRDO have been implemented. The others have been forwarded to the Government for approval.
- iii) Economic assessment conducted through National Council for Applied Economic Research (NCAER).

The performance of a scientist is assessed through the Annual Performance Appraisal Report of each scientist which contains details of specific targets set for him for the year and his accomplishment by end of the year. Progress is also reviewed during the year through mid-term review. The scientist is also required to make presentation of his achievements before Assessment Board for his career progression in the service”.

2.16 The Ministry was asked to state the extent to which the delays have affected the Defence preparedness of the country, the Ministry in written reply stated as under:-

“The delay in DRDO projects have not affected Defence preparedness of the country due to the following reasons:

- i) DRDO does not stop import of products by Services even for those items that are under development
- ii) Even if a product is delayed the final product that is delivered to the services is contemporary and comparable to best in the world”.

2.17 On the issue of mechanism adopted for identifying areas of research, how are the projects approved and what kind of bottlenecks faced by DRDO in developing the final product the Ministry of Defence stated as under:

In the year 2012, Services have projected their acquisition plan for the 15 years period in the long term integrated perspective plan (LTIPP) document. The document indicates a vast inventory of equipment to be acquired by the Services during each five year plan.

DRDO undertook a study to understand the system requirements as laid out in the long term integrated perspective plan (LTIPP) of Services and also for visualization of the technology needs beyond the XIV five year plan period and came out with its Long Term Technology Development Plan (LTTPP). Long Term Technology Development Plan (LTTPP) aligns the technology development plan with systems acquisition plans given in long term integrated perspective plan (LTIPP), which will go a long way in fulfilling the needs of our Armed forces. Five year plan document are also made on the basis of Long Term Technology Development Plan (LTTPP), which forms the basis of projects being taken up by DRDO to cater to the Services requirement.

The procedural guidelines for processing of project proposals for new project sanction:

- 1) All Project proposals will be first considered in the Cluster Council, before initiation.
- 2) Cluster Council will accord 'in principle' clearance to project proposals based on need and lab competence.
- 3) Thereafter the project will be peer reviewed by national experts for robustness of design and development methodology.
- 4) The proposal will then be presented in DRDO Management Council (DMC) for AON with respect to user requirements and technology build-up needs.
- 5) Project proposals (cleared 'in principle' by Cluster Council and/or DMC) will then be initiated by the concerned lab after cost vetting by finance for approval of Competent Financial Authority(CFA) on file.

Bottlenecks faced by DRDO are as follows:

- 1) 1st time technical challenges
- 2) Availability of Platforms & Trial Sites.
- 3) Embargoes & Institution restrictions.

CLOSED PROJECTS

2.18 The Ministry was asked to furnish the details of closed projects and the money spent on these closed projects, specific reasons for closed projects/dropped projects and the system in place to bring accountability in case of such closed projects, the Ministry in written reply stated as under:-

“All the DRDO projects on attainment of the desired objectives are closed after due audit and issue of closure letter. These are the category of projects which can also be termed as “Successfully completed”/closed.

As per the digitized data of projects, 772 projects (\geq Rs 2 crore) have been closed/completed (excluding short closed/stage closed/cancelled projects) till date at a total cost of Rs 27,742.73 crore

A total of 28 projects have been short closed/ stage closed/ cancelled till date at a total cost of Rs 679.4 crore

A sanctioned DRDO project may be closed before its Probable Date of Completion (PDC) or without achieving its objective under the following conditions:

- 1) Canceled Project: The project has been approved and project no. allotted but where the work on the project has not commenced and no expenditure has been incurred.
- 2) Short Closed Project: Where the work on a project has already commenced and certain amount of expenditure has been incurred but for certain reasons (to be specified) it is decided to short close the project.
- 3) Stage Closed Project: Pre-mature closure of project is where considerable effort and funds have been spent yet no concrete results have been achieved. Stage closing of a project is only resorted into extra-ordinary circumstances.

During the year 2018-19, no projects have been short closed/stage closed/cancelled by the DRDO”

During the oral evidence, Secretary, Defence R&D further clarified on this issue:

“Sir, in the last five years, a total of 205 projects have been successfully completed by DRDO and out of that, only five projects have been short closed. The reasons for short closing of projects are many and specific to each project. One is technologically, it is becoming infeasible and we are not able to complete that and unable to meet the requirements. Hence, we are not able to come up to level of technological developments. Secondly, in a project, we sometimes, as I said, depend on imported

Sensors or materials. We take up the project thinking that we will be able to manage those materials and Sensors but we are not able to manage them. This is also another reason. Thirdly, developments are coming up in large numbers and so, the project is getting extended in its time period. At one point of time, the interest in the project by the Services and other sides is also lost as newer systems have come up. These are the reasons why short closure of projects are taking place. But I would like to mention that short closure of projects is very minimal in number. As I said, out of 205 projects, we have short closed only five projects in the last five years”.

NUCLEAR, BIOLOGICAL AND CHEMICAL(NBC)

2.19 The Ministry was asked to furnish the details regarding efforts are being made by the Defence Research labs to focus on Nuclear, Biological and Chemical (NBC) weapons detection system, the Ministry replied as under:-

“Programme on NBC Defence Technology was completed on 16th Mar 2015. Significant outcome of the projects were the development of single tube and twin tube ion mobility spectrometry based chemical agent monitor (IMS CAM) e.g. automatic chemical agent detector & alarm (ACADA), which are capable of detecting chemical agents such as nerve, blister, blood and choking agents.

NBC individual protective equipment (IPE) comprising of including NBC suit Mk-V, NBC respirator mask Mk-II, integrated hood mask Mk-II, NBC gloves Mk-II, NBC overboot Mk-II, haversack Mk-II, personal decontamination kit (PDK) Mk-II & decontamination suit Mk-II; multi-purpose decontamination system (MPDS), NBC inflatable shelter, NBC mobile shelter, CBRN unmanned ground vehicle and other products such as NBC first aid kit type A and type B, H1N1 kit (swine flu), NBC food packaging etc. DRDO handed over NBC Recce Vehicle Mk-I and NBC drugs over to the Army on 2nd Mar 2017”.

During the oral evidence, Secretary, Defence R&D further clarified on this issue:

“A lot of research has gone into that area for the chemical, biological and nuclear warfare related aspects. A number of technologies have been developed and a number of protective suits have been developed by DRDO which have gone to the Armed Forces. A number of shelters have also been developed by our laboratories. We have developed some chemical agents which can be used for the civilian purposes. Right now, the suits which have been made are given only to the Armed Forces but the chemical agents which have been developed for chemical warfare are also applicable and utilized by the civilian society”.

PRODUCTS DEVELOPMENT BY DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION(COORDINATION BETWEEN DRDO AND SERVICE USERS)

2.20 On being asked about the process of consultation of Service Users starting from the Project conception till completion of the project, the ministry in its reply submitted as under:

“DRDO actively involves the users right from the conceptualization of the project through peer reviews, design reviews, and a 3 tier project monitoring mechanism as per DRDO procedure for all Mission Mode projects under-taken by DRDO.

Such projects are normally initiated based on the user requirements (LTIPP, Collegiate meetings, IN-DRDO Synergy etc.) with the request of the concerned user Service.

In addition, users participate in review meetings like QIMs with IA; QPRs with IAF, Synergy meeting with IN and Apex level reviews by Chiefs, Vice Chiefs and Deputy Chiefs of the Services during the execution of the projects. In addition; specific Project Management Teams having User rep as a part of the project team are also constituted for specific projects”.

During the oral evidence regarding Armed Forces interact with the DRDO or some of their officers are part of the DRDO, Secretary, R&D stated that:

“Firstly, the Armed Forces and the DRDO, right from the inception of the project, when you are actually contemplating the project itself, the discussion starts formally and there are committees where they work out together the specifications and PSQRs of the equipment required. Then, the Services are part and parcel of the Project Teams. They are posted in DRDO laboratories and we have more than 500 Services personnel posted in DRDO laboratories and then there are formal review mechanisms. There are three levels of review mechanisms where the Services are part and parcel of the review mechanisms also. Even in user trials, both the parties jointly carry out developmental trials and then only user trials come into the picture.

Then, when the Services carry out user trials and also when they start utilizing the equipment, there is again a feedback mechanism which is there through which they pass on formally the observations which they have and on those observation, we actually have joint meetings and we will be addressing those issues and observations that have been raised and we try to close those observations”.

PRIVATE SECTOR PARTICIPATION

2.21 On being asked to furnish a list of the laboratories and projects in which private sectors are involved and technologies developed by DRDO have been transferred, if any, to Private Sector, the Ministry in its written reply has furnished as under:

“DRDO works in close association and collaboration with private industries for development of its defence systems and technologies. DRDO has evolved various industry models for engagement and development of Industries. These are Development Partner Model, Consortium Model, Concurrent Engineering Model, Joint Venture (JV) Model, Joint Development Model, Limited Series Production (LSP) Model, Government Owned and Company Operated (GOCO) Model, International Collaboration Model and Transfer of Technology (ToT) Model. These modes of industry engagements, facilitate smooth transfer of DRDO developed technologies, provide necessary hand holding support to industries, provide technical support and support to facilitate exports. The following steps have been taken by DRDO during the last three years to enhance the involvement of private sector in DRDO projects and programmes:

- 1) DRDO has promulgated new Transfer of Technology(ToT) policy and procedures with zero Transfer of Technology(ToT) fee for its industry partners (Development cum Production Partners (DcPP)/ Development Partner (DP) and zero royalty for supply to Indian Armed Forces and Government Department Nil ToT fee and royalty will reduce the financial burden on Indian industries and Indian Armed Forces. Only 5 % Transfer of Technology(ToT) fee will be charged from non DcPP/DP industries. The policy has been made compatible with Defence Procurement Procedure-2016. This will provide further boost to Indian industries in defence manufacturing sector to achieve more self reliance. This will enhance capabilities and competitiveness of Indian industries in global market.
- 2) To facilitate Transfer of Technology(ToT) for Category A (Military Technologies) and Category B (Spin off/ Commercial use Technologies), a user friendly portal has also been launched for more transparency and clarity for the industry entrepreneurs.
- 3) To unearth the hidden potential of spin off technologies and bring in more transparency, DRDO has entered into Memorandum of Understanding(MOUs) with four leading industry chambers namely Associated Chamber of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII), PHD Chamber of Commerce and Industry (PHDCCI) and National Research Development Corporation (NRDC) for technology assessment and commercialization of dual use, non-security sensitive technologies so that fruits of our technological progress reach the common man.
- 4) DRDO has carried out intense interactions with industries all over the country to boost Defence Manufacturing sector and to achieve self reliance in Defence

manufacturing. More than 900 industries were interacted at various cities in India to apprise them on DRDO technologies and to facilitate the industries (including MSMEs) to absorb DRDO technologies to boost defence manufacturing sector and achieve self reliance in the defence technologies.

- 5) DRDO has promulgated the SoP for export for DRDO developed products that will facilitate Indian industries and DRDO labs to provide necessary technical support to industries for responding of export RFI before necessary approval from Ministry of Defence is obtained by industry. This SoP will facilitate industry and Labs to provide necessary support to industry on preparation of specification for RFI as well as customization of products to cater the needs of export. This will boost up the export potential of DRDO developed products by Indian industries.
- 6) DRDO has promulgated new patent policy to facilitate Indian industries to get fee access of DRDO patents. This will provide an access to Indian industries to the innovations carried out by DRDO to further boost up their R&D and develop new technologies. It will enhance the self reliance in Indian industries and global competitiveness.
- 7) Several world class test facilities have now been opened for industries in DRDO labs. The industries are using these test facilities for testing and qualification of the defence products developed by them. The Indian industries have been adequately groomed by DRDO in aspects like design, simulation, prototype manufacturing, testing, quality control, performance evaluation, technical and user trials.
- 8) DRDO has launched Technology Development Fund(TDF) which provides financial support to the Indian industries for the design development of innovative defence products. This encourages the R&D culture in industries and also leads to more self reliance in defence technologies.

In last three years around 254 Licensing Agreements for Transfer of Technology (LAToT) have been signed with private industries.

During the oral evidence, Secretary, R&D further stated in this regard:

“The Armed Forces do also go to the private industry to get some of the systems developed by the private industry, particularly of late, with a lot of start-ups coming in the country, the Armed Forces are also encouraging start-ups to come up with products and technologies in niche areas.

CHAPTER III

DIRECTORATE GENERAL QUALITY ASSURANCE

The Directorate General of Quality Assurance (DGQA) is under the Department of Defence Production, Ministry of Defence. This organisation provides Quality Assurance (QA) cover for the entire range of Arms, Ammunitions, Equipments and Stores supplied to Armed Forces. Apart from Quality Assurance(QA) activities, the organisation is responsible for import substitution and associates with Defence Research and Development Organisation (DRDO) in the development projects. It also ensures Documentation, Codification and Standardisation Action for minimizing the variety of components / equipments. The other services rendered are promotion of small scale industries, Post procurement services, Defect Investigations and Technical Consultancy to the users, Ministry and the Production Agencies. The establishments under this organisation are spread all over the country where mainly the Ordnance Factories, Defence Public Sector undertakings and Industrial base exist. DGQA organisation carries out inspection of Defence stores supplied by Ordnance Factories, DPSUs, Trade Firms and ex-import. These inspections are done at various stages of manufacture and at Final Acceptance stage. On an average DGQA Organisation carries out approx 19,000 inspections per month.

BUDGETARY PROVISIONS

3.2 Projected Amount, Budget Estimates (BE), Revised Estimates (RE) and actual allocations in respect of DGQA for the last five years along with the Projections and Budget Estimate allocation for the year 2018-2019 are given in the following table:

BUDGET ESTIMATES

(Value in crores)

Year	Head	Projected	Budget Estimates	Revised Estimates	Modified appropriations	Expenditure
2014-15	Revenue	886.04	832.80	851.89	834.20	818.17
	Capital	26.00	6.19	6.19	5.40	5.30
	Total	912.04	838.99	858.08	839.60	823.47
	Difference between allocation & expenditure	16				
	Percentage surrender	2%				
2015-16	Revenue	1008.3	876.04	932.91	931.91	867.73
	Capital	12.00	7.12	7.12	11.12	10.57
	Total	1020.30	883.16	940.03	943.03	878.30
	Difference between allocation & expenditure	55				
	Percentage surrender	7%				
2016-17	Revenue	1090.99	1068.10	1077.97	1139.72	1075.30
	Capital	9.00	7.27	9.00	9.00	8.83
	Total	1099.99	1075.37	1086.97	1148.72	1084.13
	Difference between allocation & expenditure	65				
	Percentage surrender	6%				
2017-18	Revenue	1292.14	1163.54	1086.03	1030.86	1001.67
	Capital	15.00	7.97	7.97	7.97	7.35
	Total	1307.14	1171.51	1094.00	1038.83	1009.43
	Difference between allocation & expenditure	30				
	Percentage surrender	3%				

2018-19	Revenue	1310.81	1137.02	1179.83	1179.45	1104.43
	Capital	12.00	9.96	19.96	19.96	12.24
	Total	1322.81	1146.98	1199.79	1199.41	1116.67
	Difference between allocation & expenditure	83				
	Percentage surrender	7%				
2019-20 (till Sep 19)	Revenue	1211.18	1202.70	1317.05	to be projected	497.03
	Capital	30.00	10.96	15.96	to be projected	4.92
	Total	1241.18	1213.66	1333.01	to be projected	501.95
	Difference between allocation & expenditure					
	Percentage surrender					

ROLE OF DGQA

3.3 The role of DGQA organisation is to ensure that the entire range of Armaments, Stores and Equipment used by the Army and those stores of the Navy and Air Force for which DGQA is responsible, are of the specified Quality and Reliability to enhance the combat efficiency of the Armed Forces.

During oral evidence, the Defence Secretary highlighted the role of the DGQA and how the users are involved in this:

“सर, आर्मी के साथ बैठकर ये अपना क्वालिटी प्रोसीजर बनाते हैं। लेकिन ये एक इंडिपेंडेंट क्वालिटी एश्योरेंस एजेंसी है। इनके आधे अफसर आर्मी से आते हैं। इनके यहां आधे अफसर सिविलियन्स हैं। लेकिन क्वालिटी कंट्रोल करते हैं तो एक तरफ प्रोड्यूसर है और दूसरी तरफ यूजर है। आर्मी यूजर है और प्रोड्यूसर फैक्टरी है। बीच में क्वालिटी देखकर ये एश्योर करते हैं कि जो प्रोड्यूसर बना रहा है, वह ठीक बना रहा है कि नहीं बना रहा है। ये डिफेंस प्रोडक्शन विभाग के तहत आते हैं”।

..... सर, यूजर्स की एक प्रोजेक्ट मॉनीटरिंग कमेटी बनायी गई है। अब आप देख रहे हैं कि जैसे धनुषगन है, धनुषगन का जब डिजाइन और प्रोडक्शन हो रहा है, उसमें एक कमेटी बनी है, जिसमें यूजर, मैनुफैक्चरर, डीआरडीओ इत्यादि ये सब मिलाकर कमेटीज बनती हैं जो डिजाइन और प्रोडक्शन में शुरू से इंवाल्व होती हैं। इसके अलावा जब किसी भी स्टोर का डिफैक्ट हो जाए, जैसे एम्युनिशन का कोई फैलियोर हो जाए तो हमें यूजर से पूरी इनपुट्स मिलती हैं और जो अफैक्टेड एम्युनिशन है, उनके लॉट्स यूजर से आते हैं और अपने इंवेस्टीगेशन में हम हर समय यूजर को इंवाल्व रखते हैं और उनको इंफॉर्म करते रहते हैं। उसके अलावा हमारी रेगुलर मीटिंग्स, क्वालिटी रिव्यू मीटिंग्स जो हरेक कंट्रोलिएट में ऑरगेनाइज होती हैं जिनमें एनजीओ ब्रान्च के अफसर आते हैं। Regular interaction with the services, not only during the production and exploitation, but also during like I had brought out, जब शुरू में ईक्विपमेंट इंटीग्रिटी होता है, उसके ट्रायल्स होते हैं, उस समय सबसे ज्यादा इंवाल्वमेंट यूजर का उसके साथ होता है”।

TRAINING

3.4 During the oral evidence, on the issue of modernisation of training programmes for quality assurance experts, the Secretary, DGQA, replied:

“सर, हमारा अपना ट्रेनिंग इंस्टीट्यूट है। This is called DIQA. It is Defence Institute of Quality Assurance, which is located at Bangalore. हमारे जितने भी अफसर हैं, वे ट्रेनिंग डीका में करते हैं। जो फोर्सज हैं, वह वाइड स्पेक्ट्रम कोर्सज सिलैबस कवर करता है। इसके अलावा जो जूनियर इंजीनियर्स और लोअर स्टॉफ है, उनकी ट्रेनिंग कंट्रोलेट में होती है। जो मैंने बताया था कि ऐसे 24 कंट्रोलेट हैं। इनमें से 5 कंट्रोलेट ऐसे हैं जहां स्पेशलाइज्ड ट्रेनिंग होती है। एम्युनिशन ऑफ वेपन्स इंस्टीट्यूट पुणे में है। For instance, ammunitions and weapons. The institute is at Pune along with CQA ammunition. जैसे जैसे आधुनिक ईक्विपमेंट्स अभी आ रहे हैं, साथ-साथ हम आधुनिक टेक्नोलॉजी और आधुनिक प्रैक्टिसेज जैसे इंडस्ट्री 4.0 ये जो कोर्सज हैं, Along with private training institutes, we carry out these courses as well”.

QUALITY CHECK

3.5 On the issue of DGQA carry out a defect test before the product goes to the user, , especially in major equipments, whether DGQA had find any defect and the vendor black listed, the Ministry in its written reply stated as under:

“Before any product goes to the user, DGQA carry out various test as per Quality Assurance Plan at different stages of manufacturing. Non conformation / defects are observed by DGQA during the testing. In such cases, DGQA either issues rejection inspection note or return the stores for rectification (RFR) depending upon the nature

of equipment and defect. Advisory Note is also issued to the manufacturer to take corrective action. In case of Ordnance Factories and Defence PSUs the issue is raised during Quality Liaison Meet (QLM). No vendor has been black listed for this reason. Rendering advise to Ordnance Factories on corrective action is an ongoing process”.

During the oral evidence, on the issue of defected products supplied to defence services what kind of steps taken by DGQA, the Secretary, DGQA, replies:

सर, जब कोई भी इस तरह की समस्या आइडेंटिफाई होती है तो उसका डिटेल्ड इन्वेस्टीगेशन सर्विसेज इंस्टीट्यूट करते हैं और उसकी जो सिफारिशें होती हैं, तो उस हिसाब से कार्यवाही की जाती है, We are keeping ourselves abreast with all the latest technologies. मैं आपको एक उदाहरण दूंगा क्योंकि जो एक्सीडेंट्स वेपन्स और एम्युनिशंस में होते हैं, वे सबसे क्रिटिकल होते हैं। हमारी लगातार कोशिश यह रहती है कि एक्सीडेंट्स बिल्कुल मिनिमाइज हो जाएं। हालांकि इनको ज़ीरो करना बहुत ही मुश्किल है क्योंकि दुनियाभर में यह है कि आप चाहे कितनी भी कोशिश कर लें, But accident are likely to happen. Accidents do not happen only because of failure in quality. There are other reasons also like the usage, the storage. They are few instances. But the drills are there. So, all these combined result into an accident or individually also. अब एम्युनिशन का कोई एक्सीडेंट हो गया तो उसमें सबसे पहली ऑन दि स्पॉट हमारी टीम तुरंत जाती है, उसके लिए हमारी क्लिक रिएक्शन टीम पहले ही नियुक्त है और हम यूजर के साथ पूरा एवीडेंस गैदर करते हैं। पहला असेसमेंट वहीं पर ही कर लेते हैं। उसके बाद आर्मी की एम्युनिशन को जांच करने के लिए उनका डीजी(यूएस) और ईक्विपमेंट को जांच करने के लिए उनका डीजी(एमई) जाते हैं और अपनी स्वतंत्र रिपोर्ट बनाते हैं। वे रिपोर्ट्स हमारे पास मंगाई जाती हैं। पूरे सैंपल्स मंगाये जाते हैं। उसके बाद डिटेल्ड इन्वेस्टीगेशन दोबारा किया जाता है। उनकी जांच और कैमिकल टैस्टिंग करते हैं और निष्कर्ष पर पहुंचते हैं कि इसमें क्या फॉल्ट हुआ है और फॉल्ट मिलने के बाद उसको इंस्टीट्यूट किया जाता है ताकि वह दुबारा न हो।

NATIONAL CADET CORPS

National Cadet Corps (NCC) was established under the NCC Act, 1948. NCC aims at developing character, comradeship, discipline, a secular outlook, the spirit of adventure and ideals of selfless service amongst young citizens. Further, it aims at creating a pool of organized, trained and motivated youth with leadership qualities in all walks of life, so that they become useful citizens and serve the Nation with all their might regardless of the career they choose. Needless to say, the NCC also provides an environment conducive to motivating young Indians to join the armed forces. The motto of NCC is 'Unity and Discipline'.

4.2. NCC has a dual funding pattern where both the Central and State Governments meet the expenditure on NCC activities in a properly specified manner. The idea behind sharing of expenditure by the State Governments is to ensure that they too have a sense of participation and belonging in the various activities undertaken by the NCC cadets towards nation building. The Central Government bears expenditure on the following items:-

- (a) Pay & Allowances of Services and Civilian personnel
- (b) Transport expenses
- (c) Expenditure on office accommodation and contingencies in Directorate General, NCC, State NCC Directorates and Training Academies
- (d) Expenditure on equipment, vehicles and clothing
- (e) 75% expenditure on Camp training in all States (except J&K and NER – Sikkim, where it is 100%).

The State Government bears expenditure on:

- (a) Pay & Allowances of State Government Civilian employees posted to NCC
- (b) Office accommodation and Contingencies in NCC group Hqrs and Units
- (c) Allowance for NCC cadets and Associated NCC Officers(ANOs)
- (d) Institutional training in all states (except J&K and NER - Sikkim)
- (e) 25% of camp expenditure in all States (except J&K, NER and Sikkim).

4.3 Details regarding the projections and allocations made to NCC by the Ministry and expenditure incurred during the last five years including 2019-20

Year	Projections: BE			Allocations: BE			Projections: RE			Allocations: RE			Actual Expenditure		
	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total	Revenue	Capital	Total
2014-15	1244.57	34.00	1278.57	1019.67	5.50	1025.17	1010.86	2.10	1012.96	953.10	1.00	954.10	965.47	0.37	965.84
2015-16	1248.53	23.00	1271.53	1016.39	5.00	1021.39	1217.32	3.10	1220.42	1083.27	1.10	1084.37	1112.59	1.17	1113.76
2016-17	1491.92	21.00	1512.92	1188.23	1.15	1189.38	1305.90	22.85	1328.75	1200.80	11.00	1211.80	1136.75	7.80	1144.55
2017-18	1595.98	68.72	1664.71	1291.03	12.40	1303.43	1554.89	29.96	1584.85	1436.23	13.40	1449.63	1362.82	24.39	1377.21
2018-19	1871.92	38.50	1910.42	1561.81	22.40	1584.21	1561.31	53.05	1614.36	1529.18	22.40	1551.58	1414.53	20.39	1434.92
2019-20	1859.03	80.93	1939.96	1607.28	24.64	1631.92	1642.28	49.95	1692.23						

During oral evidence the representatives of NCC submitted that “If we get appropriate budget NCC can face the new challenges and fulfil its mission”

4.5 Today, NCC is largest uniformed youth organisation in the world. It has presence in 711 out of 718 districts of the country with enrolled cadet strength of 13.29 lakhs cadets. As on date 17374 educational institutions(both schools and colleges) have been covered. 58% are Urban/Semi-Urban and 42% are Rural. Girl Cadets are 31.86 % of the total strength of NCC.

4.6 There are total of 9064 waitlisted institutions in the country. Phase expansion of cadets is under progress. It is expected to add another 40,000 cadets.

During oral evidence, on the issue of waitlisted institutions and expansion of NCC, the representative of NCC replied as under:

“सर, इसमें जो सबसे बड़ा कंस्ट्रैन्ट है, वह बजट का है और दूसरा, मैन पावर कंस्ट्रैन्ट है। अभी सभी जगह मैन पावर कटिंग के बारे में बताया जा रहा है।

दूसरा, जो स्टेट सपोर्ट है, इस बारे में मैंने पिछली बार भी बताया था कि सिर्फ सात स्टेट में नौ ट्रेनिंग एरिया है। कम से कम हर स्टेट तथा ग्रुप में एक ट्रेनिंग एरिया होना चाहिए। हमारे पास कम से कम 98 ट्रेनिंग एरिया होना चाहिए। आज हम सिर्फ आर्मी, नेवी और एयरफोर्स के ट्रेनिंग इंफ्रास्ट्रक्चर को यूज़ कर रहे हैं। अभी डिफेंस सेक्रेटरी तथा ज्वाइंट सेक्रेट्री ने आदेश दिए हैं कि अब सैनिक स्कूल का भी इंफ्रास्ट्रक्चर यूज़ करें। अभी हम स्टेट से भी बोल रहे हैं कि उनके पुलिस तथा होमगार्ड्स के इंफ्रास्ट्रक्चर को यूज़ किया जाए। अभी हमारे पास बजट कंस्ट्रैन्ट है, अगर हमने इसी में संख्या बढ़ाई, तो हमारी क्वालिटी कम हो जाएगी। दूसरा, अगर हमें ट्रेनिंग करानी है, तो उसके लिए और इंस्ट्रक्टर चाहिए। ये सारे स्कूल्स वेटिंग में नहीं रहेंगे और अभी इसका कोई तरीका नहीं है, जब तक हमें बजट और मैन पावर नहीं मिल जाए।”

During the oral evidence, on the question of shortage of manpower in the NCC and appointment of retired army personnel in the NCC, representative of NCC, replied:

“सर, मैं एक बात कह दूँ कि उससे कोई फर्क नहीं पड़ेगा, क्योंकि अभी 94 आर्मी ऑफिसर्स एनसीसी में काम कर रहे हैं, उनकी सैलरी एनसीसी पे नहीं कर रहा है। उनकी सैलरी आर्मी पे कर रहा है। अभी आपको जो सैलरी का फीगर दिखाया गया है, this is excluding the 94 army personnel. अगर हम इसको करेंगे, तो इनका खर्चा बढ़ जाएगा, क्योंकि आर्मी रिटायर लोगों को पैसा नहीं देगी और 94 ऑफिसर्स को विड्रॉ कर लेगी।

On being asked about the feasibility of self-financing of NCC, Defence Secretary during Oral evidence submitted:

“सर, आपके सुझाव बहुत ही अच्छे हैं। इन पर हम लोग विचार करेंगे। सेल्फ फाइनेंसिंग मॉडल में इसको कैसे आगे बढ़ाया जा सकता है, उसके बारे में हम विचार करके कोशिश करेंगे। जब स्कूलों की मांग है, तो हम लोगों का प्रयत्न रहेगा कि उनको दिया जा सके। इसके बारे में हम कोशिश करेंगे कि जो भी हो सकता है, उसको करवाएंगे।”

4.7 On being asked about plans to gainfully utilise the expertise of the ‘C’ Certificate holders in consultation with the other stakeholders in the areas such as Civil Defence,

Disaster Management and Public Awareness Campaigns, the Ministry in written reply submitted as under:

“Presently, case is being examined with other Government Agencies, to include incentive marks for ‘C’ certificate holders, for induction in Central Armed Police Forces/Central Para-military Forces”.

Further clarifying on this issue, the representatives of NCC during oral deposition submitted:

‘Every year, there are about 50,000 to 60,000 Cadets who get the C certificate. They are eligible to join the army. They have a little concession. They have bonus marks. About 6,000 to 7,000 of them are joining the army and about 400 to 500 each are joining the Navy and Air Force in the other cadre. In the officers’ cadre, there are about 160 vacancies reserved in various categories. In Short Service, they do not have to appear for the written exam, they can straightway go to the SSB. So, there is a check there. About a year back, there were less than 50 percent. I am happy to announce to the Committee that this time out of 50 vacancies which were available, 39 have got selected in Staff Selection Board(SSB). I am giving a lot of impetus to it. I am outsourcing it. This is also a part of skill development. Even if there cadets are not getting selected here, Some of them are getting selected into the Central Armed Police Forces (CAPFs). Now there is a letter almost ready to be written by the Raksha Rajya Mantri (RRM) or the Raksha Mantri (RM) to the CAPFs and security related services and even to the port authorities, to give similar concession as the Army, Navy and Air Force. We have had the Apex Committee meeting on the 8th of October. By middle of November, this letter should go to the Chief Ministers seeking similar facilities in the State because this is a trained manpower with well-developed personality and leadership skills. They are capable of handling the weapons. They have the physical and the mental endurance. So, the nation can use this personality for nation building and national integration.

.....It is about 60,000 in the army. We do not have the automation. We have gone in for the project now. A similar number of them should be going to the CAPFs or elsewhere. So, it is a good number of people. Let me tell you, NCC is very popular because we are providing enabling environment. You ask the colleges. I have gone to Christ College, Bengaluru, I have gone to Coimbatore. The Vice Chancellor had personally met me and he said that there is a marked difference between an NCC cadet and a non-NCC student. Everybody is saying, why do you not do it for all students. But we have our constraints.

4.8 On the issue of self-financing of NCC Units the representatives submitted:

.....जैसे एनसीसी में और वैकेंसी बढ़ाने के लिए हमने एक स्कीम स्टार्ट की थी, जो फुली सेल्फ फाइनेंस स्कीम थी। जो स्कूल या कॉलेज कैडेट की पूरी फीस देने के लिए तैयार है, उनको हम दे रहे हैं। पहले हमने जूनियर विंग में स्टार्ट किया था और वह कुछ हद तक सफल हुआ है। हमने एक लाख senior wing कैडेट्स के लिए फुली सेल्फ फाइनेंस स्कीम शुरू करने पर विचार चल रहा है है। उसमें बजट का प्रॉब्लम नहीं होगा। The budget will be given by the schools.

Further, in this regard Secretary Defence Finance stated as under:

.....सर, वह हम से इसके लिए पैसा नहीं मांग रहे हैं, परंतु अल्टीमेटली मांगेंगे। सेल्फ फंडिंग के तहत शुरू-शुरू में खर्चा देंगे, परंतु अल्टीमेटली ट्रैवल तथा कैंप में हमारी खर्च आएगी। इसमें लाँग टर्म खर्चा आएगा। These are those cases where schools are willing to fund. वे पैसा देने को तैयार हैं। जैसा हम शुरू में सेन्टर तथा स्टेट से मांगते हैं, वह सब स्कूल तथा कॉलेज करने के लिए तैयार हैं।

On the issue of skill development the representative of NCC submitted:

“I am happy to announce to the Committee that this time out of 50 vacancies which were available, we have selected 39. I am giving a lot of impetus to it. I am outsourcing it. This is also a part of skill development. Even if the cadet is not getting selected there, he is getting into the CAPFs. Similar number are going into the CAPFs. Now there is a letter almost ready to be written by the RRM or the RM to the CAPFs and Armed Guards wherever they are there and even to the port authorities, to give similar concession as the Army, Navy and Air Force. We have had the Apex Committee meeting on the 8th of October. By middle of November, this letter should go to the Chief Ministers seeking similar facilities in the State because this is a trained manpower with well-developed personality and leadership skills. They are ready to take on the weapon. They have the physical and the mental endurance. So, the nation can use this personality for nation building and national integration. That is there. A lot of focus is being given by everybody on this issue. On skill development also, I would like to say that we are bridging the gap between the States. Wherever Skill Development Centres are available, we are offering them. Bihar State has done very well. We had a pilot project in Bihar. We are offering them and monitoring them. Our manpower is not trained to take on the skill development ourselves. But we are using the State facilities. Wherever the States are offering the vacancy, we are utilising it.”

PART II

OBSERVATIONS / RECOMMENDATIONS

ORDNANCE FACTORIES

BUDGETARY PROVISIONS

During the year 2019-20, Ordnance Factories received a net budget outlay of Rs. 50.58 crore against Revenue Head. Total projection under this Head at BE stage was Rs. 17,050.38 crore while the approved budget estimates is Rs. 15,653.09 crore. Rs. 12,546.32 crore dedicate for defence issues and Rs. 3,056.19 crore against other receipts and recoveries. Hence remaining Rs. 50.58 core is net revenue budget allocation.

2. Representatives of Ordnance Factory Board, submitted before the Committee, during oral evidence said that mid-term targets reduction by the Army after BE finalization has serious adverse effect on costing of Ordnance Factory Board products & budget. It was further intimated that only after receiving indents from Army, the procurement process commences in Ordnance Factories. Sometimes, the indents are withdrawn leading to accumulation of material. The Committee take note of the said hurdles in functioning of Ordnance Factories and recommend that Ministry of Defence shall endeavor to systematize coordination mechanism between Army and Ordnance Factory Board. Further it should be ensured that the requirements of Army and other Defence Forces are met without any compromise while at the same time order book position of Ordnance Factories is not left in lurch.

3. On this account, the Committee would also like to state that besides Indian Defence Forces, Ordnance Factory Board shall strive to explore more market for themselves so that their clientele is increased and the orders are received regularly. Various measures like product innovation, meeting delivery variables and cost effectiveness are some areas where Ordnance Factory Board shall focus with a view of improving market base.

MODERNISATION

4. The Committee were apprised that modernization in Ordnance Factories is a continuous process and all efforts are made to keep pace with the contemporary manufacturing technologies. Ordnance Factory Board prepares a modernization plan for technological upgradation as well as capacity enhancements. On going through the data furnished to the Committee, it was found that the Capital Outlay provided for modernisation has declined from the year 2014-15 to 2018-19. For Machines & Equipment (M&E), Rs. 489.00 crore was allocated in 2014-15 which declined to Rs. 332.00 crore in the year 2018-19. Similarly, for works Rs. 314.19 crore allocation in 2014-15 got reduced to Rs. 293.00 crore in the year 2018-19. The Renewal and Replacement (RR) allocation also declined to Rs. 400.00 crore in 2018-19 from Rs. 500 crore in 2014-15. The above figures compel the Committee to deduce that the current approach of Government towards modernisation of Ordnance Factories needs a serious attention.

5. In this regard the Committee opine that Ordnance Factories are age old organization playing their role in fulfilling the requirements of Indian Armed Forces. In

modern times, new-age technologies & product innovation is essential part of any production industry to sustain competitive milieu. Therefore, modernisation of Ordnance Factories requires due attention and necessary impetus for creation of cost effective and market oriented production line. These aspects would require inflow of adequate funds. The Committee recommend that requisite funds should be directed towards modernization activities in various Ordnance Factories.

DELAY OF PROJECTS

6. The Committee raised issues regarding delay in delivery of products by Ordnance Factories. The Ministry of Defence agreeing to the concern of the Committee submitted that certain delays have been observed during implementation stage of some projects due to various reasons related to procurement process of Plant & Machinery(P&M) and execution of civil works. Problems are encountered at different stages like tendering, supply and erection of Plant & Machinery(P&M). The Committee suggest that Ordnance Factories shall envisage realistic timelines which can be adhered to. The timelines should be calculated only after due consideration to various factors involved in execution and final delivery of product.

7. Procedural delays must be avoided to the farthest possible extent as this creates a bad name for the organization in the market and at the same time puts extra burden on exchequer. Moreover, at times such delays had deprived the Defence Forces of critical capabilities. Therefore, necessary action should be taken to do away with slippages at all levels including revamping of procedural aspects so that delays do not take place for such reasons.

8. The Committee raised the specific case of inordinate delays in case of 'Dhanush' project. In this connection, the representatives of Ordnance Factory Board candidly admitted that there had been long slippage in it. The reasons for the same were given to the Committee which include problems like delay in supply of machines & finalization of contract in Ordnance Factory Board's internal procedures. In some cases it was also due to delays in civil works done by Military Engineering Service (MES). The Committee urge upon the Ministry of Defence to take care of coordination between Ordnance Factory Board & Military Engineering Service so that the work of Ordnance Factories is not hampered due to any delay by Military Engineering Service(MES) or for that matter any other department.

RESEARCH & DEVELOPMENT

9. The Committee are happy to find that Ordnance Factory Board takes up in-house Research & Development projects of design & development of new product of armament, ammunition and equipment. Out of 124 armament & ammunition developed so far by Ordnance Factories, 61 items were designed and developed by in-house R&D. This accounts to approximate 24.57% of output value developed through internal R&D under foreign Transfer of Technology (ToT) and collaboration with DRDO. An increase in R&D expenditure was also witnessed which raised from 0.50% in 2014-15 to 0.71% in 2018-19 as R&D expenditure. The Committee commend the research and development activities being taken by OFs and wish that such efforts should be further continued.

10. During deliberations on Demands For Grants 2019-20, the Committee categorically raised the issue of development of clothing at higher altitude. The representatives of Ordnance Factory Board deposed before the Committee stated that the products for such an altitude could not yet been developed by Ordnance Factories. However, the work towards this end is in progress in collaboration with other institutions. It was also brought to the knowledge of the Committee that Ordnance Factories are in the process of making electric vests for higher altitudes. The Committee desire that the research in this field soon leads to development of necessary material technology for clothing and boots suitable for deployments in higher altitudes.

EXPORT AND IMPORT

11. The Committee took note of the increase in export value of Ordnance Factories products. From 26.64 crore in 2014-15, this has reached Rs. 264.60 crore in the year 2018-19. Meanwhile the import content has been limited to 10% only in which spares and components are also included. The Committee wish that efforts are made to further reduce import content in Ordnance Factories products and process. They are also increasing the issue/order to Air Force and Navy by widening the product range, overhauling of Armoured vehicles and Guns and reorienting to focus on new customer and product matrix. Hence, while appreciating the efforts being taken by Ordnance Factory Board to improve export potential as evident in the growth of currency valuation of exports, the Committee desire more steps are to be taken in this direction. However, the needs of Indian Armed Forces shall always remain the first priority of Ordnance Factories. The Committee desire that more efforts are to be made

by Ordnance Factories for enhancing export value by making their products cutting-edge and contemporary with a view to beat competitive global market. Exports bring revenue for Ordnance Factories and they can be utilized for further development of these Factories.

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

BUDGETARY PROVISIONS

12. The Committee note that in the year 2017-18, the projection was Rs. 19,936 crore while allocation was Rs. 15,400 crore. In the year 2018-19, the allocation was Rs. 17,611 crore against a projection of Rs. 22,204 crore. The projection made by DRDO in BE 2019-20 is Rs. 22,953.95 crore whereas the allocation is Rs. 19,021.02 crore. There is a shortfall of Rs. 3932.93 crore. The Committee are informed by the Ministry of Defence that the budget of DRDO has always been around 5-6% of the Defence Budget. After keeping aside expenses for strategic schemes & Cabinet Committee on Security(CCS) projects, pay & allowances and other non-salary revenue expenditure, each of which essentially keeps growing every year. The amount left for R&D activities remains very less. For the current year, the quantum of funds for projects is Rs. 3500 crore. The Committee came to know that some of the projects for which funds may be sought are Advanced Medium Combat aircraft (AMCA), Airborne Warning & Control System (India) (AWACS), Unmanned Combat Aerial Vehicle (UCAV Ghatak), Next Generation Main Battle Tank (NGMBT), High Endurance Autonomous Underwater Vehicle (HEAUV), Marinised Engineered AIP Energy Module (MAAREEM) etc. It was further apprised that DRDO needs budgetary support to take up projects in futuristic

areas also. DRDO is managing within the allocations by re-prioritising the project activities. Therefore, the Committee recommend appropriate and adequate funding for DRDO projects keeping in mind the essentialities of research based technological advancements across the globe and to enhance the indigenisation level in a true sense.

13. The Committee note that the expenditure on Defence Research and Development in the country has remained around 1% of total GDP expenditure. This is considerably less than the share of R&D expenditure out of total defence budget when compared to other prominent countries of the world. The Committee opine that 'Make in India' vision can only be seen as a reality in Defence Sector when justifiable expenditure is channelized towards Research & Development.

14. During the oral evidence, it was candidly admitted by the representatives of DRDO that the country is still lagging behind in three crucial technologies viz. propulsion, material and chip. The Committee urge DRDO to initiate sincere efforts towards development in these areas and Ministry shall provide essential funding intended for research activities.

MANPOWER

15. The Committee observe that presently authorized strength of scientists in DRDO is 7353 whereas the held strength is 7107. During last 5 years, 142 scientists had left DRDO on personal grounds. The Committee desire that attrition should be contained to farthest extent as DRDO is an organization where many sensitive research on national defence take place. Also, the organisation shall endeavour to fill up the existing vacancies. If required DRDO may also consider option of relaxing the criteria for induction of scientists albeit after duly verifying the feasibility of the same.

16. As regards manpower, another point of concern in the opinion of the Committee is authorization of scientific manpower. It was brought to the knowledge of the Committee that since 2001, DRDO had been managing with same authorization in spite of more than 6 times increase in outlay from IX to XII plan. Indigenous research has also increased manifold owing to 'Make in India' directives in Defence. Therefore, the Committee desire that revision in authorization of scientific manpower in DRDO shall be taken up for consideration by the Ministry of Defence and additional posts may be created as per the present requirements.

17. In this connection, further, the Committee are apprised that current manpower is grossly insufficient for the committed R&D projects under progress in DRDO. Manpower Planning Board (MPB) in April 2010 recommended enhancement of manpower by 4966. Ministry of Finance (MoF) recommended 1316 posts (Phase I – 436 approved by Department of Expenditure (DoE). Case is pending with Cabinet Committee on Security (CCS). The Committee recommend for speeding up the case of

enhancement of manpower which is currently pending with Cabinet Committee on Security (CCS).

DELAY IN DEFENCE PROJECTS

18. The Committee observe that delay in completion of projects is a part and parcel of DRDO functioning. 20 Major projects of DRDO got delayed valued more than 15 crore. Different reasons are attributed to such delay viz. technological complexities, technological denial, enhancement of project cost, change in configuration of missile, additional trials and involvement of decision of various stakeholder etc. The Committee are apprised that DRDO is putting stringent review mechanization to review the critical issues periodically with respect to progress of implementation and delays. However, despite the mechanism, inordinate delays are occurring. These delays not only place a burden of unnecessary cost implications but also deprive the Services of critical capabilities.

19. Further, the Committee are not in agreement with viewpoint of DRDO that delay in DRDO project had not affected defence preparedness citing reasons such as Services can import the requisite product and even after delay, the product is contemporary and comparable to the best. In this regard the Committee feel that delay in timelines of project delivery definitely put unnecessary burden on financial outgo of exchequer. The money of taxpayers has to be judiciously and verily utilized by all departments. It is therefore recommended that all out efforts shall be made to complete projects within the stipulated time frame. No stone shall be left unturned in ensuring that all the milestones, short-term and long-term are achieved for all projects.

INDIGENISATION

20. During the examination of Demands for Grants(2019-20) of DRDO, the Committee came to know that the country is self-reliant in many systems that DRDO is currently developing. These systems include missile systems, radars, sonars, electronic warfare systems torpedoes and a recent development guns and ammunition. However, the electronic components are still being imported as the foundry is not available in the country. The Committee desire that development of electronic components may be initiated by industry within the country which may include Defence Public Sector Undertakings (DPSUs). Government shall take initiatives in this direction.

21. The Committee also realized that there are certain other areas where the research work needs to be given emphasis by DRDO. As earlier mentioned in this Report, propulsion, material & chip are the three technologies where impetus is required. Also, aero-engine is one area where the country is yet to develop for its own requirements. The Committee wish to see positive deployments in these areas and hope, in near future DRDO supported by Ministry of Defence comes out with tangible results.

NUCLEAR, BIOLOGICAL AND CHEMICAL (NBC)

22. The Committee are apprised on various developments in the area of chemical, biological and warfare related aspects. These include protective suits & shelters for Armed Forces. NBC Warfare is an area of research which bears direct affect on civilian population also. The Committee urge DRDO to enhance research activities in this direction also. During oral evidence, it came to the knowledge of the Committee that some chemical agents being developed by DRDO are also applicable for utility by civilian population. The Committee while appreciating this move desire for more developments in this field so that the country is prepared for any eventualities in case of NBC warfare. This becomes more crucial considering the hostile neighbourhood position India belongs to.

CLOSED PROJECTS

23. Committee came to know that in the last five years, out of 205 projects only 5 projects had been short closed. During the oral evidence, the reasons for the short closed projects were given as not being able to come up to level of technological developments. Secondly, a project also depends on imported sensors or materials. Thirdly, developments are coming up in large numbers and so, the project is getting extended in its time period. At one point of time, the Services show their interest in the project and on other sides they also lost interest as newer systems come up. The Committee are happy to note that there is a significant reduction in foreclosure of projects. At the same time they wish to recommend that in future there should be stringent scrutiny before starting a project so that such closures are avoided so as to

avoid waste of public funds as well as to help sustain the project which can prove to be extremely beneficial for the Services.

PUBLIC PRIVATE PARTNERSHIP

24. The Committee stressed on the need for a complete revamp and re-orientation of DRDO functions and one of the major initiatives suggested by the Committee in this regard was to facilitate the active involvement of private sector, Universities, Indian Institute of Technologies and Indian Institute of Science which could play a major role in the resurgence of DRDO.

The Committee recommend that an environment may be created where Public Sector and Private Sector can work in collaboration, so that the R&D activities can be synergized and better coordination achieved. The Committee also feel that a level playing field needs to be provided to the Indian Private Industry and they may be allowed to tie up with foreign manufacturers to develop certain equipment based on the requirements of users.

DIRECTORATE GENERAL QUALITY ASSURANCE

BUDGET

25. In Budget Estimate 2019-20, projection of DGQA is Rs. 1241.18 crore whereas the allocation Rs. 1213.66 crore. Out of this budget Rs. 1202.70 crore goes for Revenue Head while Rs. 10.96 crore is made for Capital Head. The projection for Capital allocation was Rs. 30.00 Crore. The Revised Estimate allocation in Revenue is Rs. 1317.05 crore and in capital segment it is Rs. 15.96 crore. The total allocation in

RE is even more than BE projection. The Committee take note of the increased allocations to DGQA. DGQA has to ensure quality and reliability to enhance combat capability of Armed Forces. The Committee greet the Ministry of Defence for providing adequate funds to DGQA.

26. On glancing through the documents furnished by the Ministry of Defence, the Committee found that there were cases of surrender of funds by DGQA in the past. Even in the year 2018-19, 7% of the allocated funds were surrendered by DGQA that too when allocations were only 83% of projections. During the financial year 2019-20, against the allocations of Rs. 1213.66 crore, it has spent Rs. 501.95 crore upto October 2019 i.e. during the seven months period. Another Rs. 711.71 crore has to spent during the remaining 5 months of the fiscal. At this, the Committee opine that the department must project the funds which are essential and accordingly spend them judiciously wholesomely for execution of the mandated role & responsibilities. Any superfluous requirements shall be restrained as this puts unnecessary burden on exchequer and funds are constrained from appropriately being distributed among other departments of defence.

TRAINING

27. DGQA is one organisation which affects performance of every other department/organization of Defence. The quality of products being used by Defence Forces is ensured by DGQA. In present times when technological advancements are a frequent and regular feature, it becomes quite essential for DGQA to regularly update their training module. The Committee were updated that DGQA has a training institute

called 'DIQA' located in Bangalore. They keep updating training along with induction of modern equipments and they even collaborate with private training institutes for the purpose. The Committee appreciate these measures and desire that DGQA ensures availability of best possible stocks for Defence forces at all times.

QUALITY CHECK

28. The Committee in their earlier reports expressed concerned that despite quality check of products at DGQA, some ammunition or other equipments reaching out to Defence Services turns out to be faulty and not defect free. In this connection, the Committee found that sample testing is carried out by DGQA and the whole lot of material may not be unflawed. Further, on this aspect the Committee found that DGQA mainly conducts process audit and product audit is very little. In this context, the Committee would like to recommend that DGQA carry out some random sample testing also so that the quality of products can be ensured to the maximum possible extent.

NATIONAL CADET CORPS.

29. The motto of NCC is Unity & Discipline. It aims at creating a pool of organised, trained and motivated youth with leadership quality in all walks of life and serve the nation, whether Armed Forces or Civilian sector. Further, today NCC is the largest uniformed youth organisation in the world. It has presence in 711 out of 718 districts of the country. As on date, 17374 educational institutions have been covered and 9064 institutions are in waiting list. The Committee observe that during the years 2018-19, against the projection of Rs. 1910.42 crore the allocation at BE Rs. 1584.21 crore and

at RE it was reduced to Rs. 1551.58 crore. There is a reduction of Rs. 32.63 crore. Further against the allocations of Rs. 1551.58 crore, the actual expenditure is Rs. 1434.92 crore. The under utilisation is to the tune of Rs. 116.66 crore. During the year 2019-20 against the projection of Rs. 1939.96 crore the allocations is Rs. 308.04 crore. The gap is Rs. 308.04 crore. The Committee have been apprised that infrastructural, budgetary and manpower constraints affect the expansion of NCC. The expansion programme of NCC would require adequate Fund. The Committee are pained to note that on the one hand NCC needs more allocation and on the other hand, there have been under utilisation of the allocations given at the RE stage since the year 2015-16. Therefore, the Committee wish to recommend that NCC should make all out efforts to utilise the allocated money fully. At the same time the Ministry of Defence should ensure judicious allocations to NCC at RE stage to meet the expansion programme and minimise the waitlisted institutions.

INFRASTRUCTURAL CONSTRAINTS FOR NCC

30. The Committee observe that as on date 17374 educational institutions (both schools & colleges) have been covered under NCC. There are 9064 waitlisted institutions throughout the country. Lack of adequate training facilities is one of the reasons that affect the expansion of NCC. The Committee have been apprised that there are only 9 training institutions in seven states. There is a requirement of minimum one training institute in one state and NCC should have 98 training institutions. At present NCC has been using the training institutes of Army, Navy and Air Force. However, because of shortage of manpower of Army, Navy and Air Force many a time they regret to provide necessary facilities to NCC. As a result, NCC is

being deprived of getting adequate training. At present NCC is also pursuing the State Police and Home Guard to spare their training institutions. The Committee are of the opinion that the stop gap arrangements will jeopardise the quality of training to be provided for NCC. Therefore, for giving due impetus to quality of training to NCC, adequate allocations should be provided to increase the number of training institutes of NCC. The Committee desire that the Ministry of Defence should take right steps in this regard at the earliest. Further, the Committee wish to state that while opening up of new Units of NCC, in the schools & collages due care should be taken to ensure availability of parade ground, so that drill and other physical activities can be undertaken.

The Committee observe that another constraint being faced by NCC for its expansion and imparting quality training is manpower. There are only 94 Army Officers working for NCC to supervise 17374 number of educational institutions and there are 9064 educational institutions which are in waiting list. Further, because of shortage of manpower of Army, Navy and Air Force, these forces regret to spare their manpower to train the NCC Cadets. With this constraints, the goal of NCC i.e. to create a pool of organised, trained and motivated youth to serve the nation cannot be achieved. Therefore, the Committee desire the Ministry to augment the number of officers for NCC at the earliest.

GAINFUL UTILIZATION OF THE EXPERTISE OF THE 'C' CERTIFICATE HOLDERS OF NCC CADETS

31. The Committee observe that the matter regarding gainfully utilize the expertise of the 'C' Certificate holders of NCC Cadets in areas like civil defence, disaster

management and public Awareness campaigns, is under examination with other Government agencies. The Committee are happy to note that about 7,500 NCC Cadets are joining Army and about 400 to 500 candidates are joining Navy & Air Force. In Short Service Commission the candidates are exempted to appear for the written examination. Other Cadets are going to Central Armed Police Forces.

At present, Raksha Mantri/Rajya Raksha Mantri is going to write letters to the Armed Guard and Port authorities and Chief Ministers of the States to give concession to 'C' Certificate holders in jobs. The Committee welcome the steps taken by the Ministry of Defence to utilize the trained manpower of NCC with well developed personality and leadership skill for nation building and other activities related to national integration.

The Committee desire the Ministry to send the letters of Raksha Mantri/Rajya Raksha Mantri to all the concerned agencies and State Government at the earliest and regularly pursue this matter in order to materialize the noble intention and gainfully utilize the skills of NCC Cadets. In this way more students will be attracted to join NCC in the future also.

The Committee further learnt that a number of Defence corridors are being started by the Government in different parts of the country. Because of the ambitious 'Make in India' projects of Government many private industries have joined the defence production sectors. Many multi National Companies/Investors are showing interest to invest in defence production sectors. In near future India will be a hub for defence production. In view of the possibilities of future expansion of defence

production, there will be a strong need for dedicated trained and skilled human resources to man these organization. Therefore, the Committee strongly feel that it is high time, NCC should feel the pulse of time and explore the possibilities to impart necessary technical training to the NCC Cadets by tie-up with the public and private defence production agencies.

In this way the training imparted to NCC Cadets can be fruitfully utilized in the field of defence production for which these Defence corridors are being prepared by the Government.

Further on imparting skill development, the committee observe that NCC on its own do not provide Skill Development training as it does not have trained manpower to impart skill development programme. However, it is trying to be associated with State Government Skill Development Centres. It has started a pilot project in Bihar which is being regularly monitoring. While appreciating the initial steps taken in this direction, the committee desire that NCC should proactively pursue this matter with all the State Government and explore the feasibilities to associate the NCC Cadets with the skill development Centres so that they can gain the required skill and utilize it to get gainful employment in future. In this way more students will be attracted to join NCC in future.

SELF FINANCING OF NCC UNITS

32. During oral evidence of the representatives of the NCC and Ministry of Defence, the committee observed that to minimize the waiting list of NCC units in various schools and colleges, the NCC had started self financing scheme. At the initial time the junior wing of NCC were opened in schools and colleges who were ready to bear the 100 percent expenditure of the cadets. Now fully self-financing scheme for one lakh cadets is under consideration. The Committee welcome the steps initiated by NCC for its expansion. The Committee hope that NCC will initiate many such measures in other schools and colleges including private schools & colleges in future. The progress made in this regard should be intimated to the committee in the action taken replies.

GIRLS CADETS

33. During oral evidence, the Committee came to know the Girl Cadets of NCC are 31.86% of the total strength of NCC. In this connection, the Committee would like to recommend that NCC shall endeavour to increase the number of Girl Cadets and appropriate infrastructure at camping sites and other places for inclusion of girls. The Committee wish to see increase in number of girl cadets in coming years.

**New Delhi
09 December, 2019
18, Agrahayana, 1941 (Saka)**

**JUAL ORAM
Chairperson
Standing Committee on Defence**

STANDING COMMITTEE ON DEFENCE (2019-20)

**MINUTES OF THE SECOND SITTING OF THE STANDING COMMITTEE ON
DEFENCE (2019-20)**

The Committee sat on Thursday, the 14th November, 2019 from 1100 hrs. to 1730 hrs. in Committee Room 'B', Ground Floor, Parliament House Annexe, New Delhi.

PRESENT

Shri Jual Oram - Chairperson

MEMBERS

LOK SABHA

2. Shri Nitesh Ganga Deb
3. Shri Annasaheb Shankar Jolle
4. Prof. (Dr.) Ram Shankar Katheria
5. Shri Pashupati Kumar Paras
6. Shri Kapil Moreshwar Patil
7. Dr. Shrikant Eknath Shinde
8. Shri Brijendra Singh
9. Shri Mahabali Singh
10. Shri Durga Das Uikey
11. Dr. Kalanidhi Veeraswamy

RAJYA SABHA

12. Dr. Ashok Bajpai
13. Shri Prem Chand Gupta

SECRETARIAT

1. Smt. Kalpana Sharma - Additional Secretary
2. Dr. Sanjeev Sharma - Director
3. Smt. Jyochnamayi Sinha - Additional Director
4. Shri Rahul Singh - Deputy Secretary

LIST OF WITNESSES
MINISTRY OF DEFENCE

S. No.	Name of Officer	Designation
1.	Dr. Ajay Kumar	Defence Secretary
2.	Ms. Gargi Kaul	Secretary (Defence Finance)
3.	Shri Barun Mitra	Special Secretary
4.	Shri Jiweish Nandan	Additional Secretary
5.	Dr. Chitra Rajagopal	Director General-Resource & Management (R&M)
6.	Lt. Gen. MM Naravane	Vice Chief of Army Staff (VCOAS)
7.	Vice Admiral G Ashok Kumar	Vice Chief of the Naval Staff (VCNS)
8.	Lt. Gen. SK Upadhaya	Master-General of the Ordnance (MGO)
9.	Air Mshl Sandeep Singh	Deputy Chief of the Air Staff (DCAS)
10.	Air Mshl HS Arora	Vice Chief of the Air Staff (VCAS)
11.	Lt. Gen. Arvind Dutta	Adjutant General
12.	Lt. Gen. Rajeev Chopra	Director General of National Cadet Corps (DGNCC)
13.	Lt. Gen. Paramjit Singh Sangha	Director General of Military Operations (DGMO)
14.	Shri Apurva Chandra	Director General (<i>Acquisition</i>) DG(Acq)
15.	Lt. Gen. Sanjay Chauhan	Director General (DG)
16.	Ms Mala Dutt	Additional Secretary & Financial Adviser (<i>Acquisition</i>), AS&FA (Acq)
17.	Lt. Gen. Gopal R	Quarter Master General (QMG)
18.	Shri Subir Mallick	Additional Financial Adviser & Joint Secretary, (Addl. FA & JS)
19.	Rear Admiral Sanjay Vatsayan	Assistant chief of Naval Staff (ACNS)
20.	Smt. Nidhi Chhibber	Joint Secretary
21.	Lt. Gen. Sanjay Chauhan	Director General
22.	Maj Gen. RK Malhotra	Additional Director General (ADG)
23.	Shri Puneet Agarwal	Joint Secretary
24.	Shri Rajeev Singh Thakur	JS (Army)
25.	Shri Ashwani Kumar	Additional Financial Adviser & Joint Secretary (Addl. FA & JS)
26.	Shri Rajesh Sharma	Addl. FA & JS
27.	Shri Shantanu	Joint Secretary
28.	Dr. Md. Nazmuddin	Economic Adviser & Joint Secretary
29.	Shri Sanjai Singh	Joint Secretary & Acquisition Manager (<i>Air</i>), JS&AM(Air)
30.	Lt. Gen. Sudarshan Srikant Hasabnis	Deputy Chief of Army Staff (DCOAS)
31.	Smt Dipti Mohil Chawla	Joint Secretary & Acquisition Manager (Maritime Systems), JS&AM (MS)
32.	Shri A N Das	Additional Financial Adviser (AN) Addl. FA(AN)
33.	Maj. Gen. HS Shanbhag	Technical Manager (Land Systems), TM(LS)
34.	Air Vice Mshl Jeetendra Mishra	Assistant Chief of Air Staff, Projects (ACAS)
35.	R Adm Alok Bhatnagar	Additional Director General ADG(A)

36.	Shri Shantanu	Joint Secretary
37.	Shri Vedveer Arya	Finance Manager (MS), FM (MS)
38.	Shri Ghayas Uddin Ahmad	Finance Manager (Land System)
39.	Shri Puneet Agarwal	Finance Manager (Air)
40.	Lt Gen Sanjay Verma	Director General (DG)
41.	Dr. Ravindra Singh	Director
42.	Sh. Vipul Gupta	Associate Director

2. At the outset, the Chairperson welcomed the Members of the Committee and informed them that the Union Budget for the year 2019-20 had already been passed, however, examination of Demands for Grants for the year 2019-20 was a mandatory exercise consequent to the observation by the Hon'ble Speaker on 11th July, 2019 that the Demands stand referred to the concerned Departmentally related Standing Committees, after they have been constituted, for examination and report to the House. He further informed them of the agenda for the Sitting i.e. deliberation on the subjects 'General Defence Budget, Procurement Policy and Capital Outlay on Defence Services, Army, Directorate General of Quality Assurance (DGQA), National Cadet Corps (NCC), Sainik Schools and Air Force'. The Committee then welcomed the representatives of the Ministry of Defence and the Services/Organisations to the second Sitting of the Standing Committee on Defence and drew their attention to Direction 55(1) of the Directions by the Speaker, Lok Sabha.

3. Thereafter, the Chairperson requested the representatives of the Ministry of Defence to brief the Committee on various issues included in the agenda for the day. The Defence Secretary initiated the discussion by briefly touching upon Defence Services Estimates and other Demands for Grants of the Ministry of Defence. He also apprised the Committee about healthy expenditure pattern of Ministry of Defence.

4. A Power Point Presentation on General Defence Budget was then made before the Committee. This was followed by detailed deliberations on the following issues:

- i. Mismatch between projection and allocation of funds leading to gap of ₹ 33,000 crore in committed expenditure;
- ii. Delegation of financial power and allocation of budget to National Cadet Corps (NCC);
- iii. Increase in Defence Budget in proportion of percentage of GDP of the country;

- iv. Projection and allocation of budget in regard to Air Force;
- v. Utilisation of total Defence budget till date;
- vi. Compromises made or likely to be made due to reduced budgetary allocations;
- vii. Commercial use of Defence Lands without compromising the security of the area;
- viii. Rationalisation of budget to avoid overspending;
- ix. Revenue generation by Defence Research and Development Organisation (DRDO) and Ordnance Factories Board (OFB);
- x. Creation of post of Chief of Defence Staff;
- xi. Improvement in quality of products of OFB, especially cloth/material used in parachute;
- xii. Penalty provisions in offset obligations;
- xiii. Special equipment like garment and footwear for Army personnel posted in high altitude and harsh weather conditions;
- xiv. Special Allowance for personnel posted in high altitude areas;
- xv. Defence Production Corridor; and
- xvi. Timely supply of equipment to the Forces.

5. Thereafter, a Power Point presentation on Defence Procurement Policy was made. This was followed by extensive discussion on the following points:

- i. Ensuring quality of products manufacture under 'Make in india'
- ii. Servicing of equipment provided by new indigenous companies and their sustainability;
- iii. Efforts to encourage indigenization in Defence Sector to reduce dependence on imports;
- iv. Greater value of contracts in terms of amount being awarded to foreign vendors;
- v. Steps taken to achieve timely, effective and efficient procurement;
- vi. Benchmark pricing in Acquisition; and
- vii. Transfer of Technology in Rafale aircraft.

The Committee took break for lunch and resumed the Sitting at 1430 hrs.

6. Thereafter, the Chairperson invited the representatives of Army for briefing. The Vice Chief of Army Staff commenced the briefing by giving an overview on Army to the Committee and thereafter, a Power Point presentation was made. This was followed by detailed deliberations on following issues:

- i. Mismatch between projection and allocation of funds to Army;
- ii. Requirement of surveillance equipment;
- iii. Anomalies in allowance to personnel posted in North-Eastern parts;
- iv. Rationalization of manpower in Army; and
- v. Modernisation.

7. Thereafter, the Chairperson invited representatives of Directorate General of Quality Assurance (DGQA). The representatives of DGQA commenced their briefing through a Power Point presentation which was followed by discussion on following issues:

- i. Involvement of users in DGQA;
- ii. Number of engineers in DGQA;
- iii. Updation of training given to DGQA personnel; and
- iv. Corrective measures taken to avoid supply of faulty equipment provided to the Services.

8. Thereafter, the Chairperson invited representatives of Sainik Schools. The representatives of the Sainik School also commenced their briefing through a Power Point presentation. This was followed by discussion on following issues:

- i. Budgetary provisions for Sainik Schools;
- ii. Meeting of the Board of Governors;
- iii. Expansion of Sainik Schools;
- iv. Intake of girl students in Sainik Schools; and
- v. Measures to increase intake of Sainik School Students into NDA.

9. The Vice Chief of the Air Staff briefed the Committee regarding overview on modernisation plan of Indian Air Force (IAF) and thereafter, a Power Point presentation was made. This was followed by detailed deliberations on following issues:

- i. Delay in supply of aircraft by Hindustan Aeronautics Limited (HAL);
- ii. Transfer of Technology in procurement of Rafale aircraft;
- iii. Measures taken to nullify accidents in IAF due to old aircraft/technical defects/human error;
- iv. Need for increase in number of Aircraft shelters;
- v. Solid waste management to avoid accidents due to bird hits;
- vi. Need to amend the Air Force Act of 1937;
- vii. Unauthorized construction around the air strips;
- viii. Squadron strength; and
- ix. Mismatch between projection and allocation of funds and effect on Air defence preparedness.

10. Thereafter, the Chairperson invited the representatives of National Cadet Corps (NCC). They made a Power Point presentation before the Committee which was followed by discussion on following issues:

- i. Efforts made by the Ministry to expedite processing of applications of institutions waiting to be attached with NCC and liaise with the State Governments in this regard;
- ii. Skill development of NCC Cadets, especially in the field of Defence Production;
- iii. Linking of NCC with employment generation to increase interest in NCC;
- iv. Recruitment of Ex-Servicemen in NCC;
- v. Expansion of NCC in private institutions;
- vi. Review of institutes attached with NCC where appropriate infrastructure is not available; and
- vii. Increase in budget of NCC.

11. The Chairperson directed the representatives of the Ministry to furnish written replies/information on the points raised by the Members at the earliest.

A copy of verbatim record of the proceedings has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON DEFENCE (2019-20)

**MINUTES OF THE THIRD SITTING OF THE STANDING COMMITTEE ON
DEFENCE (2019-20)**

The Committee sat on Friday, the 15th November, 2019 from 1100 hrs. to 1830 hrs. in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Shri Jual Oram – **Chairperson**

MEMBERS

LOK SABHA

12. Shri Nitesh Ganga Deb
13. Shri Annasaheb Shankar Jolle
14. Dr. Shrikant Eknath Shinde
15. Shri Brijendra Singh
16. Shri Mahabali Singh
17. Shri Durga Das Uikey
18. Dr. Kalanidhi Veeraswamy

RAJYA SABHA

9. Dr. Ashok Bajpai
10. Shri Kamakya Prasad Tasa
11. Lt. Gen. Dr. D.P. Vats

SECRETARIAT

1. Smt. Kalpana Sharma - Additional Secretary
2. Dr. Sanjeev Sharma - Director
3. Smt. Jyochnamayi Sinha - Additional Director
4. Shri Rahul Singh - Deputy Secretary

LIST OF WITNESSES

MINISTRY OF DEFENCE

S. No.	Name of Officer	Designation
1.	Dr. Ajay Kumar	Defence Secretary
2.	Dr. G Satheesh Reddy	Secretary DR&D
3.	Ms. Gargi Kaul	Secretary Defence Finance
4.	DG K Natrajan,	DG, ICG
5.	Vice Admiral G Ashok Kumar	VCNS
6.	Shri Jiweesh Nandan	AS(JN)
7.	Shri Barun Mitra	Special Secretary
8.	Lt Gen Harpal Singh	DGBR
9.	Smt. Deepa Bajwa	DGDE
10.	Lt Gen R K Anand	DG LW&E
11.	Ms. Mala Dutt	AS & FA
12.	Lt. Gen SK Upadhya	MGO
13.	Lt Gen Manoj M Naravane	VCOAS
14.	Lt Gen Sudarshan Srikant Hasabnis	DCOAS
15.	Lt Gen Raj Shukla	DG PP
16.	Lt Gen Gopal R	QMG
17.	Lt Gen TK Chawla	DG
18.	Lt. Gen Paramjit Singh	DGMO
19.	Lt Gen PS Rajeshwar	CISC (Chairman Chief of Staff Committee)
20.	Lt Gen Harpal Singh	DGBR
21.	Lt Gen SK Shrivastava	Engineer-in-Chief
22.	Lt Gen Arvind Dutta	Adjutant General
23.	Lt Gen Surinder Singh Mahal	DG MP&PS
24.	Lt Gen Shantanu Dayal	DG DC&W
25.	Dr. MSR Prasad	DG (MSS)
26.	Dr. Sudhir Kumar Mishra	DG
27.	Dr. Guru Prasad	DG
28.	Dr. Chitra Rajagopal	DG(R&M)
29.	Dr Samir V Kamat	DG
30.	Shri Pravin K Mehta	DG
31.	Sh. Sudhir Gupta	DG
32.	Sh. KS Varaprasad	DG
33.	Dr. AK Singh	DG (LS) & DS
34.	Dr. Sudhir Kamath	DG (MED & CoS)
35.	Ms. J. Manjula	DG

2. At the outset, the Chairperson welcomed the Members of the Committee and informed them of the agenda for the Sitting. The Committee then invited the representatives of the Ministry of Defence and the Defence Services. The Chairperson welcomed the representatives to the fifth sitting of the Standing Committee on Defence and requested the representatives of the Ministry of Defence to brief the Committee on various issues included in the agenda for the day. and drew their attention to Direction 55(1) of the Directions by the Speaker, Lok Sabha.

3. The representatives of the Ministry of Defence commenced their briefing through a PowerPoint presentation on Defence Research and Development. This was followed by detailed deliberations on following issues:

- (i) allocation of adequate funds to meet estimated expenditure for DRDO,
- (ii) requirement of additional funds to take up futuristic projects,
- (iii) efforts towards 'Make in India',
- (iv) development of aircraft technology,
- (v) research in propulsion, material and chip technology within the country,
- (vi) manpower requirements in DRDO,
- (vii) modernization of research infrastructure, etc.

4. Thereafter, a power point presentation was given on Navy which was followed by discussion on following points:

- (i) shortfall between required and allocated budget for Navy,
- (ii) huge inadequacies in capital budget,
- (iii) shortage of manpower,
- (iv) depletion in fleet strength,
- (v) obsolescence,
- (vi) delay in delivery of vessels by Shipyards,
- (vii) modernization of naval airfields,
- (viii) international maritime cooperation,
- (ix) safety of fishermen,
- (x) Operational preparedness of Navy, etc.

5. Thereafter, a Power Point presentation on Joint Staff was made by the representatives of the Ministry of Defence which was followed by discussion on following points:

- (i) expanding role and responsibilities of Joint Staff,
- (ii) Chief of Integrated Defence Staff
- (iii) construction of Defence Museum,
- (iv) intelligence gathering and dissemination,
- (v) plan for Defence University, etc.

6. Thereafter, a presentation on Coast Guard Organization was made before the Committee by the representatives of Coast Guard. This was followed by deliberations on the issues as under:

- (i) requirement of adequate budgetary support,
- (ii) construction of Indian Coast Guard Academy, Mangalore,
- (iii) safety of fishermen, etc.

(The Committee took break for lunch and resumed the Sitting at 1430 hrs.)

7. Then a Power Point presentation was made on Directorate General Defence Estate (DGDE) by the representatives of DGDE which was followed with deliberations on the following points:

- (i) financial issues of Cantonment boards,
- (ii) encroachment of Defence Lands by civilians,
- (iii) ammunition dumps in Cantonment areas,
- (iv) non-implementation of Central Government Schemes,
- (v) inconvenience to Civilian population,
- (vi) issues relating to building bye-laws in Cantonment, etc.

8. Thereafter, the representatives of the Ministry of Defence gave Power Point presentation on Military Engineer Services (MES). This was followed by detailed discussions on the following issues:

- (i) prioritisation of available resources,
- (ii) achievement of construction targets by MES
- (iii) adoption of state-of-the-art technology,
- (iv) pending cases in the Ministry of Defence, etc.

9. Then the representatives of Ministry of Defence made Power Point presentation on Married Accommodation Project (MAP). This was followed by detailed discussions on the following issues:

- (i) budgetary allocations for MAP,
- (ii) review of satisfaction level of Forces,
- (iii) early completion of MAP,
- (iv) use of latest technologies in construction of MAP,

10. Thereafter, a Power Point presentation was made by the representatives of Ministry of Defence on Canteen Stores Department (CSD) which was followed by discussion on the following points:

- (i) irregularities in CSD,
- (ii) quality of items supplied by CSD,
- (iii) online presence of CSD, etc.

11. Thereafter, a Power Point presentation was made by the representatives of BRO on Border Roads Organization (BRO) which was followed by discussion on the following points:

- (i) status of fund availability in BRO,
- (ii) required and existing number of equipment with BRO,
- (iii) reasons for delays in execution of road projects,
- (iv) single window clearance system,
- (v) construction of underwater tunnel in Brahmaputra river,
- (vi) shortage of manpower, etc.
- (vii) priority to be assigned for construction of roads in difficult areas.

12. The Chairperson directed the representatives of the Ministry of Defence and other organisations to furnish written replies to all the queries at the earliest.

A copy of verbatim record of the proceedings has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON DEFENCE (2019-20)

**MINUTES OF THE FOURTH SITTING OF THE STANDING COMMITTEE ON
DEFENCE (2019-20)**

The Committee sat on Monday, the 18th November, 2019 from 1500 hrs. to 1830 hrs.
in Committee Room No. C, Parliament House Annexe, New Delhi.

PRESENT

Shri Jual Oram – **Chairperson**

MEMBERS

LOK SABHA

2. Shri Hanuman Beniwal
3. Shri Ajay Bhatt
4. Shri Nitesh Ganga Deb
5. Smt. (Dr.) Rajashree Mallick
6. Shri Kapil Moreshwar Patil
7. Shri Anumula Revanth Reddy
8. Shri Jugal Kishore Sharma
9. Dr. Shrikant Eknath Shinde
10. Shri Brijendra Singh
11. Shri Durga Das Uikay

RAJYA SABHA

12. Dr. Ashok Bajpai
13. Shri V. Lakshmikantha Rao
14. Shri Sanjay Raut
15. Smt. Vijila Sathyananth
16. Shri Kamakhya Prasad Tasa
17. Lt. Gen. Dr. D. P. Vats

SECRETARIAT

1. Smt. Kalpana Sharma - Additional Secretary
2. Dr. Sanjeev Sharma - Director
3. Smt. Jyochnamayi Sinha - Additional Director
4. Shri Rahul Singh - Deputy Secretary

LIST OF WITNESSES
MINISTRY OF DEFENCE

S. No.	Name of Officer	Designation
1.	Dr. Ajay Kumar	Defence Secretary
2.	Sh. Subhash Chandra	Secretary(DP)
3.	Ms. Gargi Kaul	Secretary (Defence Finance)
4.	Dr. G Satheesh Reddy	Secretary DR&D & Chairman
5.	Smt. Sanjeevane Kuty	Secretary(ESW)/I.A.S
6.	Shri Barun Mitra	Special Secretary(DP)
7.	Shri Jiwesh Nandan	Additional Secretary(JN)
8.	Dr. Chitra Rajagopal	DG(R&M)
9.	Shri Saurabh Kumar	DGOF & Chairman/OFB
10.	Lt Gen Sanjay Verma	DGWE
11.	Lt Gen Manoj M Naravane	VCOAS
12.	Lt Gen Sudarshan Srikant Hasabnis	DCOAS (P&S)
13.	Lt Gen SK Upadhaya	MGO
14.	Lt Gen Raj Shukla	DGPP
15.	Lt Gen TK Chawla	DGFP
16.	Lt Gen Arvind Dutta	Adjutant General
17.	Lt Gen Surinder Singh Mahal	DG MP&PS
18.	Lt Gen Shantanu Dayal	DG DC&W
19.	Maj Gen J V Prasad	MDECHS
20.	Maj Gen MK Sagoch	DGR
21.	Maj Gen Mukesh Kumar	ADG MP
22.	Brig Mrigendra Kumar	Secretary(KSB)
23.	Major General Sanjeev Sengar	CEO IRRPI
24.	Shri Subir Mallick	Addl FA & JS
25.	Dr. Amit Sahai	JS(P&C)
26.	Sh. Rajesh Sharma	Addl. FA & JS
27.	Sh. Ashwani Kumar	Addl. FA & JS
28.	Sh. R.K. Karna	Addl. FA & JS
29.	Sh. A.N Das	Addl. FA & JS
30.	Sh Pudi Hari Prasad	JS(ESW)
31.	Shri Shantanu	JS(LS)
32.	Shri Chandraker Bharti	JS(Aero)
33.	Shri Sanjay Jaju	JS(DIP)
34.	Shri Vinay Mohan Chamola	Offg. CMD (HAL)
35.	Radm(Retd) L V Sarat Babu	CMD (HSL)
36.	Shri D.K. Hota	CMD(BEML)
37.	Cmde B.B. Nagpal, NM	CMD(GSL)
38.	RADM V K Saxena (Retd)	CMD (GRSE)
39.	Dr. D.K. Likhi	CMD(MIDHANI)
40.	Shri M.V. Gowtama	CMD, BEL
41.	Cdr Jasbir Singh	Dir(S&HE) (MDL)
42.	Shri Vivek C Verma	Secretary, OFB
43.	Sh. Ambarish Barman	Director (Budget)

2. At the outset, the Chairperson welcomed the Members of the Committee and informed them of the agenda for the Sitting. The Committee then invited the representatives of the Ministry of Defence and the Defence Services. The Chairperson welcomed the representatives to the fourth sitting of the Standing Committee on Defence and requested them to brief the Committee on various issues included in the agenda for the day. He also drew their attention to Direction 55(1) of the Directions by the Speaker, Lok Sabha.

3. The representatives of the Ministry of Defence commenced their briefing through a Power Point presentation on Defence Public Sector Undertakings. This was followed by detailed deliberations on the following issues:

- 1) Inadequate capacity utilization due to low order book
- 2) Low cash resume due to delayed payments in DPSUs
- 3) Creating assets in Blue Water economy
- 4) Giving priority of payments to SMEs
- 5) Upgradation of Aircraft produced by HAL
- 6) International Competition
- 7) Decline in production of DPSUs
- 8) Measures to be taken to increase Defence Exports by DPSUs
- 9) Disinvestment of DPSUs

Thereafter, a Power Point presentation was given on the Ordnance Factory Board (OFB) which was followed by discussion on the following points:

- 1) Quality of mountaineering wear supplied to forces
- 2) Shortage of budget
- 3) Late receipt of indents from Army
- 4) Exporting of Ordnance Factories' products to other countries
- 5) Reduction in targets by Army after finalization

- 6) Upgradation and quality of tank and guns
- 7) Plans for filling the technological gaps for producing systems for higher altitudes
- 8) Delay in civil works done by Military Engineering Services (MES) leading to delay in capacity augmentation projects like T-72, T-90 etc.
- 9) Issues related to R&D by Ordnance Factories.
- 10) Issue regarding corporatisation of Ordnance Factories.

4. Thereafter, a presentation was made on Ex-Servicemen Welfare and Ex-Servicemen Contributory Health Scheme and pursued with deliberations on the subject which included following issues:

- 1) Resettlement of Ex-Servicemen
- 2) Issues related to One Rank One Pension (OROP)
- 3) Problems faced by Ex-servicemen in the states and appointment of a Brigadier level officer to liaison with Government on the issues
- 4) Complaints about non-availability of medicines in ECHS
- 5) Non-payment of medical bills to the hospitals
- 6) Delay of construction of buildings due to paucity of funds
- 7) Appoint of specialized doctors under ECHS

5. The Chairperson then directed the representatives of the Ministry of Defence to furnish written replies to all the queries which remain unanswered at the earliest.

A copy of verbatim record of the proceedings has been kept.

The Committee then adjourned.

2. At the outset, the Chairperson welcomed the Members of the Committee and informed them about the agenda for the sitting. The Committee then took up for consideration the following draft Reports:-

- i. First Report of the Standing Committee on Defence (17th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2019-20 on General Defence Budget, Border Roads Organisation, Indian Coast Guard, Military Engineer Services, Directorate General Defence Estates, Defence Public Sector Undertakings, Canteen Stores Department, Welfare of Ex-Servicemen, Ex-Servicemen Contributory Health Scheme, Defence Pensions and Sainik Schools (Demand Nos. 18 and 21)';
- ii. Second Report of the Standing Committee on Defence (17th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2019-20 on Army, Navy, Air Force and Joint Staff (Demand Nos.19 and 20)';
- iii. Third Report of the Standing Committee on Defence(17th Lok Sabha) on `Demands for Grants of the Ministry of Defence for the year 2019-20 on Capital Outlay on Defence Services, Procurement Policy, Defence Planning and Married Accommodations Project (Demand No. 20)'; and
- iv. Fourth Report of the Standing Committee on Defence(17th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2019-20 pertaining to Ordnance Factories, Defence Research and Development Organisation, Directorate General of Quality Assurance, and National Cadet Corps (Demand Nos. 19 and 20)'.

3. After some deliberations, the Committee adopted the above reports without any modifications. Hon'ble Chairperson also informed the Members that in case they have any suggestion to make in the draft reports, they may do so by giving it writing to Hon'ble Chairperson by 12 noon of Tuesday, 10th December, 2019.

4. The Committee, then, authorized the Chairperson to finalise the above draft Reports and present the same to the House on a date convenient to him.

The Committee then adjourned.
