

**STANDING COMMITTEE ON DEFENCE  
(2017-2018)**

**(SIXTEENTH LOK SABHA)**

**MINISTRY OF DEFENCE**

**DEMANDS FOR GRANTS (2018-19)**

**ARMY, NAVY AND AIR FORCE  
(DEMAND NO. 20)**

**FORTY FIRST REPORT**



**LOK SABHA SECRETARIAT**

**NEW DELHI**

**March, 2018 / Phalguna, 1939 (Saka)**

**FORTY FIRST REPORT**

**STANDING COMMITTEE ON DEFENCE**

**(2017-2018)**

**(SIXTEENTH LOK SABHA)**

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**DEMANDS FOR GRANTS (2018-19)**

**ARMY, NAVY AND AIR FORCE**

**(DEMAND NO. 20)**

*Presented to Lok Sabha on 13 .03.2018*

*Laid in Rajya Sabha on 13 .03.2018*



**LOK SABHA SECRETARIAT**

**NEW DELHI**

**March, 2018 / Phalgun, 1939 (Saka)**

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**COMPOSITION OF THE STANDING COMMITTEE ON DEFENCE (2017-18)**

**Maj Gen B C Khanduri, AVSM (Retd)**

-

**Chairperson**

**Lok Sabha**

2. Shri Dipak Adhikari (Dev)
3. Shri Suresh C Angadi
4. Shri Shrirang Appa Barne
5. Col Sonaram Choudhary(Retd)
6. Shri Thupstan Chhewang
7. Shri H D Devegowda
8. Shri Dharambir Singh
9. Shri Jayadev Galla
10. Shri Sher Singh Ghubaya
11. Shri Gaurav Gogoi
12. Dr Murli Manohar Joshi
13. Km Shobha Karandlaje
14. Dr Mriganka Mahato
15. Shri Kalraj Mishra
16. Shri Partha Pratim Ray
17. Shri A P Jithender Reddy
18. Shri Rodmal Nagar
19. Shri B Senguttuvan
20. Smt Mala Rajya Lakshmi Shah
21. Smt Pratyusha Rajeshwari Singh

**Rajya Sabha**

1. Shri K R Arjunan
2. Shri A U Singh Deo
3. Shri Harivansh
4. Shri Madhusudan Mistry
5. Shri Basawaraj Patil
6. Shri Sanjay Raut
7. Smt Ambika Soni
- 8.# Dr Subramanian Swamy
- 9.\* Shri Vivek K. Tankha

\* Resigned w.e.f. 16.11.2017

# Resigned w.e.f. 07.03.2018

## SECRETARIAT

- |                           |   |                         |
|---------------------------|---|-------------------------|
| 1 Smt. Kalpana Sharma     | - | Joint Secretary         |
| 2 Shri T.G. Chandrasekhar | - | Director                |
| 3 Smt. Jyochnamayi Sinha  | - | Additional Director     |
| 4 Smt Rekha Sinha         | - | Sr. Executive Assistant |

## INTRODUCTION

I, the Chairperson of the Standing Committee on Defence (2017-18), having been authorised by the Committee, present this Forty First Report on 'Demands for Grants of the Ministry of Defence for the year 2018-19 pertaining to Revenue Budget of Army, Navy and Air Force (Demand No. 20)'.

2. The Demands for Grants of the Ministry of Defence were laid on 09 February, 2018 in Lok Sabha. The Committee took evidence of the representatives of the Ministry of Defence on 15 and 16 February, 2018. The draft Report was considered and adopted by the Committee at their Sitting held on 12 March, 2018.

3. The Committee wish to express their thanks to the officers of the Ministry of Defence and representatives of the three Services 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

19 March, 2018

21 Phalguna, 1939 (Saka)

MAJ GEN B C KHANDURI, AVSM(RETD)

Chairperson

Standing Committee on Defence

# **REPORT**

## **PART - I**

### **CHAPTER - I**

#### **ARMY**

Indian Army stands vigil along the border, watchful, prepared for any sacrifice so that the people of the country may live in peace and with honour. It has time and again lived up to its tradition of valour, heroism, sacrifice and fortitude. Size, geographical spread in most difficult and challenging terrain and situations requires boots on ground. With changing regional security situation, credibility of our deterrence along Northern and Western Borders & effectiveness in counter terrorist operations in J&K and the North East require adequate allocation.

#### **Budget Allocation 2018-19**

1.2 Details of Projections and Allocation made under Capital and Revenue heads for 2018-19:-

(Rs. in crore)

<b>Revenue</b>		<b>Capital</b>		<b>Total Allocation (Revenue + Capital)</b>
<b>Projection</b>	<b>Allocation</b>	<b>Projection</b>	<b>Allocation</b>	
1,51,814.73	1,27,059.51	44,572.63	26,815.71	1,53,875.22

1.3 The Committee were informed that the allocated funds will be optimally and fully utilized towards operational activities. Based on expenditure during the year, additional funds may be sought at Supplementary/ RE stage and depending on the budget allocation, the schemes will be reprioritized to ensure that urgent and critical capabilities are acquired without any compromise to operational preparedness of the Defence Services.

1.4 Further, on the issue of constriction in Budget allocation, the representatives of Army deposited before the Committee as follows:

"The threat perception has been ever increasing. The last one year has seen various occurrences of external strife and internal dissidence. Just to highlight a few, we have the Doklam issue going on and China has become increasingly assertive. We have seen more and more patrolling and transgressions. Activities in Tibet has also increased over a period of years whether it is the quantum of troops or whether it is the number of personnel undertaking the exercises and also the level of exercises. On our western border, we have seen increasing cross border firing to support the militants and it has affected our civilian population. Number of civilians have been injured and we have lost a few of our soldiers.

We have also seen a few daring attempts of Fidayeen in Uri, Pathankot, Nagrota. These are few examples besides the recent one in Sunjwan Cantt. in Jammu and Kashmir. Peace in the neighbourhood has also been slightly affected by the recent incidents in Maldives. Overall, we have a disturbed situation and all the more important is that the Defence Forces should get their due and more attention is paid to them.

Modernisation of both Pakistan and China is going on in full swing. China is competing to reach the levels of US. It is important that we remain deterrent as far as these are concerned. The possibility of two front war is a reality and speaking about it, it is important that we are conscious of the issue and we pay attention to our modernisation and filling up our deficiencies. More than ever, there is an increasing obligation to ensure that our Nation cements its military capability and is recognised as a net security provider in the South Asian region. However, the current Budget does little to contribute to this requirement.

To highlight a few cases, the marginal increase in BE barely accounts for the inflation and does not even cater for the taxes. Allocation of Rs. 21,338 crore for modernisation is insufficient even to cater for committed payment of Rs. 29,033 crore for 125 on-going schemes, emergency procurements, 10 (I) and other DGOF requirements. Committed liabilities of 2017 which will also get passed on to 2018 will further accentuate the situation. Therefore, liquidation of this committed liability will hardly leave any funds for new schemes in 2018-19. Coming to the revenue part, bulk of the 4.5 per cent increase in the revenue allocation goes towards the recent pay increase due to 7<sup>th</sup> Pay Commission. The balance leaves an increase of just over three per cent which does not even cater for the inflationary requirements. Revenue funds, is used for mandatory sustenance requirements. So, allocation of insufficient funds to meet liabilities of routine maintenance, making up of deficiencies, emergency procurements and 10 (I) procurements, will definitely have a negative effect. This shall also affect the serviceability of the equipment that we are holding besides leading to legal issues of not making payments in time. In addition to this, there is an additional burden of Rs. 5,000 crore because of new taxation laws in GST which has come into force in the last one year and which has also not been taken care of in the new Budget. So, there is a net shortfall of Rs. 9,282 crore in our revenue requirements. As mentioned earlier, we have had instances of Fidayeen attacks, people entering the cantonment areas and very recently in the married accommodation. The Ministry of Defence has again delegated powers to the VCOAS to spend as much as Rs. 14,097 crore towards security related issues. However, there is no separate allocation for this. So, this money also to be found from the same Budget leaving us with no choice but to re-prioritise either to reduce our requirement as far as the security of military stations are concerned or to go slow on some other acquisition. So, the total requirement in the capital (Rs. 12,296 Crore) and revenue (Rs. 9,282 crore works out to Rs. 21,578 crore."

#### **Details in Revenue Budget allocation**

Head	FY 2017-18		FY 2018-19		Variation RE to BE
	BE	RE	Projected BE	BE	
Salary	91,824	92,945	1,00,442	97,372	4,427 (4.76%)
Operations & Maintenance	29,512	29,683	40,073	30,792	1,109 (3.73%)
Total Revenue	1,21,336	1,22,628	1,40,515	1,28,164	5,536 (4.51%)

1.5 In relation to the Revenue Budget, the Ministry has further submitted the following information:

'There is an increase of Rs 4,427 crore (4.76%) in salary. For Operations & Maintenance, the additional allocation of Rs 1,109 crore (3.73%) does not even cater for inflation.'

### **Budget for Operations and Maintenance**

S No	Budget Head	RE	FY 2018-19		Shortfall
		2017-18	Proj BE	BE	
1	Transportation	3,238	4,156	3,267	889
2	Works	6,362	7,877	6,464	1,413
3	Stores	17,490	25,181	18,337	6,844
4	Rashtriya Rifles	1,000	1,136	1,000	136
5	Other Expd	1,591	1,723	1,723	0
	Total Revenue	29,681	40,073	30,791	9,282

1.6 Against projection of Rs. 40,073 crore for operations and maintenance, allocation of Rs. 30,791 crore has been made. Hence, there is a shortfall of Rs. 9,282 crore. Therefore, additional requirement of Rs. 9,282 crore is needed to meet mandatory sustenance requirements under Transportation (Rs. 889 crore), Works (Rs. 1,413 crore), Supplies (Rs. 1,419 crore), Ordnance Stores (Rs. 5,425 crore) & Rashtriya Rifles (Rs. 136 crore).

1.7 In this regard, the Committee were further apprised that in case of Operations & Maintenance Budget (Transportation), that against projection of Rs. 4,156 crore, allocation is Rs. 3,267 crore. Thus the shortfall is Rs. 889 crore. On this, the Committee were further submitted with the following details:

- a) 'Expenditure on Porter & Ponies for Advanced Winter Stocking & other requirements has increased by Rs. 459 Crore due to enhancement of Nerrick Rates & directions of Hon'ble Supreme Court on additional payments for hardship in forward areas like Siachen, High Altitude Areas, Line of Actual Control in North & North East
- b) Increase in Composite Transfer Grant (CTG) on implementation of 7<sup>th</sup> CPC & provision of air transportation to JCOs requires additional Rs. 300 Crore.
- c) Accretion in manpower due to raisings under Capability Development along Northern Borders requires additional allocation of Rs. 130 Cr per year
- d) Volatile security situation like Doklam dictates additional expenditure due to enhanced deployment of troops & stores.'

1.8 For Operations & Maintenance Budget (Works), against a projection of Rs. 7,877 crore, allocation is Rs. 6,464 crore thereby amounting to a shortfall of Rs. 1,413 crore. In this context, the Committee were submitted the following details:

- a) 'Operational Works for Ammunition storage, Gun Emplacement for firing, Field Defences & temporary habitats in inhospitable terrain require an additional allocation of Rs. 400 Crore.
- b) Shortfall of Rs. 1,013 Crore will affect repairs of infrastructure & reduce service life, shortfall will require disproportionate additional expenditure in subsequent years
- c) PAN India deployment of Indian Army & consequent large number of military stations require adequate infrastructure Ordnance Stores
- d) BE 2017-18 was Rs. 2,253 Crore however due to additional requirement of Emergency Powers, allocation was increased to Rs. 3,697 Crore at RE Stage
- e) Against a projection of Rs. 9,609 Crore [Rs. 3,991 Crore for Priority Procurement Plan , Rs 3,686 Crore for Emergency Powers & Rs. 1,932 Crore for Critical 10(I)], an allocation of Rs. 4,184 Crore has resulted in a shortfall of Rs. 5,425 Crore.
- f) PPP will be affected adversely impacting serviceability & procurement cycle of Ammunition, Armament, Spares & Clothing. Will need infusion of funds from other budgets to make up deficiencies in existing holdings Supplies.'

1.9 For Operations & Maintenance Budget (Stores), the Ministry has furnished the following details:

'BE 2017-18 was Rs. 2,253 crore however due to additional requirement of Emergency Powers, allocation was increased to Rs. 3,697 crore at RE Stage

1.10 Under the head, Supplies, the allocation in BE 2018-19 is Rs. 6,324 crore against a projection of Rs. 7,743 crore which has resulted in a shortfall of Rs. 1,419 crore In addition to this, Rs. 545 crore under Rations due to GST & closure of Military Farms and Rs. 874 crore under FOL due to increase in bulk prices.

### **Emergency Powers**

1.11 The Committee have been informed that post Pathankot, Nagrota & Uri incidents of terrorist attacks, critical deficiency of Ammunition, Spares, Armament & Mines have been sought to be addressed by way of delegation of powers to VCOAS. Under this segment, there is a deficiency of allocation against the projections as per the given information:

- a) 'Capital. Against a projection of Rs. 2,116 crore, allocation is Rs. 1,600 crore.
- b) Revenue. Against a projection of Rs. 3,686 crore, allocation is Rs. 2,000 crore.'

### **Critical 10 (I) Procurement**

1.12 The Committee were apprised that in order to maintain critical availability of reserves for at least 10 days at any time, Government has delegated financial powers. As a part of this exercise, contracts are in the final stages of conclusion. For this purpose, the cash outgo is Rs. 2,246 crore. Further, it was informed that on this account, that against a total projection of Rs. 9,980 crore,

allocation is Rs. 3,600 crore. So, short fall is Rs. 6,380 crore. In this connection, the Committee were also explained that schemes under Emergency power & Critical 10(I) are Priority 1, and therefore, the commitment being met through allocated budget, however will impact modernisation, maintenance & sustenance. Therefore, it will require infusion of funds in FY 2018-19 at a later stage.

### **Budget for Committed Liabilities and New Schemes**

1.13 Committed Liability refers to payments anticipated during a financial year in respect of contracts concluded in previous years. Inadequate allocation for committed liabilities could lead to default on contractual obligations. New Schemes include new projects/proposals which are at various stages of approval and are likely to be implemented in near future. In the Defence Services Estimates (DSE), there is no separate allocation of funds for Committed Liabilities (CL) and New Schemes (NS). This Budget comes from the capital part of the budget. Under the Capital head, the Army had Projected in BE 2018-19 Rs. 37,121.54 crore while the allocation is Rs. 21,338.21 crore. In relation thereto, the representatives of Army, further detailed the Committee on the requirement of additional budget under this segment. The details are mentioned hereunder:

'Against a requirement of Rs. 7,110 crore for NS at advance stages of fructification, Rs. 3,000 crore have been ab-initio allocated for re-prioritized schemes. Details of NS having operational impact are as under:-

- a) Light Specialist Vehicle. Provides small independent detachments of infantry battalions mobility, agility & protection against small arms fire in hostile Battle field situations
- b) VSHORADS. State of art man portable, missile system for AD Protection of logistic columns & nodes, Bridge Heads & by Special forces. The critical system replaces vintage IGLA-1M.'

1.14 Some of the other Budgetary Constraints faced by Army that have been brought to the notice of the Committee include the following:

- i) To maintain, replace & upgrade in-service equipment that involves Overhaul of Engines & Maintenance of Aviation assets; Communication Infrastructure; Heavy Plant Equipment & Machinery; Medical Equipment & Stores; Security Related Equipment & Modernisation of Training Infrastructure.
- ii) Against a projection of Rs. 2,338 Cr, allocation is Rs. 1,238 crore. Shortfall is Rs. 1,100 crore.

1.15 As regards infrastructure development is concerned, the representatives of Army enlightened the Committee that the married accommodation projects and the Rohtang tunnel has to be completed. In view of the Chinese strategic roads, infrastructural development along the northern borders is also essential. For these infrastructure development projects, the allocation is

falling short by around Rs. 902 crore from the required amount.

### **Budget Review Over Past Years**

1.16 Details regarding the projections, allocations made at BE, RE and actual expenditure incurred under Revenue and Capital heads for Army from 2010-11 onwards are as follows:-

#### **REVENUE**

(Rs. in crore)

Year	BE		RE		Expenditure
	Projected	Allocated	Projected	Allocated	
2010-11	62,234.60	56769.11	63,917.31	59941.83	62383.61
2011-12	77,350.49	63,609.80	74,252.98	70,810.98	69,133.47
2012-13	83,861.62	77,327.03	83,120.33	75,520.20	76,689.82
2013-14	93,355.38	81,119.20	91,294.13	85,516.45	85,030.92
2014-15	1,04,837.88	91,844.02	99,420.15	97,501.40	95,973.22
2015-16	1,09,758.22	1,03,315.91	1,04,408.45	1,00,106.78	1,02,847.18
2016-17	1,15,561.78#	1,12,764.62#	1,21,686.11	1,17,925.22	1,16,901.93
2017-18(*)	1,52,491.22	1,19,961.51	1,29,287.59	1,21,451.80	1,11,435.07

(# Includes allotment to NCC, Military Farms, Rashtriya Rifles and ECHS which are shifted to modified Grant No. 20-MoD(Miscellaneous) from FY 2016-17, but have been transferred back to Defence Services Estimates in FY 2017-18, with exception of Military Farms and ECHS, for the purpose of comparison with previous as well as future years)

\*Expenditure is upto 31<sup>st</sup> January, 2018.

#### **CAPITAL**

(Rs. in crore)

Year	BE		RE		Expenditure
	Projected	Allocated	Projected	Allocated	
2010-11	21,633.04	17250.84	19,177.55	15641.16	15,856.08
2011-12	25,611.68	19,210.69	20,641.69	16,005.69	14,947.82
2012-13	28,234.60	19,237.80	18,971.09	15,749.30	14,760.69
2013-14	25,528.08	17,883.83	19,271.59	14,967.25	14,433.29
2014-15	41,936.15	26,533.60	23,832.67	21,933.54	18,586.73
2015-16	31,938.67	27,342.42	27,845.33	24,230.47	20,703.70
2016-17	37,960.18#	26,935.81#	34,489.90	24,017.86	28,462.11
2017-18(*)	42,485.93	25,205.71	40,791.43	25,205.71	22,066.48

(# Includes allotment to NCC, Military Farms, Rashtriya Rifles and ECHS which are shifted to modified Grant No. 20-MoD(Miscellaneous) from FY 2016-17, but have been transferred back to Defence Services Estimates in FY 2017-18, with exception of Military Farms and ECHS, for the purpose of comparison with previous as well as future years)

\*Expenditure is upto 31<sup>st</sup> January, 2018.

## REVENUE + CAPITAL

(Rs. in crore)

Year	BE		RE		Expenditure
	Projected	Allocated	Projected	Allocated	
2010-11	83,867.64	74019.95	83,094.86	75582.99	78,239.69
2011-12	102,962.17	82,820.49	94,894.67	86,816.67	84,081.29
2012-13	112,096.22	96,564.83	102,091.42	91,269.50	91,450.51
2013-14	118,883.46	99,003.03	110,565.72	100,483.70	99,464.21
2014-15	1,46,774.03	118,377.62	123,252.82	119,434.94	114,559.95
2015-16	1,41,696.89	1,30,658.33	1,32,253.78	1,24,337.25	1,23,550.88
2016-17	1,53,521.96#	1,40,675.80#	1,69,576.52	1,41,943.08	1,45,364.04
2017-18(*)	1,94,977.15	1,45,167.22	1,70,079.02	1,46,657.51	1,33,501.55

(# Includes allotment to NCC, Military Farms, Rashtriya Rifles and ECHS which are shifted to modified Grant No. 20-MoD(Miscellaneous) from FY 2016-17, but have been transferred back to Defence Services Estimates in FY 2017-18, with exception of Military Farms and ECHS, for the purpose of comparison with previous as well as future years)

\*Expenditure is upto 31<sup>st</sup> January, 2018.

### Modernization

1.17 Modernisation involves the acquisition of new state-of-the-art platforms, technologies and weapon systems to upgrade and augment Defence capabilities. The budget for the same is taken from the capital segment of the Defence budget. The details of Budget Allocation at BE and RE stage and actual expenditure incurred for the modernisation (Capital Acquisition) of Army is shown in the following table:-

(Rs. in crore)

Year	BE Allocation	RE Allocation	Expenditure
<b><u>XI Plan</u></b>			
2007-08	6,937.20	6,224.20	6695.53
2008-09	7,607.67	5,740.03	5379.90
2009-10	9,821.07	6,254.35	8159.88
2010-11	8,876.88	7,433.23	7217.79
2011-12	10,740.02	4,950.02	5308.02
<b><u>XII Plan</u></b>			
2012-13	13,724.14	11568.76	10871.79
2013-14	13,327.04	10801.46	10426.49
2014-15	20,935.41	16927.35	13867.40
2015-16	22,054.50	17997.59	14488.84

2016-17	21535.26	17966.46	22404.33
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1.18 In this context, the Committee have been apprised by the representatives of Army that any modern Armed Forces should have one-third of its equipment in the vintage category, one-third in the current category and one-third in the state of the art category. As far as the Army is concerned, 68 per cent of the equipment is in the vintage category, with just about 24 per cent in the current, and eight per cent in the state of the art category.

1.19 Details of additional funds sought by the Army for modernisation (Capital Acquisition) during Eleventh Plan and Twelfth Plan at RE stage are given below:

(Rs. in crore)

Year	BE Allocation	RE projection	Additional projection	RE Allocation
<b><u>XI Plan</u></b>				
2007-08	6,937.20	6,365.20	-572.00	6,224.20
2008-09	7,607.67	7,655.67	48.00	5,740.03
2009-10	9,821.07	9,821.16	0.09	6,254.35
2010-11	8,876.88	8,876.89	0.01	7,433.23
2011-12	10,740.02	8,982.91	-1,757.11	4,950.02
<b><u>XII Plan</u></b>				
2012-13	13,724.14	13,515.90	-208.24	11568.76
2013-14	13,327.04	13,922.00	594.96	10801.46
2014-15	20,935.41	18,585.48	-2,349.93	16927.35
2015-16	22,054.50	20,466.79	-1,587.71	17997.59
2016-17	21535.26	27,476.22	5,940.96	17,966.46

1.20 Details of additional requirement of fund sought by Army under modernization at RE stage and the allocation made during the year 2017-18:-

(Rs. in crore)

BE 2017-18 Allocation	RE 2017-18 Projection	Additional projection at RE over BE	RE 2017-18
20,178.21	34,290.01	14,111.80	20,177.21

1.21 The Committee have also been informed that under Modernisation (Capital Acquisition) Head, Army had projected Rs. 33,066.88 crore and Rs. 34,209.01 crore at first and second Supplementary stages respectively. However, Ministry of Finance did not make any additional allocations at either of the Supplementary stages. The Ministry of Defence Ministry proposes requirements projected by Services to Ministry of Finance for favourable consideration. While allocating lesser funds than allocation, Ministry of Finance does not elaborate on reasons for such lesser allocations.

1.22 Further, on the issue of present state of budgetary provisions for the purpose of modernization of Indian Army, the representative of the Army made the following submission before the Committee during oral evidence:

"in the Army from the total Budget, 63 per cent of our Budget goes into paying salaries. The normal maintenance and operational requirements works out to 20 per cent and infrastructure takes around three per cent. Modernisation gets a mere 14 per cent which is grossly inadequate. We need to get additional funds for modernisation. I feel it has to be anything between 22 to 25 per cent, lest we will be found wanting."

1.23 Major part of the budget for modernization comes from Capital Head. Projection for Capital Acquisition made to MoF includes both committed liabilities and new schemes. Based on ceilings received from Ministry of Finance, allocation is made in Capital Acquisition. Details of BE and RE projections for Capital Acquisition, allocations made and the actual expenditure for Committed Liabilities for last five years and 2017-18 is as under:

(Rs. in crore)

Service	BE Projection	BE Allocation	RE Projection	RE Allocation	Actual Expenditure
2012-13	15407.84	13724.14	13515.87	11568.76	10871.79
2013-14	16807.98	13327.04	13921.98	10801.46	10426.49
2014-15	33167.15	20935.41	18585.48	16927.35	13867.40
2015-16	25127.81	22054.50	20466.79	17997.59	14488.84
2016-17	29670.28	21535.26	27476.22	17966.46	22404.33
2017-18	34082.20	20178.21	34290.01	20177.21	17957.97

\*Actual Expenditure is upto 31.1.2018

### **Make In India**

1.24 Large number of systemic changes outlined in Defence Procurement Procedure of 2016 have been aimed to achieve greater indigenisation. On the matter, during oral evidence, the Committee were updated by the representative of Army as follows:

"Army have identified as many as 25 projects for Make in India. However, there is not adequate Budget to support this. As a result of which, many of these may end up foreclosed. There is yet another great step which was taken again by the Ministry of Defence by way of strategic partnership of allowing a foreign company to partner with an Indian company to make larger platforms like aircraft, submarines, ships, and tanks. In the Army we are looking forward to manufacturing the future ready combat vehicle, FRCVs, and FICVs, Future Infantry Combat Vehicles through these schemes. However, with the kind of Budget that has been allocated, this may get delayed by a few years. I am not sure what is going to be their future."

1.25 Details of Capital expenditure through foreign sources in the last five years in the Army is appended below:-

(Rs in crore)

Services	2012-13	2013-14	2014-15	2015-16	2016-17
Indian Army	988.11	1592.17	3589.42	3006.58	5284.92

### **Manpower**

1.26 The details of authorized and existing (held) force level is given below:-

	As on 1.7.2017	
	Officers	JCOs/ORs
<b>Sanctioned Strength</b>	49,932	12,15,049
<b>Existing Strength</b>	42,253	11,94,864

1.27 In this regard, the Committee were informed that the recruitment in the Armed Forces is a continuous process and the Government has taken a number of measures to reduce the shortages. These include sustained image projection, participation in career fairs and exhibitions and publicity campaign to create awareness among the youth on the advantages of taking up a challenging and satisfying career. Further, Government has taken various steps to make armed forces jobs attractive, including improvement in promotion prospects in the Armed Forces. Recruitment of Personnel Below Officers Ranks (PBORs) in Army is carried out through Open Rally System being conducted regularly throughout the country. Efforts are made to cover entire country including remote and tribal areas.

1.28 Details of shortage of personnel during the last five years is indicted as under:

Year (as on 1 <sup>st</sup> January)	Authorised Strength		Held Strength		Shortage	
	Officers	PBOR	Officers	PBOR	Officers/ (%)	PBOR/ (%)
2014	47,574	11,59,605	39,119	11,31,846	8,455 (17.77)	27,759 (2.39)
2015	49,737	11,69,854	40,095	11,45,498	9,642 (19.38)	24,356 (2.08)
2016	49,833	11,85,234	41,162	11,59,093	8,671 (17.40)	26,141 (2.20)
2017	49,939	12,13,614	41,953	11,88,142	7,986 (15.99)	25,472 (2.10)

During the period 2014 to 2017 the shortage vis-a-vis the sanctioned strength for Officers in the Army ranged between 15.99% to 19.38 %. In case of Other Ranks the shortage ranged

between 2.08% and 2.39%.

1.29 The Committee wished to know whether any specific budget is allocated for addressing manpower shortage. The Ministry of Defence, through a written reply, informed that no specific amount is allocated towards addressing manpower shortage. However, expenditure is incurred on augmenting training infrastructure, running advertisement campaigns and conducting recruitment rallies and recruitment centres.

1.30 Further, the Committee enquired whether raising of more Territorial Battalions would help in overcoming the shortage of officers in Army. To this pointed query, the Ministry replied as under:

'Territorial Army battalions are raised based on the operational requirement. Each Territorial Army Battalion has a specific role, mandate and authorisation of officers, JCOs and other ranks. The employment and deployment of TA is need based and these units are, therefore, embodied only when operationally required. The authorisation of manpower (including officers) is for executing the role of a particular Battalion. Raising of more Territorial Army Battalions may not help in overcoming shortage of officers in Army.'

### **Bullet Proof Jackets**

1.31 The issue of non-availability of Bullet Proof Jackets (BPJs) had been taken up by the Committee consistently for last many years. While examining the Demands for Grants 2018-19 of Ministry of Defence, the Committee asked the Ministry to provide details of the present position with regard to Bullet Proof Jackets. In this connection, the Ministry of Defence furnished the following information:

'As part of drive towards modernisation of Infantry, improvement in individual protective gear has been given the highest priority in order to ensure better survivability of the soldier against the enemy and terrorists. The procurement of quantity 1,86,138 BPJs as per revised GSQR No. 1438 is presently at Trial stage. Meanwhile, an immediate requirement of quantity 50,000 BPJs, based upon earlier GSQR (GSQR 878), has been met through Revenue route.

1.32 With regard to the total number of authorisation of BPJs, the Committee were intimated that the details regarding total authorisation of Bullet Proof Jackets (BPJs) in the Indian Army is sensitive in nature. Furthermore, as regards quality of the BPJs, it was assured by the representative of Ministry of Defence that the new GSQR 1438 prepared for the BPJs is at par with the extant standards being followed for the same by the Armies in the developed countries. A cross comparison of the BPJ standards being followed by some of the developed countries has been furnished as follows:

Sr No	Parameter	Old GSQR (878) (2002)	New GSQR (1438) (2012)	US	UK	Russia
1.	Weight	5.5 kg	10.1, 10.4 & 11.3 kgs	13.6-15.9 kgs	13-15 kgs	10-12 kgs
2.	Protection	Level III-A	III Plus	III	III & IV	III & III Plus
3.	Coverage Area on Body	1500 cm <sup>2</sup>	4800 cm <sup>2</sup> (med size)	4300 cm <sup>2</sup>	4300 cm <sup>2</sup>	4300- 5000 cm <sup>2</sup>
4.	Price (Approx)	Rs 20,000	Rs 60,000	Rs 1 lac	Rs 1 lac	Rs 65,000

1.33 To the concern expressed by the Committee regarding full body jackets, the Ministry informed that as per available information, there are no full body bullet proof suits in the international market. This is due to the restriction those kind of suits impose on the body movements as also the huge weight such a suit would have. However, Bullet proof jackets being procured for the Indian Army affords protection all around the body, above waist line, in order to protect all vital organs.

1.34 As regards the present state of manufacturing of Bullet Proof Jackets, the Committee were enlightened that Industrial licenses for manufacturing of Bullet Proof Jackets and Vests have been issued to 10 companies by DDP. Four companies have reportedly commenced production. Moreover, in the meantime, OFB on its own initiative, in association with MIDHANI, has taken up the development of Bullet Resistant Jackets. After development, the same can be offered to Army as per their requirement.

### **Arms and Ammunition**

1.35 With regard to the present position of Arms and Ammunition held with Indian Army the Committee were apprised that the details of authorised and held strength of equipment i.e. guns, missiles, aircraft, tanks, ammunition etc. with Indian Army is sensitive in nature. However, during the oral evidence, the representative of Army intimated the Committee that over the years, Indian Army has accumulated huge deficiencies of weapons, stores and ammunition as adequate attention was lacked, both in terms of policies and budget to modernise the aging armoury.

1.36 Some of the steps that have been taken in the recent past, to build up the ammunition stock levels in the Indian Army, as told to the Committee include:-

- (a) A Five-Year Roll-on-Indent for ammunition has been placed on OFB for the period 2014-19.
- (b) In 2013 the Hon'ble Raksha Mantri had approved the Ammunition Road Map which included procurement of 35 ammunition items ex-import which were not being

produced by OFB. These ammunition items are at different stages of procurement.

- (c) Vide Ministry of Defence Order dated 5<sup>th</sup> October, 2016, Vice Chiefs of respective Services were authorised powers for making revenue procurements in respect of identified items for ensuring emergent operational military preparedness. This delegation was valid upto 31<sup>st</sup> March, 2017. Under these delegated powers, 19 contracts amounting to Rs. 11,739.83 crore have been finalized by the Indian Army.
- (d) In order to ensure that the Armed Forces are always well-equipped for meeting emergent operational requirements, the powers for procurement to maintain minimum levels of critical ammunition and critical spares, have been delegated to the Service Headquarters vide MoD Order dated 30<sup>th</sup> December, 2016. The power and responsibility is therefore given to the Armed Forces to ensure that the minimum critical levels for ammunition and spares are maintained at all times.
- (e) Financial powers have been delegated to Vice Chief of Army Staff for undertaking procurement upto 100% authorization of some critical armaments & mines vide Order dated 16.08.2017.
- (f) To facilitate development of indigenous capacity and reduce import dependence with the long-term objective of building capacity within the industry as a robust alternative source of ammunition, the Government has approved manufacturing of selected ammunition for Indian Army by Indian Industry. RFPs for the selected ammunitions were uploaded on e-Procurement Portal on 25<sup>th</sup> & 27<sup>th</sup> March, 2017. Consequent to the uploading of the RFPs, a large number of queries and requests were received from the industry regarding the various provisions of the RFP. A pre-bid meeting was also held on 08.05.2017. The feedback on the pre-bid meeting as well as queries raised by the vendors has been examined and a corrigendum to RFPs in respect of 7 cases has already been issued.'

1.37 Further, on the matter, the Committee were intimated during the oral evidence that a new defence procurement policy to streamline the procedures, delegation of emergency procurement powers to Vice Chief of Army Staff as also delegation of powers to purchase up to 10 (l) of ammunition, armaments, and spares are some of the steps that have been taken. Besides this, a series of systems and structural reforms in consultation with the Ministry of Defence has also empowered Army to fully utilise the allocation.

1.38 The Committee have also been apprised that DRDO has been associated in improvement of INSAS Rifle. The current in service version of the 5.56 mm INSAS Rifle INSAS MK 1B1 was introduced into the services after carrying out minor improvements based upon the feedback of Operation Vijay in 1999. DAC vide decision dated 20.11.2009 had accorded AoN for procurement of Assault Rifles under "Buy & Make" category with ToT to OFB. Request for Proposal (RFP) was issued for procurement of dual calibre Assault Rifle in November, 2011. However, as the equipment fielded for trials did not fulfil General Staff Qualitative Requirement (GSQRs), the RFP was retracted in June, 2015. Meanwhile, AHQ has decided to change the calibre of the Assault Rifles to 7.62x51mm based on their adoption of a different operational philosophy. Accordingly, the case for capital procurement of 7.62x51mm Assault Rifle to meet the desired operational

requirement is progressed as per the extant Defence Procurement Procedure (DPP). After finalisation of the contract for assault rifle, the requisite budgetary support for the scheme would be made available. Simultaneously, OFB is in the progress of development of weapon. As of now, 35 nos of weapon have been assembled and tested. Continual improvement and refinement is being done in the design of various components and assemblies in the successive rifles.

1.39 To the concern expressed by the Committee about quality and availability of assault rifles, the representatives of Army submitted that for a rifle, to be used on the frontline a diluted QR cannot be led. Therefore, certain quantity is being imported and for the rest, the work was in progress. Various prototypes of weapons have come for trials and they are being tested.

1.40 The Committee were also informed that Air Defence Guns L70 and Shilka are being upgraded which otherwise are vintage equipment and becoming obsolete. 100 L70 guns and 48 Shilka guns had been given for refurbishment. On both these cases, Army has gone for comprehensive upgrades of electro optics and sighting system. In the absence of a viable replacement, Army has gone for a comprehensive upgrade in which the electro optics mainly has been the sighting system so that it gives enhanced range and visibility in the battlefield scenario.

## CHAPTER – II

### INDIAN NAVY

Indian Navy is prime element of India's maritime power and safeguarding maritime interests. India has a long coastline of 7516 km and there exist 1382 islands. India's economic resurgence is intrinsically linked to the Seas because 95 per cent trade by volume and 68 per cent by value is transacted by sea. In addition to the economic aspect, Indian Ocean Region has multiple security challenges as this is the region where one-third of world's population lives and there is coexistence of developing and failed economies. Besides this, the area faces rampant threat of piracy and trans-national crimes. Furthermore, natural disasters are also a prevalent in the area where the Indian Navy plays a benevolent role. The challenges in maritime domain require a capable and modern Navy and this would indeed require induction of adequate funds.

#### **Budget 2018-19**

2.2 The budgetary details for the year 2018-19 are as given hereunder:

#### **Revenue Budget FY 18-19**

Segment	Projection (Rs in Crs)	Allocation (Rs in Crs)	Allocation wrt Projection
Non Salary	11320.39	7985.06	70.54%

- Increase of only Rs 220 Crs (2.84%) over RE FY 17-18
- Additional burden of 10 (i) / Emergency Procurements, Customs Duties, GST and inflationary pressures not factored
  - Salary to Non Salary Ratio - 52:48 (FY 15 -16 — 45:55)

2.3 To the query on how Navy would manage with budget constraints, the representatives of Indian Navy submitted before the Committee as given:

"There are varying factors as far as the Navy is concerned. Our ship building programmes do not run on time sometimes and the stage payments get deferred. So, the committed liabilities sometimes get deferred to the next financial year thereby enabling us to have a certain amount. These are actual committed liabilities which are supposed to be paid up for the next year. Like the Presentation brought out, 33 ships and submarines are on bill, their stage payments get deferred."

2.4 The Committee were also apprised that a major part of the budget has to be paid as custom duty which will substantially rise during the year 2018-19 due to change in taxation laws. In Revenue part, this was Rs. 427.28 crore last year which will increase to Rs. 800.00 crore this year.

2.5 As submitted to the Committee, the impact of lower allocations would constrain progress of infrastructure of new schemes and ability to conclude contracts. This will also impact progress of infrastructure projects and mitigation of shortage of accommodation. Procurement of ammunition and spares, serviceability of ships, submarines and aircraft, upkeep of ageing infrastructure and even affect day-to-day running of Navy.

2.6 On the issue of budget provided for modernization of Indian Navy, the representatives of Navy confided before the Committee as under:

"the committed liability is shown as Rs.25,106 crore and the allocations are Rs.15,083 crore. This has been the case for the last three financial years.

The figures are Rs.33,458 crore for projections and Rs.20,003.71 crore as allocation. There has always been disparity over the last three financial years in the modernization Budget versus committed liability. We do this by managing our Budget through the financial year by deferring certain committed liability payments so that we earmark a certain amount for our modernization and new schemes.

Total committed liability which is indicated is because of the acquisition plan. If the ship building order has been given, the gestation period would be running into six to seven years and the payments get deferred to six to seven years. That is why when these orders are placed this delivery schedule of different orders is taken into account vis-à-vis the allocation made for that. That is how the funds are managed in a particular financial year. The payment schedule is also made into different stages. First is design approved, CDR and so on. There are six, seven or ten stage payment. Every year whatever orders are placed, for one particular order two stage payments may materialize and that is how the funds are being managed."

### **Budget Review over the Years**

2.7 Details regarding the projections and allocations in respect of Navy (including Joint Staff) during the last five years, separately for capital and revenue accounts, are as follows:-

#### **REVENUE**

(Rs. in crore)

Year	BE		RE		Expenditure
	Projection	Allocation	Projection	Allocation	
2012-13	15835.71	12548.02	15765.78	11,401.91	11,833.65
2013-14	19164.69	12194.43	15059.73	13163.94	13034.36
2014-15	19570.57	13975.79	15753.51	13935.79	13678.87
2015-16	18546.58	15525.64	15838.30	14635.18	14992.04
2016-17	18502.56	17424.79	19348.23	17813.99	17136.77
2017-18	22473.64	18493.82	20545.47	18878.93	15306.12*

\*Expenditure in r/o FY 2017-18 is upto 31<sup>st</sup> January, 2018.

## CAPITAL

(Rs. in crore)

Year	BE		RE		Expenditure
	Projection	Allocation	Projection	Allocation	
2012-13	28643.19	24766.42	25002.85	18266.42	17759.88
2013-14	33775.53	24149.03	27290.06	20418.98	20358.85
2014-15	28253.21	23832.67	22903.31	18507.07	22269.66
2015-16	26268.13	25003.24	25152.20	19740.06	19874.69
2016-17	30223.31	22000.09	22530.04	19596.28	19996.88
2017-18	28591.56	19348.16	27717.41	19348.16	16436.03*

\*Expenditure in r/o FY 2017-18 is upto 31<sup>st</sup> January, 2018.

2.8 Percentage share of revenue and capital allocation for Navy (including Jt. Staff) out of total defence budget for the last five years is given below:

Rs. in crore)

Year	BE (Total Defence Service Estimates)	Navy (Revenue)	%age share	Navy (Capital)	%age share	Navy (Revenue + Capital)	%age share
2012-13	1,93,407.29	12548.02	6.49	24766.42	12.81	37314.44	19.29
2013-14	2,03,672.12	12194.43	5.99	24149.03	11.86	36343.46	17.84
2014-15	2,29,000.00	13975.79	6.10	23832.67	10.41	37808.46	16.51
2015-16	2,46,727.00	15525.64	6.29	25003.24	10.13	40528.88	16.43
2016-17#	2,49,099.00	17424.79	7.00	22000.09	8.83	39424.88	15.83
2017-18\$	2,59,261.90	18493.82	7.13	19348.16	7.46	37841.98	14.60

(# Includes DGOF, R&D, NCC, Military Farms, Rashtriya Rifles, DGQA and ECHS which were shifted to modified Grant No. 20-MoD(Miscellaneous) from FY 2016-17, but have been transferred back to Defence Services Estimates in FY 2017-18, with exception of Military Farms and ECHS, for the purpose of comparison with previous as well as future years)

\$ Excludes MF & ECHS)

2.9 The percentage share of Naval budget to defence budget over the last 7even years is as given below:

FY	IN Share of Defence Budget (%) BE stove
2012 - 2013	18.12%
2013 - 2014	16.79%
2014 - 2015	15.37%
2015 - 2016	15.32%
2016 - 2017	14.55%
2017 - 2018	13.39%
2018 - 2019	13.11%

## **Modernization**

2.10 The Committee wished to know the details of modernisation being carried out in the Navy and the details of vessels scheduled for induction in Navy. In this regard, the following information, through a written reply, was submitted to the Committee:

The *IN* acquisitions are planned in accordance with the Maritime Capability Perspective Plan (MCP 2012-27). Further, this has been subsumed in the Long Term Integrated Perspective Plan (LTIPP 2012-27) of the Services and the XII<sup>th</sup> Plan. Acquisition of defence equipment is undertaken in accordance with the Defence Procurement Procedure.

Details of major acquisition projects are as below:-

- (i) **P 15A (M/s MDL, Mumbai)**. The initial delivery of the yards 12701, 12702 and 12703 were March 2008, March 2009 and March 2010 respectively. The delivery of yards 12701, 12702 and 12703 was subsequently revised to May 2010, May 2011 and May 2012 respectively. All three P15A ships, INS Kolkata, INS Kochi and INS Chennai have been commissioned in August 2014, September 2015 and November 2016 respectively. The time overrun is attributable to infrastructural constraints at the shipyard and delay in supply of steel from Russia. The original cost of Rs. 3580 crore was revised to Rs. 11662 crore. Cost overrun has been mainly due to the increase in equipment cost and Yard material, increase in cost of Labour and Labour overheads and realistic assessment of cost of weapons and sensors.
- (ii) **P 28 (M/s GRSE, Kolkata)**. The initial delivery of Yards 3017, 3018, 3019 and 3020 were 2008, 2009, 2011 and 2012. The delivery of Yard 3017, 3018, 3019 and 3020 was subsequently revised to Oct 2012, July 2013, July 2014 and April 2015 respectively. The first three ships, INS Kamorta, INS Kadmatt and INS Kiltan have been commissioned in August 2014, January 2016 and October 2017 respectively. The fourth ship is likely to be delivered in end 2018. The time overrun was attributed to delay in development of steel, delay in development of indigenised weapons and sensors and delay in completion of trials for critical equipment like Diesel Generators, AC Plants etc. The original cost of Rs. 3051.2 crore was revised to Rs. 7852.39 crore during revision of cost by CCS in March 2012. Cost overrun is attributable to the increase in costs of developmental Projects and introduction of new/ state of the art equipment/ systems.
- (iii) **IAC (M/s CSL, Kochi)**. The delivery schedule of IAC has been revised from December 2010 to October 2018. The ship is expected to be delivered by October 2020. The main reasons for time overrun are due to non-availability of Russian steel, delay in receipt of critical pre-launch equipment such as Gear Box and 3MW Diesel Generators. The original cost of Rs. 3261 crore was revised to Rs. 19341 crore by CCS in Jul 2014. Increased equipment costs, including weapons and sensors, and Aviation Facilities Complex (AFC) due to finalisation from generic to specific equipment has further added to the cost overrun.
- (iv) **NOPVs (M/s Pipavav Shipyard)**. The contract for construction of five Naval Offshore Patrol Vessels (NOPVs) was awarded to M/s Pipavav Defence and Offshore Engineering Co. Ltd. (now renamed as Reliance Naval and Engineering Ltd), Gujarat on 27 May 2011 at a „fixed and firm“ cost. The contracted delivery schedule of the ships was Nov 14 for the first NOPV and subsequent ships at an

interval of six months each. The NOPV project progressed at a reasonable pace till the keel laying of the second vessel in May 2014. The project was delayed initially view change in design partner and subsequently view design issues, deteriorating financial health of the shipyard and Change in Management. The change in Management and take over by M/s Reliance Naval and Engineering Limited (RNEL) was completed on 18 January 2016. Post Change in Management, the pace of work has increased. As per the contract, Liquidated Damages (LD) will be levied beyond the contractual delivery dates. The ships are likely to be delivered between June 2018 to June 2020. Being a fixed cost project, there has been no cost overrun.

- (v) **Project P-75**. The Cabinet Committee on Security (CCS) on 06 September 2005 approved construction of six Scorpene class submarines at MDL, under Project 75 with M/s Armaris, France (later M/s DCNS and now M/s Naval Group (NG)) as the main collaborator. The first submarine of the Project was commissioned on 14 December 2017 while the second submarine, presently undergoing her sea trials is likely to be delivered by early 2018. The balance submarines of the Project are under various stages of construction.
- (vi) **Project 17A**. P-17A ships are the follow-on ships of P-17 class. The P-17A ships will have enhanced stealth features and advanced indigenous weapons and sensors. The Acceptance of Necessity (AoN) for the project was accorded in Jun 09 for construction of seven ships at MDL & GRSE. Subsequently in September 2011, Defence Acquisition Council (DAC) had decided that MDL would be the lead yard, and four/ three ships would be built at MDL/ GRSE respectively. The CCS sanction of P17A was accorded on 10 February 2015 and contract was signed with MDL and GRSE on 20 February 2015. The ships are planned to be delivered commencing 2022.
- (vii) **Fast Interceptor Crafts (M/s Solas Marine Lanka, Sri Lanka)**. The contract for procurement of 80 FICs was signed on 26 August 2011 with M/s Solas Marine Lanka, Sri Lanka for a total project cost of US\$ 64,152,000.00. The contract stipulated that the first batch of four FICs were to be delivered by the shipyard in July 2012, followed by a batch every three months thereafter, till April 2017. The FICs were delivered in batches, with each batch consisting of four FICs. The last batch was delivered by the shipyard in March 2017. The delay was primarily attributed to shipyard's inability initially to achieve contracted speed of 45 knots. Applicable liquidated damages on FICs and on the Base & Depot (B&D) spares thereof have been levied on the Shipyard for late delivery of the batches. Being a fixed cost project, there has been no cost overrun.
- (viii) **LCU Mk-IV (M/s GRSE, Kolkata)**. The Contract for construction and delivery of eight Landing Craft Utility Mk-IV (LCU MK-IV) ships was signed with M/s GRSE, Kolkata on 29 September 2011. The contractual delivery of the first ship was scheduled in August 2014 and subsequent ships at an interval of three months. The first ship LCU L 51 and second ship LCU L 52 was commissioned on 28 March 2017 and 21 August 2017 and the third LCUs has been delivered in December 2017 respectively. The delays are attributable to insufficient resource allocation by the shipyard. Being a fixed cost project, there has been no cost overrun.
- (ix) **WJFACs (M/s GRSE, Kolkata)**. The Contract for construction and delivery of four Follow-on Water Jet Fast Attack Crafts (WJ FACs) was signed with M/s GRSE, Kolkata on 01 March, 2013 for Rs. 379.87 crore The contractual delivery of the first ship was scheduled in March 2015 and subsequent ships at an interval of three months each. The ships have been commissioned in May 2016, Oct 2016, March 2017 and September 2017. The delays are attributable to insufficient resource

allocation by the shipyard. Liquidated Damages are being levied on the shipyard at the time of delivery of the ship in accordance with contracted provisions. Being a fixed cost project, there has been no cost overrun.

- (x) **Cadet Training Ships (M/s ABG Shipyard)**. The Contract for three Cadet Training Ships (CTS), two under main contract and one under option clause, was concluded with M/s ABG Shipyard on 27 Jun 2011 and 30 Nov 2012 respectively at a total cost of Rs. 1453.14 crore. The ships were to be delivered by December 2014, June 2015 and May 2016. The project progressed satisfactorily till about September 2014 for all the three ships and thereafter the progress slowed down due to financial constraints of the shipyard. An overall progress of 20.22%, 12.27 % and 6.7 % was achieved for the three vessels and the Shipyard was subsequently shutdown in Jun 2015. As no progress was being made on CTS Project since Jun 2015, the Termination letter has been issued on 25 September 2017. Being a fixed cost project, there has been no cost overrun.'

2.11 The details of the commissioned fleet in Indian Navy during the Eleventh and Twelfth Plan Periods was furnished to the Committee as given below:

**XI<sup>th</sup> Plan (2007-12)**. During the period two Fleet Tankers, Two P17 ships, Chakra (Submarine), 10 WJFACs, One Sail Training Ships, Six FICs were commissioned.

**XII<sup>th</sup> Plan (2012-17)** During the period One Aircraft Carrier (Vikramaditya), Three P-15A Destroyers, One P-17 Frigate, Three P-1135.6 Frigates, Four NOPVs, Three P-28 ASW Corvettes, Two LCU MK IV, Four WJFACs, One Catamaran Hull Survey Vessel and One Torpedo Launched and Recovery Vessel were commissioned.

### **Indigenization**

2.12 The summary of cases contracted from indigenous sources, under Buy (Indian) categorisation during the XI<sup>th</sup> and XII<sup>th</sup> Plan is as follows: -

<b>Plans Periods</b>	<b>FY</b>	<b>Buy (Indian)/ Indian Vendors</b>	
		<b>No of Cases</b>	<b>Cost (Rs. in crore)</b>
<b>XI<sup>th</sup> Plan</b>	2007-08	34	1,380.47
	08-09	12	61.75
	09 - 10	18	586.70
	10 - 11	25	3,952.00
	11 - 12	16	4,643.82
<b>XII<sup>th</sup> Plan</b>	12-13	15	1,627.33
	13-14	05	709.43
	14-15	08	45,534.80
	15-16	16	1,799.93
	16-17	13	5,700.31

2.13 The status of outlay spent on indigenous acquisitions during the XI<sup>th</sup> and XII<sup>th</sup> Plan is as follows:-

Plans Periods	FY	Expenditure incurred on indigenous acquisitions (Rs. in crore)
XI <sup>th</sup> Plan	2007-08	6,302.83
	08-09	6,180.03
	09-10	8,085.92
	10-11	11,361.13
	11-12	11,367.03
	Total XI <sup>th</sup> Plan	43,296.94
XII <sup>th</sup> Plan	12-13	10,333.19
	13-14	6,587.64
	14-15	14,021.54
	15-16	11,791.00
	16-17	11,807.56
	Total XII <sup>th</sup> Plan	54,540.93

2.14 The steps taken by the Government to ensure that modernisation process is not hampered are as follows:-

- (a) Keeping security and other relevant aspects in view, appropriate publicity is also given to the proposed procurement, with a view to generate maximum competition. Further, approvals of capital acquisition cases are progressed through collegiate bodies such as SCAPCC / SCAPCHC / DPB / DAC to achieve transparency and faster decision making in the procurement process.
- (b) The highest degree of probity, public accountability and transparency is ensured whilst undertaking procurements in the Indian Navy, which are aligned in accordance with DPP-16 for Capital procurements.
- (c) All clauses of the standard contract document promulgated in DPP-16 are universally applicable to all vendors. Broad time frames have been promulgated in the DPP-16 for all the government agencies involved in defence procurements to follow and process the capital acquisition cases. DPP-16 mandates signing of an „Integrity Pact“ between the MoD and the bidders, for all procurement schemes over Rs 20 crore.
- (d) An Indigenous Defence industry would aid in the modernisation of the Defence Forces. The Government has taken a number of steps to encourage creating indigenous defence manufacturing infrastructure.

2.15 As regards, the efforts made to progress the Make in India initiatives of the Government, the following information was provided to the Committee: -

- 127 ships indigenously built
- 33 ships and submarines being constructed indigenously
- 12 Dornier/16 ALH/ 08 Chetak Helicopters from HAL
- AoN for 53 ships and six submarines

## **Ships Under Construction**

### **DPSU - Shipyards**

- IAC 1
- 4 x P 15B Destroyers
- 7 x P 17A Frigates
- 1 x P 28
- 5 x Landing Craft Utility MK IV
- 5 x P 75 Submarines
- 5 x Catamaran Hull Survey Vessels

### **Private Shipyards**

- 5 x Naval Offshore Patrol Vessels

### **Acceptance of Necessity**

- 4 x Landing Platform Dock
- 5 x Fleet Support Ships
- 6 x Next Generation Missile Vessels
- 4 x Survey Vessels
- 12 x MCMVs
- 16 x ASW Shallow Water Craft
- 2 x Diving Support Vessels
- 4 x Multi Purpose Vessels

### **Indigenisation Efforts**

- 80 Contracts worth Rs 76,200 Crs for Capital Acquisitions concluded since Apr 14/ 43 contracts (Rs 54,300 Crs) with Indian Vendors
- First Service to obtain AoN for Make Projects (Deep Sea Side Scan Sonar Towing Winch & Upper Air Sounding System)
- Two Contracts concluded under 'Buy & Make (Indian)' Category in 2017 (Surface Surveillance Radars & Portable Diver Detection Sonar)

## **Force Level**

2.16 The details of required Force level are indicated in LTIPP (2012-27) which was said to be of sensitive in nature. The existing force levels are as follows:

Ships and Submarines.	136
Aircraft.	219

2.17 The Committee were also informed that the capability voids are reviewed by MoD on a regular basis. In order to mitigate the shortages, the service life of ships/ submarines is extended through Service Life Extension (SLE) Programme, based on the operational necessity, material state and anticipated delay in induction of replacement platforms. The detailed information with regard to the force level was furnished to the Committee as given below:

1. 'Ships/ Submarines. The policy for „Disposal of Ships and Submarines“ has been promulgated by MoD on 10 Aug 10. The policy lays down the guidelines for decommissioning of ships/ submarines, types of disposal, the disposal process, calculation of reserve price, and manpower which can be retained on board after decommissioning, till final disposal of the ship. The procedure has been further amplified through promulgation of a Navy Order within the *IN*. In addition, the following Check off List/ Guidelines have been promulgated in the Navy Order:-

(a) Check-Off List for Decommissioning and Disposal Procedure for Ships/ Submarines. Considering „D“ as the date of decommissioning of the vessel, the Check- off list lays down the procedures to be followed from D-30 till D+12 months (final disposal of the ship). The Check-off list lays down the actions to be taken, both at IHQ MoD(N) and the Command to ensure timely decommissioning and disposal of ships/ submarines.

(b) Guidelines for De-equipping and Disposal of B&D Spares. The detailed guidelines for de-equipping/ de-storing of the ship are listed, as follows:-

- (i) Removal/ merger of stock.
- (ii) Removal/ disposal of stores in the best interest of Service.
- (iii) Unserviceable equipment/ stores to be retained for disposal with ship/ submarine.
- (iv) Retention of serviceable equipment/ stores onboard for final disposal.
- (v) Serviceable stores.

(c) Guidelines for Safety Precautions on Ships/ Submarines Awaiting Decommissioning/ Disposal. Considering that safety is of paramount importance in a ship/ submarines awaiting decommissioning/ disposal, the guidelines incorporate the procedure of hull inspection, maintaining of watertight integrity, berthing arrangements, monitoring of draught and fire safety, etc. A minimal crew is retained on the ship/ submarine for safety purposes.

Aircraft. The policy for de-induction (phasing out) of aircraft of *IN* has been promulgated vide GoI letter P1/Policy/NHQ/379 ID (N-IV)/ 2016 dated 09 Dec 16. The life span of an aircraft stipulated by the aircraft OEM in terms of calendar life and/ or flying hours is placed at enclosure. However, the life varies from type and origin of aircraft. On completion of the stipulated life, an aircraft is usually put through a service life extension, provided that the aircraft is structurally (Airframe) airworthy. The equipment onboard the aircraft, including the weapon and sensors, are upgraded through planned Mid Life Upgrades. However, at a certain stage, the aircraft (including Aero-engine) can no longer be economically refurbished or repaired for operational deployment.'

2.18 The current focus areas in relation to augmentation of Force Levels in Navy are given as under:

### **Ships**

- Shortfalls in MCMVs, Landing Platform Docks (LPDs), Survey Vessels and Diving Support Ships (DSVs).
- Cases for induction being progressed to meet capability shortfall.

### **Submarines**

- Planned : 18 (Conventional) + 6 (SSN)
- Existing : 14 + 1 (On Lease)
- Vintage Submarines (Age : 17 - 31 yrs)

Six Scorpene submarines under P-75 contracted with MDL

- 1st (Kalvari) commissioned 14 Dec 17/ 2nd undergoing Trials

Case for Six P 75(1) being progressed

Medium Refit Life Certification (MRLC) of six Submarines approved

### **Integral Helicopters**

- Critical for Surveillance and Stand-off targeting at Sea
- Last Multi Role Helicopter (MRH) inducted between 1986-89  
Shortage of 61 Mu/ti Role Helicopters
- Case for 16 (+8) MRH, a critical Op void being progressed
- Case for 123 Naval Multi Role Helicopters (NMRH)/ 111 Naval Utility Helicopter (NUH) being progressed as per Strategic Partnership Model

### **Weapons**

- 127 mm Medium Calibre Gun for Ships
- Heavy Weight Torpedoes (HWT) for Submarines
- Medium Range Anti-Ship Missiles
- Mobile Missile Coastal Batteries
- Short Range Surface to Air Missiles
- Underwater Sensors
- Air Surveillance Radars

### **Naval Base**

2.19 The modernization of naval bases are being carried out as per the information submitted below:

'Modernisation Plan of Naval Base Karwar – Under Project Seabird.

(a) Phase I. Infrastructure for 10 ships/ submarines and 10 yard crafts has been created

as part of Project Seabird Phase I. The existing infrastructure includes a Naval Ship Repair Yard, Berthing facility for 10 ships/ submarines, a Shiplift of 10,000 T capacity, 141 Bed Hospital, Armament facility, Residential Accommodation, Logistics Complex encompassing Material Organisation, Base Victualling Yard and Weapon Equipment Depot, sports and recreational facilities.

- (b) Phase IIA. Project Seabird Phase IIA includes development of infrastructure to support 32 ships/ submarines and 23 yard crafts. The CCS sanction was accorded on 06 December, 2012 for Rs 13,161 crore on January, 2010 rates for augmentation of infrastructure and other facilities over a ten year period (Rs. 19,603 crore with 6% escalation).
- (i) Scope. The major scope of work that is envisaged to be executed in 13 Work Packages includes the following:-
- (aa) 10 Operational Piers (to provide 4.7 Km of berthing space). (ab) Dockyard & Fleet Base Buildings.
  - (ac) Naval Air Station.
  - (ad) Augmentation of Naval Armament Facilities. (ae) Augmentation of Residential Facilities.
  - (af) Augmentation of Security & Communication Facilities. (ag) Augmentation of Naval Hospital to 400 bedded capacity.
  - (ah) Other Works (Water, Power, Sewage, Roads & Bridges, Hill Slope Stability and Flood Mitigation).

In addition to Naval Base Karwar, *IN* is progressing modernisation of Forward Operating Bases (FOB), Operational Turn Round (OTR) bases, Naval Detachments (NAVDETs) as follows:-

- (c) OTR Bases at Kamorta and Campbell Bay. AIP of MoD has been accorded in March, 2011 for setting up of OTR Ports with allied facilities at Kamorta and Campbell Bay. The facilities for which AIP has been accorded include a jetty of 150 m at each port and shore support infrastructure. The DPR for the project is to be prepared by the consultant (Andaman Lakshadweep Harbour Works) by 27 March, 2018.
- (d) OTR Port at Diglipur. AIP was accorded by MoD in March, 2011 for setting up of OTR Port at Diglipur. The AIP includes only shore based infrastructure as the existing civil jetty at Diglipur is planned to be used by *IN* ships. „Go-ahead“ sanction for consultancy was accorded in March, 2016 and the preparation of DPR is in progress. MoU for consultancy has been executed with IIT, Chennai on 20 October, 2016. The DPR preparation is in progress.
- (e) NAVDET at Bitra. GoI sanction for acquisition of 2.18 acres land for establishing a NAVDET was accorded on 01 June, 2016. Land acquisition is in progress. Board Proceedings (BPs) are under preparation for augmentation of infrastructure.
- (f) Indian Navy-Gujarat Maritime Board (*IN*-GMB) Jetty. A 200 m *IN*-GMB co- financed jetty has been built at Porbandar at a cost of Rs 58.28 crore with an *IN* share of Rs 25.14 crore. The construction of the jetty was completed and it is being utilised since December, 2015 for priority berthing of *IN* ships.
- (g) Reconstruction of N1 – N3 Jetty at Visakhapatnam. AIP and „Go-Ahead“ sanction for hiring consultant for reconstruction of existing 330 m N1-N3 Jetty at Visakhapatnam to 500 m was accorded by GoI on 30 May, 2016. The length has been shortened to 430m. IIT, Chennai, the consultant is working on the finalisation of DPR.
- (h) Construction of 400m *IN*-ICG Jetty at Vizag. AIP and „Go-ahead“ sanction for hiring consultant for construction of 400m *IN*-ICG Jetty was accorded by GoI on 28 July, 2016. IIT, Chennai, the consultant is working on the finalisation of DPR.

## Delay in ship Building Exercises

2.20 The Committee desired to be informed about the delays that are taking place in various ship building projects for Indian Navy. Details of the various vessels presently under construction at various shipyards including their original targets, revised targets, if any, and also cost are given below:-

### Under Construction Vessels At Various Shipyards – DND (SSG)

**(All figures in INR crore)**

Ser	Name of Project	Contract Date	Name of Ship yard	Project Cost	Total payments till Date	Delivery Schedule as per Contract	Total Numbers Delivered	Actual/likely date of delivery	Delay (Month & Days)
1.	P-15B	28-01-11	Mazagon Dock Shipbuilders Ltd.	29643.74 (including BFE)	9672.82 [7798.45 + 1874.37 (FY 17-18)]	Y12704 (Visakhapatnam) – 28 Jul 18 Y12705 (Mormugao) - 28 Jul 20 Y12706 – 28 Jul 22 Y12707 – 28 Jul 24	Nil	Mar 21 Jul 22 Aug 23 Jul 24	-
2.	P -17A	<b>20-02-15</b>	Mazagon Dock Shipbuilders Ltd / Garden Reach Shipbuilders & Engineers Limited	48238.91 (including BFE cost of 3217.55)	<b>5953.63</b> [5909.5 + 44.13(Q1 FY 2017-18)]	2022-25	Nil	20 Aug 22 – 20 Aug 25	-
3.	P-28	<b>11-06-12</b>	GRSE	7852.39	6919.02	Kamorta - Oct 18		12 Jul 14	20 M
5.	LCU MK IV L51 to L58	29 SEP 2011	M/s GRSE, Kolkata	2169	1494.52 Cr	Aug 14 – May 16	03 of 08	30 Sep 16 20 Jul 17 09 Jan 18 Apr 18 Jul/ Aug 18 Dec 18 Apr 19 Aug 19	39 months overall
		<b>16-12-14</b>		Sanction)	(8595 + 1350 FY 17-18)	approval targeted delivery by Dec 18	-	(Intimation to CCS planned by Dec 18)	
6.	5 x NOPV	27 May 11	M/s RNEL Shipyard, Pipavav	2974.58 Cr	1367.26 Cr	<b>27 Nov 14 - 27 Nov 16</b>	Nil	Dec 18 Feb 19 Dec 19 Feb 20 Apr 20	49 months overall

7.	Floating Dock (FDN-2)	22 May 15	Larsen & Toubro Shipyard Kattupalli Ltd.,	468.52	291.19	21 Nov 17	-	Feb 18	03 Months
8.	Project 75	06 Oct 2005	M/s Mazagon Dock Shipbuilders Limited, Mumbai	Contractual <b>18,798</b> First Revision (as approved by CCS on 23 Feb 2010)- <b>23,558.58</b> Revised Cost as per CCS approval of 12 Jul 17- <b>25,737.44</b>	17,296 (Basic Price excluding Escalation and ERV payments)	Contractual SM1-Dec 2012 SM2-Dec 2013 SM3-Dec 2014 SM4-Dec 2015 SM5-Dec 2016 SM6-Dec 2017 Delivery Dates as approved by CCS on 23 Feb 2010 - First submarine to be delivered in June 2015 and the sixth submarine by September 2018. Updated delivery dates as approved by CCS on 12 Jul 17 - Jun 2017, Dec 2017 Dec 2018, Dec 2018 Sep 2019, Jun 2020	01	21 Sep 2017 Jun 2018 Oct 2019 Dec 2020 Sep 2021 Jun 2022	57 54 58 60 57 54

2.21 Further, the Committee were informed about various measures taken to reduce delays in shipbuilding projects. These include:-

- (a) All projects are now "fixed cost" projects. Variable cost option is available only where cost of equipment is uncertain.
- (b) Construction of follow on ships is now based on same design to reduce build time.
- (c) Provision for nomination of equipment for follow-on Ships incorporated to reduce procurement time.
- (d) Timely reviews of project by way of Working Level Meetings (WLMs), PDND & DGND reviews, Pre-CPRMs & CPRMs are being carried out.
- (e) In addition, reviews by an Apex Steering Committee under the chairmanship of Secretary (DP) as notified by MoD are also being carried out.
- (f) Integrated Modular Construction for new projects and shift from Telescopic Design to Frozen Design.
- (g) Capacity building through Modernisation of Yards.
- (h) Enterprise Resource Planning through information Technology management tools.
- (j) P71 (IAC-1) is being reviewed by „Empowered Apex Committee (EAC)“ headed by Defence Secretary once in six months. Based on the mandate of CCS while according revised CCS sanction, an Expert Committee under the chairmanship of VCNS has been constituted and the Project is reviewed by Expert Committee, quarterly. The project is also reviewed quarterly by Steering Committee headed by DG (Acq) and CPRMs by CWP&A.

## Accidents

2.22 Details of accidents of *IN* ships, submarines and aircraft under Indian Navy, during the period Apr 07 to Mar 16 along with reasons for such accidents, as submitted to the Committee are tabulated below:-

(a) **Ships and Submarines.**

SI No	Name of the ship	Nature of incident/accident	Date of Accident	Cause of Accident
(i)	LCU-L33	Touching of bottom	19-May-07	Error of judgement by crew
(ii)	INS Sindhuraj	Grounding while entering harbour	20-Jun-07	Error of judgement by crew
(iii)	INS Pralaya	Damage to propellers	02-Aug-07	Presence of sandbars not known to the ship at the time of incident and later established through survey
(iv)	INS Cheetah	Damage to under water hull	10-May-07	Error of judgement by crew
(v)	INS Vindhyagiri	Touching of sand bank while leaving Kochi Harbour	23-May-08	Organisational failure of the bridge of the ship
(vi)	INFAC 84	Propellers touching the bottom and consequential damage	12-Jan-08	Error of judgement by crew
(vii)	INS Sindhugosh	Collision with MV Leeds Castle	20-Jan-08	Error of judgement by crew
(viii)	INS Jalashwa	Accidental venting of H <sub>2</sub> S gas in compartment and loss of lives	01-Feb-08	Failure to adhere to safe working practices
(ix)	INS Mahish	Touching of bottom off Tarasa Island	09-May-08	Error of judgement by crew
(x)	INS Godavari	Damage of both propellers	23-Jan-09	Crew error
(xi)	INS Sindhuvijay	Accidental bursting of detonator during demonstration session onboard	13-Oct-08	Procedural lapses by crew
(xii)	INS Agray	Incident of fire onboard	17-Jul-09	System failure
(xiii)	Ranvir & Kuthar	Collision between Ranvir & Kuthar	04-Aug-09	Material failure of steering gear
(xiv)	INS Sarvekshak	Damage to the ship's multi beam sonar while docking	04-Jan-10	Error by docking crew
(xv)	INS Sindhurakshak	Battery pit explosion	26-Feb-10	Crew error
(xvi)	INS Delhi	Fire onboard in Officer's galley	23-Nov-10	Electrical short circuit in hot plate
(xvii)	INS Deepak	Fire in galley	30-May-11	Electrical fire in deep fat fryer

(xviii)	INS Kalpeni	Collision with sailing boat	20-Jan-11	Crew Error
(xix)	INS Vindhyagiri	Collision between MV Nordlake and INS Vindhyagiri	30-Jan-11	Matter subjudice
(xx)	LCU-38	Fire onboard	11-Mar-12	Heat from the weld surface due to continuous hot work onboard
(xxi)	INFAC 83	Fire in engine room	08-Oct-12	Material failure
(xxii)	INS Shankush	Fire in Aft battery pit	19-Dec-12	Material failure
(xxiii)	INS Talwar	Accident with unlit fishing boat	23-Dec-13	Failure of bridge AIO Ops Room organisation
(xxiv)	INS Tarasa	Fire onboard INS Tarasa	14-Jul-13	Crew error
(xxv)	INS Delhi	Damage to Stbd Helo hanger and other fittings of INS Delhi by Yard 12701 (Kolkatta)	26-Jul-13	Error of judgement by crew
(xxvi)	INS Sindhurakshak	Explosion in INS Sindhurakshak	14-Aug-13	Individual/crew lapses
(xxvii)	INS Viraat	Fire onboard INS Viraat	22-Sep-13	Material failure
(xxvii)	INS Konkan	Fire onboard during refit	05-Dec-13	Organisational and individual lapses
(xxix)	INS Tarkash	Scrapping of INS Tarkash on SBW Knuckle	19-Dec-13	Error of judgement by crew
(xxx)	INS Betwa	Crack on sonar dome of INS Betwa	08-Jan-14	Error of judgement by crew
(xxxi)	INS Sindhugosh	Suspended movement while securing to alongsie birth	17-Jan-14	Incorrect tidal predictions promulgated in ITT 2014 version 1
(xxxii)	INS Vipul	Sea water ingress into the tiller flat through a crack/hole onboard INS Vipul	23-Jan-14	Unethical work practices by subcontractors.
(xxxii)	INS Sindhuratna	Incident of fire in third compartment	26-Feb-14	Electrical short circuit
(xxxiv)	INS Matanga	Incident of smoldering and thick smoke in armoury during hot work	06-Apr-14	Organisational and individual lapses
(xxxv)	INS Cheetah	Touching bottom while entering Kochi harbour	02-Jul-14	Error of judgement by crew
(xxxv)	INS Airavat	Damage to Port propeller whilst entering Harbour	30-Jan-14	Non adherence of laid down SOPS in pilotage water

(xxxv)	INS Kuthar	Damage to port propeller while coming alongside at Port Blair	28-Jun-14	Non-adherence of laid down SOPs and poor pilotage planning and execution on part of the entire pilotage team.
(xxxv)	INS Kora	Collision of with MV Madeleine Rickmers at Sea	31-Oct-14	Crew error
(xxxix)	TRV-72	Sinking of TRV-72	06-Nov-14	
(xi)	Satpura	Scraping of Stbd propeller while casting off from GMB Jetty at Porbandar	27-Feb-15	Error of judgement by crew and presence of uncharted underwater obstruction.
(xli)	Saryu	Minor chipping of blades of stbd propeller	01-Jul-15	Error of judgement by crew

(b) Aircrafts

SI No	Date	Nature of Accident	Cause of Accident	Outcome of Investigation
(i)	05.04.2007	Accident of Sea Harrier -SH 651 of Hansa	Undetermined (UD)	No individual or organisation was held blameworthy for the accident. Death of 01 naval personal was considered as attributable to service.
(ii)	08.09.2007	Accident of Sea Harrier -SH 613 of Hansa	Support Lapse (Maintenance)	No individual or organisation was held blameworthy for accident.
(iii)	24.12.2007	Accident of Sea Harrier -SH 608 of Hansa	Undetermined (UD)	No individual is considered blameworthy for the accident.
(iv)	23.07.2008	Accident of Kamov-KA 574 Trishul flight	Material Failure (Fatigue)	Three officers were found culpable and disciplinary action against them has been taken.
(v)	25.03.2009	Accident of Kamov-KV 586 of Hansa	Undetermined (UD)	Three officers were found culpable and disciplinary action against them has been taken.
(vi)	21.08.2009	Accident of Sea Harrier -SH 622 of Hansa	Aircrew Error (Judgement)	No individual or organisation was held blameworthy for the accident. Death of 01 naval personal was considered as attributable to service.

(vii)	03.03.2010	Accident of Kiran – KR 078 of Hansa	Aircrew Error (Procedure)	No individual or organisation was held blameworthy for the accident.
(viii)	02.06.2010	Accident of Chetak - CH 468 of Dega	Aircrew Error (Judgement)	Two officers were found culpable and disciplinary action against them has been taken.
(ix)	04.03.2011	Accident of RPA - HV 923 of Garuda	Material Failure (Premature)	No individual or organisation was held blameworthy for the accident.
(x)	15.10.2012	Accident of Chetak- CH 405 of Shikra	Undetermined (UD)	No individual or organisation was held blameworthy for the accident. Deaths of 03 naval personnel were considered as attributable to service.
(xi)	05.03.2013	Accident of Chetak – CH 440 of Dega	Support Lapse (Maintenance)	No individual or organisation was held blameworthy for the accident. Deaths of 02 naval personnel were considered as attributable to service.
(xii)	18.09.14	Accident of Chetak - CH 417 of Shikra	Support Lapse (Maintenance) OEM	OEM (HAL) was held blameworthy for the accident.
(xiii)	24.03.15	Accident of Dornier- DO 240 of Hansa	Aircrew Error (Judgement)	No individual or organisation was held blameworthy for the accident. Death of 02 naval personal was considered as attributable to service.

Investigation through a Naval „Board of Inquiry“ (BoI) has been convened in each of the 40 accidents onboard ships and submarines as tabulated above.

In addition, all the accidents of *IN* aircraft have also been investigated by Bsol.'

2.23 The Boards of Inquiry (Bsol) have identified the causes of the incident, and recommended disciplinary action against the culpable, where applicable. Further, the Bsol have also recommended measures for mitigating the recurrence of accidents in the future.

There were a total of 398 approved BoI recommendations of which 350 have been implemented thus far. The remaining 48 recommendations are progressively being implemented and are being centrally monitored by IHQ MoD (N) regularly. Details are given below:-

<u>Ser</u>	<u>Name of the Ship</u>	<u>Date of accident</u>	<u>Nature of incident/ accident</u>	<u>No. of Approved Bol Rec</u>	<u>No. of Bol Rec Implemented</u>	<u>Present Status</u>
(a)	LCU-L33	19-Jun-07	Touching of bottom	6	6	
(b)	INS Pralaya	02-Aug-07	Damage to propellers	6	6	
(c)	Sindhuraj	20-Jun-07	Grounding while entering harbour	4	3	1 in progress
(d)	INFAC 84	12-Jan-08	Propellers touching the bottom and consequential damage	4	4	

(e)	INS Sindhugosh	20-Jan-08	Collision of with MV Leeds Castle	12	10	2 in progress
(f)	INS Jalashwa	01-Feb-08	Accidental venting of H2S gas and loss lives	18	18	
(g)	INS Mahish	09-May-08	Touching of bottom	3	3	
(h)	INS Vindhyagiri	23-May-08	Grounding while leaving Kochi	5	5	
(j)	INS Sindhuvijay	13-Oct-08	Accidental bursting of detonator	9	7	2 in progress
(k)	INS Godavari	23-Jan-09	Damage of both propellers	11	11	
(l)	INS Agray	17-Jul-09	Incident of fire onboard	11	6	5 in progress
(m)	Ranvir & Kuthar	04-Aug-09	Collision between Ranvir & Kuthar	12	12	
(n)	INS Sarvekshak	04-Jan-10	Damage to the ship's multi beam sonar while docking	4	4	
(p)	INS Sindhurakshak	26-Feb-10	Battery pit explosion	16	14	2 in progress
(q)	INS Delhi	23-Nov-10	Fire onboard in Officer's galley	9	8	1 in progress
(r)	INS Deepak	30-May-11	Fire in galley	12	10	2 in progress
(s)	INS Kalpeni	20-Jan-11	Collision with sailing boat	10	10	
(t)	INS Vindhyagiri	30-Jan-11	Collision with MV Nordlake	37	26	<b>Part I</b> (Nav situation) <b>Subjudice.</b> <b>Part II</b> (DC & FF situation) - 11 in progress
(u)	LCU-38	11-Mar-12	Fire onboard	19	19	
(v)	INFAC 83	08-Oct-12	Fire in engine room	4	4	

(w)	INS Shankush	19-Dec-12	Fire in Aft battery pit	4	4	
(x)	INS Tarasa	14-Jul-13	Fire onboard	14	9	5 in progress
(y)	INS Delhi	26-Jul-13	Damage to Helo hanger Delhi by Yard 12701 (Kolkatta)	6	6	
(z)	INS Sindhurakshak	14-Aug-13	Explosion onboard	10	10	
(aa)	INS Viraat	22-Sep-13	Fire onboard	5	5	
(bb)	INS Konkan	05-Dec-13	Fire onboard	22	19	3 in progress
(cc)	INS Tarkash	19-Dec-13	Scrapping on SBW Knuckle	6	6	
(dd)	INS Talwar	23-Dec-13	Accident with unit fishing boat	10	10	
(ee)	INS Betwa	08-Jan-14	Crack on sonar dome	3	3	
(ff)	INS Sindhugosh	17-Jan-14	Suspended movt due to depth	12	6	6 in progress
(gg)	INS Vipul	23-Jan-14	Sea water ingress into the tiller flat	22	21	1 in progress
(hh)	INS Airavat	30-Jan-14	Damage to Port propeller	7	7	
(jj)	INS Sindhuratna	26-Feb-14	Fire in 3rd compartment	19	15	4 in progress
(kk)	INS Matanga	06-Apr-14	Smouldering and thick smoke in armoury	7	6	1 in progress
(ll)	INS Kuthar	28-Jun-14	Damage to port propeller	8	7	1 in progress
(mm)	INS Cheetah	02-Jul-14	Touching bottom in Kochi harbour	4	4	
(nn)	INS Kora	31-Oct-14	Collision with MV Madeleine Rickmers	6	6	
(pp)	TRV-72	06-Nov-14	Sinking of TRV-72	13	12	1 in progress

**Actions Taken.** Various measures have been taken to keep up the focus on safety, as well as indoctrinate personnel on this very important aspect. A few of the measures implemented are enumerated in the succeeding paragraphs.

**IN Safety Organisation**. The concept of Class Authorities for the various disciplines within the *IN* to deal with intricacies in their respective domain has been existing for a long time, viz. Flag Officer Naval Aviation (FONA) for aircraft (since 1979), Flag Officer Submarines (FOSM) for submarines (since 1987) and Flag Officer Sea Training (FOST) for ships and seamanship (since 1992). These „Class Authorities“ were mandated to ensure safe conduct of all operations within their respective domains. Further, in Oct 2012, the existing Class Authorities were given an additional mandate of Safety Class Authority (SCA) for promoting safety related issues within their respective domains. In addition, this measure was instituted to establish a framework for Safety Organisation within the existing *IN* structure, with scope of strengthening the same.

With the establishment of Indian Navy Safety Organisation in Oct 12, most actions envisaged from apex upto the unit level were completed by Jun 13, which include:-

- **IHQ MoD(N) Level**. Promulgation of policies wrt Safety and nomination of Coordinating Directorates for various disciplines.
- **Command Level**.

- (i) Nomination of members for „Committee on Safety“ under Chief of Staff.
- (ii) Half Yearly feedback to IHQ MoD(N) on effectiveness on measures instituted for enhancing safety.
- (iii) Conduct of Safety Stand Downs.
- (iv) Safety awareness campaign in industrial units for the civilian workers and employees about safe working practices. In addition, as per the Regs Navy, the CO of the ship/ submarine is unambiguously responsible for the safety of his ship. Hence adherence to safe working practices has been an intrinsic part of ship/ submarine culture in the *IN*.

- **Safety Class Authorities**

- (i) Promulgation of Safety Alert/ Acquaint/ Bulletin/ Template etc.
- (ii) New Chapter on „safety checks“ in INBR 1938 (Pre Work Up Shakedown Routines - PWSR) by FOST.
- (iii) Issue of policy guidelines on safety issues for *IN* submarines by FOSM.
- (iv) Impetus on safe working practices during Operational Sea Training (OST) by FOST and during inspection of aviation and submarine units by FONA and FOSM respectively.
- (v) Promulgation of Safety Equipment Allowance for class of ships/ establishments.

- **Unit Level**.

- (i) Nomination of Safety Officers onboard ships and submarines.
- (ii) Quarterly Safety Committee meetings.
- (iii) Installation of Safety Oversight boxes and recording of safety infringements.
- (iv) Renewed emphasis on Safety brief prior every evolution.

- (v) Inclusion of Safety as a topic in Personnel Qualifying Standards (PQS).
- (vi) Highlighting safety aspects during divisional periods, evening quarters and display of safety posters.

**Safety Audit of Afloat Platforms.** In February, 2014, to further strengthen the safety organisation, conduct of „Safety Audits“ through Command/ Operational Level Safety Audit Team (COMSAT/ OLSAT) was institutionalised for all ships and submarines. **Since its institution in February, 2014, all /N ships and submarines (both operational and in refit) have undergone at least one Safety Audit every year.** It is pertinent to note, that Naval Aviation already had an institutionalised procedure of annual Flight Safety Inspection and safety audits of all naval air stations by Aircrew Instrument Rating - Categorisation and Standardisation Board (AIRCATS). Additionally, Naval Aeronautical Quality Assurance Service (NAQAS) with its regional centres provides requisite quality assurance support and audit facilities to co-located air stations and units.

**Safety Advisories.** In addition, safety advisories are being issued regularly by IHQ MoD(N) and SCAs for adherence to „Standard Operating Procedures“. The advisories *inter- alia* focuses on the following:-

- Concerted efforts required to be put in at all levels towards ensuring that a „safety culture“ is created and nurtured onboard all units.

- Maintenance of high standards of proficiency of equipment operators.

- Professional capsule in training establishments to further reinforce the basic skills of individuals in watch-keeping, bridge work and navigation.

- Examination of crew knowledge and drill relating to safety aspects in equipment/ machinery operations along with materiel preparedness.

- The details of **Safety Advisories** issued since Oct 12 are tabulated below:-

Ser	Publication	No. of Advisories	Remarks
(i)	Safety Acquaint	15	Highlight potential hazards and recommend operating procedures
(ii)	Safety Alert	17	Highlight issue meriting urgent policy decision at IHQ MoD(N)/ Command HQs
(iii)	Safety Bulletin	03	Highlight good and correct practices to be followed onboard ships
(iv)	Safety Circular	11	Highlight incidents/ infringements and promulgate corrective/ preventive actions
(v)	Safety Template	267	Check off Lists for safe execution of various evolutions/ activities at sea

(vi)	Safety Publication	11	Safety Supplement to INBR 1938 Work Up Handbooks – 10
(vii)	Post from FOST	10	FOST quarterly publication that focuses on a particular discipline including Safety
(viii)	Work Up Instructions(WINs)	18	For safe and standardised conduct of Work Up activities among teams
	<b>Total</b>	<b>352</b>	

## **Measures Implemented for Promoting Flight Safety**

**Dissemination of Lessons Learnt from Accidents.** Advisories in the form of letters/ periodicals/ leaflets have been/ are issued to disseminate information of what, how and why accidents have occurred.

**Inspections.** All aviation units, whether frontline, training, maintenance or onboard are subjected to Flight Safety Inspections (FSI) by the Aircrew Rating and Categorisation Board (AIRCATS) once a year. In addition, an Operational Readiness Inspection (ORI) for each unit is conducted by Flag Officer Naval Aviation (FONA) annually, during which Aviation Units are also examined for various flight safety aspects. Further the Naval Aeronautical Quality Assurance Service (NAQAS) undertakes Technical Inspection of all units on a yearly basis along with quality and snap audits to ensure strict compliance of best maintenance practices and adherence to latest policies in vogue.

**Presentations on Accident Prevention.** Presentations on accident causes and their prevention, along with case studies are conducted for officers appointed as Commanding Officers of Air Squadrons during their Aviation PCT (Pre-Commissioning Training) as well as for aviation officers undergoing mid-career courses.

**Safety Audits.** All Air Stations and Air Squadrons are subjected to Safety Audit at least once a year, in addition to the Inspections at (b) above.

**Introduction to New Concepts.** Aviation Journals introduce new concepts in aviation safety, such as Crew Resource Management (CRM), Operational Risk Management (ORM) and Human Factors Analysis and Classification System (HFACS). Measures are taken to enhance aircrew awareness and Cockpit Resource Management by use of simulators, operational training programme and regular proficiency check sorties for Supervisory Staff.

**Dissemination of Flight Safety Information.** Regular indoctrination and dissemination of material on safety concepts is carried out on a regular basis through Flight Safety Journals, Flight Safety Seminars and sharing of information with lessons learnt with sister Services.

## **Recent Initiatives**

Safety and operational effectiveness are mutually inclusive and need to be achieved simultaneously. Towards this, various initiatives have been taken. Initiatives taken towards strengthening the safety culture within *IN* are enumerated as follows:-

- Promulgation of Safety equipment allowance for *IN* ships and submarines.
- Strengthening of safety organisation under CSO(Trg)/ HQSNC wef 26 Dec 17 so

as to provide focused attention to inculcating safety culture both afloat and ashore as well as in industrial establishments.

- Institution of Annual Safety Review under the chairmanship of the VCNS wef 2018.
- Institution of Safety Alert signal.
- Study on implementation of Operational Risk Management (ORM) in *IN*.
- Training of officers in modern accident investigation procedures such as Human Factor Analysis and Classification system (HFACS) and AcciMap to ascertain organisation vulnerabilities impinging on accident causation.
- Enhancement of safety training as part of all courses commencing from *ab- intio* for both officers and sailors.

**Transition of Ships from Refit to Operations.** Additionally, the existing policy of transition of ships from refit to operations has been strengthened and measures instituted to enhance „Safety“, with concurrent impetus on „Crew Training“ and „Material Readiness“ in Jul 17. The policy stipulates the need for all ships coming out of maintenance period (refit) to go through various stages of inspection/ safety audit prior being certified fit to join the operations.

The implementation of Safety Consciousness is a process in continuation. However, the above remedial measures facilitate improvement in the working environment from the safety point of view, without curbing the traditional naval ethos of initiative and boldness. The Navy continues to keep safety at work and in operations in prime focus and constantly endeavours to minimise accidents/ incidents through the established process of sensitisation of personnel, adherence to safety check lists/ procedures and proper briefings/ debriefings.

## **Manpower**

2.24 The gap between the required and the existing manpower (Officers and PBOR) in the Navy as on 01 December, 2017 is as follows:-

(a) **Officers.**

<b>Govt. Sanction (Required Manpower)</b>	<b>Borne Strength (Existing Manpower)</b>	<b>Shortage</b>	<b>% Short</b>
11827	10384	1443	12.02

(b) **Sailors.**

<b>Govt. Sanction (Required Manpower)</b>	<b>Borne Strength (Existing Manpower)</b>	<b>Shortage</b>	<b>% Short</b>
71656	57310	14346	20.02

(c) The initiatives undertaken during the 11<sup>th</sup> plan have contributed in reducing the gap between the sanctioned and the Borne strength of both Officers and the Sailors. The shortage of Officers and Sailors as on **01 December, 2017** has been reduced to 12.2% and 20.02% from 21.46% and 22.65 % in 2011 respectively, despite an increase in the sanctioned Strength of Officers from **10405 to 11827 (1422 i.e. 13.66%)** and for Sailors from **63130 to 71656 (8526 i.e. 13.5%)** since 2011. This progressive reduction in shortage indicates that the measures taken are effective.

2.25 Training in the Indian Navy is a dynamic and ongoing process. Training is aimed both to achieve and retain the skill sets to meet the desired combat standards for operating modern platforms in Service. The review of the training content and processes is constantly undertaken by Headquarters, Southern Naval Command (HQSNC) which is the *IN's* Training Command, in consultation with IHQ MoD(N).

**Periodic Reviews.** Periodic review of training in terms of changes in the training pattern/ procedures due to decommissioning/ discontinuation of platforms/ upgradation of equipment are carried out. It is pertinent to mention that the training content and procedures for both officers and sailors, are being reviewed regularly, commensurate with the changes in technology and technical upgradations by the Headquarters, Southern Naval Command (HQSNC) (*IN's* Training Command ) and this is being closely monitored by IHQ MoD(N). A major review of the Sailor's training pattern and curricula was undertaken in February, 2014. A review of officers' courses has also been undertaken in 2015. Regular review of training curricula is undertaken through various fora as enumerated below:-

(a) **Annual Training Conference (ATC).** Issues requiring policy changes at the highest level are decided during the Annual Training Conference (ATC) held annually. The ATC is chaired by FOC-in-C (South) and attended by Chief of Personnel (COP) along with all other stakeholders including the Command Training Officers of all Commands, COs/OsIC of training units and HQSNC staff. All

the emergent changes in training are discussed to keep the training relevant and contemporary, especially issues which have long term implications. The ATC for 2017 was conducted on 29 Aug 17.

(b)

**Annual Training Meeting (ATM)**. The ATM is chaired by FOC-in-C (South) and is conducted every year to review training policies, methodologies and content with participation from representatives of IHQ MoD(N). The training issues that are not discussed in ATC but require deliberations are discussed in ATM. Last ATM was conducted on 29 August, 2017.

(c)

**New Induction Training Committee (NITC)**. The NITC formulates a comprehensive plan for the training curriculum for planned new inductions/ acquisitions and ensures timely availability of training aids like cut section models, simulators, Computer Aided Instructional (CAI) packages etc to ensure that training remains contemporary and relevant. The committee is chaired by the Principal Director Naval Training and meets twice a year. The next meeting of NITC is scheduled in February, 2018.

(d)

**Review of Job Specifications**. In addition to the periodic reviews, the job specification of *IN* personnel, ie the desired proficiency at the end of training period which an officer/ sailor is expected to attain, is also periodically reviewed (every five years/ on change of job profile).

(e)

**Lessons Learnt from Accidents/ Incidents-Incident Study and Analysis Cells**. The study and analysis of navigational accidents such as collision and grounding has been institutionalised through setting up of the Collision and Grounding Analysis Cell (CAGAC) at Navigation and Direction School. CAGAC analyses various navigation related accidents of ships/submarines and prepares training material and Computer Aided Instructional (CAI) packages for dissemination of lessons learnt during various courses including Pre Commissioning Training (PCT) classes. Similar measures have been institutionalised in other professional schools for aviation, submarine, technical, logistics, armament, etc so as to learn lessons and disseminate them during training. Towards this end, Incident Study and Analysis Cells (ISACs) have also been established at 11 other professional training schools across the Navy.

**Training Aids/ Simulators**. In keeping with the advancements in technology, modern and sophisticated training aids which are actual working models of the real equipment are being inducted into the Navy. Additionally, modern simulators for ships, submarine and aviation systems have also been installed. For example, Damage Control Simulator is being extensively used for imparting training on simulated damage control and flooding exercises at Lonavala and Kochi; a Fire Fighting Simulator is being utilised at Lonavala; high end Ship Handling and Rules of Road (ROR) simulators for simulated training to hone navigational and ship-handling skills are being effectively utilised at INA, ND School and in the Fleet, etc. Aircraft simulators for Sea King helicopter, Sea Harrier fighters and Mig-29K fighters etc are being extensively used. Likewise, two axis motion submarine simulators are also installed and being used. In addition, computer-based training packages are being extensively exploited for imparting training in all professional schools for both officers and sailors across the Navy. The status of induction of Training aids and simulators is periodically reviewed by the New Induction Training Committee (**NITC**).

**Training Infrastructure**. Effective training in the *IN* is also dependent on availability of

requisite training infrastructure to impart contemporary training to naval personnel. To mitigate the infrastructure shortage at various training establishments, the Maritime Infrastructure Perspective Plan (MIPP) 2013-27, has been drawn up by IHQ MoD(N) and is being executed through the AMWP/ Project route. The plan comprehensively caters for the envisaged civil and other works for all future training infrastructure requirements of the Indian Navy including those required for Indian Coast Guard and foreign trainees up to the year 2027. The cases are being progressed with MoD iaw the MIPP to keep training contemporary and up-to-date with advancements in naval technology to meet roles and missions of the Indian Navy as tasked by the nation. A case for infrastructure augmentation of INS Chilka at an approximate cost of Rs. 205.27 crore has been approved by the MoD in September, 2015. Similarly, Phased upgradation of the Indian Naval Academy in Kerala is also progressing at an approximate cost of Rs. 340 crore.

**CO/ EXO PCT and Submarine CO Qualifying Courses.** Pre-Commissioning Training (PCT) is also conducted for all Commanding Officers/ Executive Officers before they are appointed to tenant these very critical and demanding appointments on board ships. The PCTs are a refresher course that updates these officers on the aspects specific to ships that they will command as well as disseminates lessons learnt from incidents on similar ships in the past to ensure that the officers are fully geared up for these important assignments. Similarly for Submarine Commanding Officers and Executive Officers separate and special courses are conducted before they take up these assignments. Further these officers are also examined by a board of senior submarine specialist officers before certifying them fit for their assignments on submarines. Aviation training for pilots and observers is also very exacting and stringent with emphasis on high professional standards. Pilots and observers are put through periodic tests/exams and checks to ensure that they retain their professional competence.

**Upgradation to B Tech.** Modern naval warfare hinges on exploitation of complex technology in all three dimensions. Therefore, *IN* personnel today are required to be trained to effectively and efficiently operate modern naval platforms/ assets which employ a wide array of high technology systems and equipment. To ensure the officer cadre is better equipped to operate and maintain these technology intensive equipment, B Tech curriculum (instead of only BSc as hitherto) has been introduced as the basic qualification for officers in the *IN* wef 2009. The first batch of B Tech officers following the revised training pattern have graduated from the Indian Naval Academy (INA) in May 2013. Similarly, B Tech for naval cadets at National Defence Academy has also commenced wef July, 2016.

## **Joint Staff**

2.26 Details regarding the projections and allocations in respect of Joint Staff during the last five years are as follows:-

(Rs. in crore)

Year	BE		RE		Expenditure
	Projection	Allocation	Projection	Allocation	
2012-13	2707.74	2270.62	2654.04	2156.56	2218.91
2013-14	2648.05	2131.13	2409.26	2100.04	2080.78
2014-15	2825.24	2617.86	2576.09	2363.80	2280.90
2015-16	3415.39	2722.30	3036.82	2507.77	2532.72
2016-17	3927.66	3185.97	4012.66	3142.19	2921.21
2017-18	4185.53	3139.07	4127.46	3469.24	2365.19*
2018-19	5796.53	3796.94			

\*Expenditure in r/o FY 2017-18 is upto 31<sup>st</sup> January, 2018.

2.26 Details of funds demands as additional requirement under Revenue and Capital heads in respect of Joint Staff at RE 17-18 stage is as under:-

(Rs. in crore)

	Revenue	Capital	Total
BE Allocation	2394.62	744.45	3139.07
RE Projection	3128.56	998.90	4127.46
Additional amount sought in RE	733.94	254.45	988.39
RE Allocation	2724.79	744.45	3469.24

Following amounts were sought at Supplementary stage but no additional funds were allocated.

- (i) First Supplementary :- (a) Rs. 85 Crore for newly operationalized Material Organization at Andaman and Nicobar Command (ANC). (b) Rs. 65 Crore towards pending tariff charges for HQANC.
- (ii) Second Supplementary:- (a) Rs. 28.23 Crore for repairs and refits of ships at ANC.(b) Rs. 45 Crore under Stores due to newly operationalized Material Organization at ANC.

The allocated funds were optimally and fully utilized toward operational activities and schemes were reprioritized to ensure that urgent and critical capabilities are acquired without any compromise to operational preparedness.

## CHAPTER - III

### AIR FORCE

The foremost task of Air Force is to protect Nation's air space and provide assistance in freedom of operations to surface forces. Indian Air Force has capability to project aerospace power in the Indian Ocean Region to safeguard national interest. The peacetime roles of Air Force include training in near realistic environment, intelligence and surveillance, Human assistance and disaster Relief.

#### **Budget 2018-19**

3.2 In the year 2018-19, there is projection of Rs 1,14,526 crore while the allocation is Rs. 65,891 crore. Out of this, the allocation for Revenue budget is 30,121 crore against a projection of Rs. 36,561 crore. This accounts to a shortfall of Rs. 6,440 crore. Out of the total Revenue Budget, the allocation against non-salary part is Rs. 11,862 crore against a projection of Rs. 18,302 crore, hence accounting to a shortfall of Rs. 6,440 crore.

3.3 There is an additional burden of taxes due to new taxation laws. On this account, the Committee were informed that in 2016-17 there was a custom duty paid to the tune of Rs. 943,62 crore which hiked to Rs. 1614.28 crore in 2017-18. This amount was not even reimbursed to Air Force. The estimated fund outgo for FY 2018-19 is Rs. 1726.98 crore. The funds allocated against committed liabilities is Rs. 33, 100 crore against projection of Rs. 72,482 crore. In case of new schemes, the allocation is Rs. 2,670 crore against a required projection of Rs. 5,483 crore.

3.4 The representatives of Air Force intimated the Committee that the shortfall in budget will lead to inability to procure spares and fuel. It will also impact maintenance and training of fleet and serviceability. Besides this pace of modernization will be a challenge.

3.5 On the issue of budget constraints, the representatives of Air Force apprised the Committee as given under:

'As you would know that Air Force is a capital-intensive Service which you pointed out, our requirements are quite a bit and what we require is with an Air Force of our size and

the task that we have at hand. We are also acutely aware that there is always bread versus guns kind of a decision that the Government has to take. We have to do the best that we can with the budget that comes to us. Here, I am very happy to report that we are absolutely in sync with the Ministry of Defence and with the Ministry of Finance.

In fact, two things have happened. The importance has not been adequately understood. First is, whether the Vice Chief has got the power that is required for war vested reserve for 10 days of intense conflict. So, that is why, I as a Vice Chief have already signed off almost to Rs.20000 crore. As soon as the money comes in, we are staggering this money so that the process of procuring weapons and spare parts of the air crafts becomes simpler.'

## **Budget Review**

3.6 Details regarding the projections and allocations in respect of Air Force during the last five years, separately for capital and revenue, are as follows:-

### REVENUE

(Rs. in crore)

Year	BE		RE		Expenditure
	Projection	Allocation	Projection	Allocation	
2012-13	19,887.73	17,705.81	20,942.36	17,103.72	17,529.02
2013-14	25,922.64	18,295.10	22,505.98	19,283.27	19,093.70
2014-15	27,073.41	20,506.84	22,368.56	20,185.86	19,741.06
2015-16	29,632.28	23,000.09	23,000.09	20,377.09	21,020.95
2016-17	25,728.60	23,655.83	23,817.22	23,817.52	22,856.44
2017-18	29,147.29	24,802.33	29,746.42	27,209.61	22083.30*

\*Expenditure in r/o FY 2017-18 is upto 31<sup>st</sup> January, 2018.

### CAPITAL

(Rs. In crore)

Year	BE		RE		Expenditure
	Projection	Allocation	Projection	Allocation	
2012-13	36,950.52	30,514.45	36,999.62	30,517.95	32,980.11
2013-14	64,607.84	39,208.84	65,825.22	37,750.44	38,614.93
2014-15	62,408.33	33,710.68	38,948.19	33,710.68	32,796.42
2015-16	46,191.96	33,686.75	35,780.78	30,442.15	31,198.32
2016-17	41,266.41	29,795.42	36,512.95	28,239.86	30,414.79
2017-18	62,048.85	33,570.17	52,548.50	33,570.17	33,992.20*

\*Expenditure in r/o FY 2017-18 is upto 31<sup>st</sup> January, 2018.

3.7 Percentage share of revenue and capital allocation for Air Force out of total defence budget for the last five years is given below:

(Rs. in crore)

Year	BE (Total Defence Service Estimates)	Air Force (Revenue)	%age share	Air Force (Capital)	%age share	Air Force (Revenue + Capital)	%age share
2012-13	1,93,407.29	17705.81	9.15	30514.45	15.78	48220.26	24.93
2013-14	2,03,672.12	18295.10	8.98	39208.84	19.25	57503.94	28.23
2014-15	2,29,000.00	20506.84	8.95	33710.68	14.72	54217.52	23.68
2015-16	2,46,727.00	23000.09	9.32	33686.75	13.65	56686.84	22.98
2016-17	2,49,099.00	23655.83	9.50	29795.42	11.96	53451.25	21.46
2017-18	2,59,261.90	24802.33	9.57	33570.17	12.95	58372.50	22.51

3.8 Percentage share of capital allocation Air Force out of total defence budget for Eleventh Plan as a whole and for each year of Eleventh and Twelfth Plans is given below:

(Rs. in crore)

Year	BE (Total Defence Service Estimates)	Air Force (Capital)	%age share
<i>XIth Plan</i>			
2007-08	96000.00	16828.73	17.53
2008-09	105600.00	19271.42	18.25
2009-10	141703.00	20114.08	14.19
2010-11	147344.00	25251.72	17.14
2011-12	164415.49	30282.03	18.42
Total	655062.49	111747.98	17.06
<i>XIIth Plan</i>			
2012-13	1,93,407.29	30514.45	15.78
2013-14	2,03,672.12	39208.84	19.25
2014-15	2,29,000.00	33710.68	14.72
2015-16	2,46,727.00	33686.75	13.65
2016-17	2,49,099.00	29795.42	11.96
Total	1121905.41	166916.14	14.88

## **FORCE LEVEL**

3.9 At present, the Indian Air Force (IAF) has 31 active fighter squadrons. With regard to the sanctioned requirement of force level, the Committee were apprised that the said information is sensitive in nature. However, there is a gap in the force level since induction and de-induction is not commensurate.

3.10 Further on the issue, the representatives of Air Forces confided into the Committee as given under:

"The first issue is of our capability. It is no doubt, challenging to fight a two-front war with the current resources that we have but we do not shy away from any challenge. The cost of the victory could be a little more but that is what we are training and we are preparing for. As you have said, our Air Force is a service where innovativeness is awakened and we have our ability to make do more with less. We have been doing it for a very long time. We have now four aircraft. We have got Mig-21 that is upgraded to Bison. We have Mig-27 that is upgraded to Mig-27 upgrade. We have upgraded the Mirage-2000 and we have upgraded the Mig-29. There is going to be a substantial increment in the performance after this upgrade. Like your saying, we are not discarding old equipment. Our capability is considerable. We are the fourth largest Air Force in the world. It is for no reason that people respect us. We take part in multiple exercise abroad and our capability is nothing to laugh at, nothing to be trifled at. Both the enemies, China and Pakistan, know our capability very well and well aware that we are very effective. That is one thing. Second thing that has happened is that all this money that we are spending has been spent on extremely important for our country. It is not only important for the growth of our country but for our defence preparedness also. For that we have started the Make-II procedure. It has been reviewed where the local industry now is in a position to offer its expertise very quickly and *suo moto* we do not have to go to the typical procedure which takes a long time. So, these two processes will help us acquire our weapons quicker. In so far as our priority list is concerned, our priority list is already with the Ministry of Defence. Requirement of fighter aircraft is our first priority. Next is the long range SAM S-400 System for which we have bet. That would substantially change our posture both towards Northern adversary as well as towards Western adversary."

3.11 The Committee desired to know the measures taken to alleviate squadron depletion. In this connection, the following details were submitted to the Committee:

'The production of balance Su-30 MKI at HAL out of the contracted number is under process and will be completed by 2020. Induction of LCA into the IAF has commenced. Induction of 36 x Rafale aircraft will commence by 2019. Recently, the RFP has been issued for procurement of LCA Mk1A. The Government is also examining other suitable options.'

## Trainer Aircraft

3.12 The details for basic trainers, intermediate trainers and advanced trainers as submitted to the Committee is as given hereunder:

Sl No.	Category	Type of aircraft	Sanctioned Strength	Existing Strength	Not
(i)	Basic Trainer Aircraft	Pilatus PC-7 Mk-II	183	75	
(ii)	Intermediate Jet Trainer	Kiran Mk-I/IA	99	91	
		Kiran Mk-II*	44	42	
(iii)	Advance Jet Trainer	Hawk Mk-132	106	104	

being used as a training aircraft.

3.13 As regards the plan to mitigate the gap, the information furnished to the Committee is as follows:

- (a) Case for procurement of additional 38 PC-7 Mk-II aircraft is being progressed. The remaining 70 Basic Training Aircraft are to be manufactured by HAL under „Make in India“ Project.
- (b) In order to overcome the problem of delay and non-induction of HAL built IJT, a pilot project was started in July 2015 to train a few pilots in Stage-II (Fighters) on the PC-7 Mk-II aircraft. Based on the success of this pilots project, IAF may resort to using the PC-7Mk-II ac as Intermediate Jet Trainer as an interim measure.
- (c) Procurement of 20 Hawk Mk-132 AJT is under process.

In view of the imminent retirement of existing trainer aircraft (Kiran) and delay in progress of IJT Design & Developmental (D&D) activities, Air HQ has studied the feasibility of conducting Two Aircraft Type Flying Training pattern instead of the currently followed Three Aircraft Type Flying Training pattern and has successfully implemented the Two Aircraft Type Flying Training pattern.'

3.14 With regard to the number of authorized trainer aircrafts/simulators and their existing strength Trainer Aircraft held by IAF currently include Basic Trainer Aircraft (BTA), Intermediate Jet Trainer (IJT) and Advanced Jet Trainer (AJT). The existing trainer aircraft strength is 310 as against the sanctioned strength of 432. Simulators have also been provided for each type of

aircraft. The procurement of simulators is built into the contracts of all aircraft and the IAF is now procuring accordingly.

## **Transport planes and Helicopters**

3.15 The information as given to the existing and sanctioned strength and life spans of transport planes and helicopters is as the following:

'Presently, IAF has 27 Units of Transport aircraft and 36 Units of Helicopters against sanctioned strength of 29 Units of Transport aircraft and 39 Units of Helicopters. The life span of helicopters is based „on condition. Generally it varies from 5000 to 12000 hours and the period from 15 to 35 years. As regards the transport fixed wing aircraft, the life span ranges from about 20000 to 150000 hours. The phasing out of all the transport planes and helicopters is undertaken as per their stipulated life spans. In some cases, depending on the condition and utilisation of the fleet, intensive life extension studies are conducted and the lifespan of the aircraft extended. No aircraft which has completed its operational life is in use with the IAF.'

3.16 As regards, procurement of light utility helicopters, the Committee were intimated that the case for procurement of 197 Reconnaissance & Surveillance Helicopters had been withdrawn in the recent past. Procurement case has been withdrawn three times at different stages of procurement due to various reasons.

3.17 Acceptance of Necessity was accorded by Defence Acquisition Committee on 13 May 2015 for procurement of 200 kamov 226T helicopters (60 flyways and 140 to be manufactured in India) from Russia through the Inter- government Agreement (IGA) route in accordance with the provisions of Para 71 of DPP 2013. An IGA has been signed with Russian government in Dec 2015. JV has been registered on 2.5.2017 as M/s Indo Russian Helicopters Limited. The case is presently at RFP Stage. Cheetah/ Chetak fleet will be replaced by these 200xKamov 226T Helicopters from Russia.

## **ACCIDENT**

3.18 The details regarding accidents occurred, aircraft wise, in the Indian Air Force, during each year of the Eleventh Plan and first four years of 12<sup>th</sup> Plan alongwith the reasons identified for such accidents are given below:

'Eleventh Plan(period covering 1<sup>st</sup> April 2007 – 31<sup>st</sup> March 2012)

S No.	FY	Date	AC Type	Cause Factor for the accident
1	2007-08	08 May 07	MIG-29	TD
2	2007-08	22 May 07	MIG-21 Bis	HE (A)
3	2007-08	09 Sep 07	MI-17 1V	HE (SS)
4	2007-08	11 Sep 07	Kiran Mk I	HE (A)

5	2007-08	26 Oct 07	Jaguar	BS
6	2007-08	18 Nov 07	Kiran Mk I	HE (A)
7	2007-08	22 Dec 07	Kiran Mk II	TD
8	2007-08	09 Jan 08	MI-8	HE (A)
9	2007-08	31 Jan 08	MIG-27 ML	TD
10	2007-08	07 Feb 08	MI-8	TD
11	2007-08	15 Feb 08	MIG-21 M	BS
12	2007-08	24 Mar 08	MIG-21 Bison	BS
13	2008-09	29 Apr 08	Hawk Mk 132	HE (A)
14	2008-09	05 May 08	MIG-21 FL	TD
15	2008-09	12 May 08	HPT-32	TD
16	2008-09	23 May 08	MIG-21 FL	HE (A)
17	2008-09	01 Sep 08	MIG-29	TD + HE (A)
18	2008-09	15 Sep 08	MI-8	HE (A)
19	2008-09	16 Sep 08	MIG-21 Bison	TD + HE(A)
20	2008-09	12 Nov 08	MIG-21 T-69	TD
21	2008-09	17 Nov 08	MIG-23 UB	HE (A)
22	2008-09	24 Nov 08	MIG-21 T-69	TD
23	2008-09	27 Nov 08	MI-17	HE (S)
24	2008-09	21 Jan 09	Kiran Mk II	HE (A)
25	2008-09	07 Mar 09	MIG-27 ML	TD + HE (A)
26	2009-10	30 Apr 09	SU-30 MK I	TD + HE (A)
27	2009-10	01 May 09	MI-8	HE (A)
28	2009-10	15 May 09	MIG-27 UPG	HE (HAL)
29	2009-10	27 May 09	MIG-21 Bison	TD
30	2009-10	09 Jun 09	AN-32	HE (A)
31	2009-10	18 Jun 09	MIG-21 FL	BS
32	2009-10	31 Jul 09	HPT-32	TD
33	2009-10	10 Sep 09	MIG-21 M	HE (A)
34	2009-10	23 Oct 09	MIG-27 ML	OF
35	2009-10	30 Oct 09	MI-17 1V	HE (A)
36	2009-10	30 Nov 09	SU-30 MK I	TD
37	2009-10	20 Jan 10	MIG-27 ML	UR
38	2009-10	16 Feb 10	MIG-27 ML	HE (HAL)
39	2009-10	19 Feb 10	MIG-21 FL	TD
40	2010-11	18 May 10	Chetak	TD
41	2010-11	15 Jun 10	MIG-21 M	TD + HE (A)
42	2010-11	24 Jul 10	MIG-27 ML	TD
43	2010-11	06 Sep 10	MI-8	TD
44	2010-11	11 Sep 10	Chetak	TD
45	2010-11	11 Sep 10	Chetak	HE (A)
46	2010-11	13 Sep 10	Chetak	HE (S)

47	2010-11	24 Sep 10	MIG-27	TD
48	2010-11	10 Nov 10	MIG-27 UPG	TD
49	2010-11	19 Nov 10	MI-17	UR
50	2010-11	14 Dec 10	MI-26	HE (A)
51	2010-11	04 Feb 11	MIG-21 Bison	TD
52	2010-11	01 Mar 11	MIG-21 M	HE (A)
53	2011-12	30 May 11	Hawk Mk 132	HE (A)
54	2011-12	02 Aug 11	MIG-21 M	HE (A)
55	2011-12	04 Aug 11	Jaguar	HE (A)
56	2011-12	22 Aug 11	Kiran MK I	HE (A)
57	2011-12	06 Sep 11	MIG-21 Bison	TD
58	2011-12	07 Oct 11	MIG-21 M	HE (A)
59	2011-12	15 Oct 11	ALH	HE (A)
60	2011-12	18 Oct 11	MIG-29	HE (A)
61	2011-12	02 Dec 11	MIG-21 Bison	TD
62	2011-12	13 Dec 11	SU-30 MK I	HE (S)
63	2011-12	31 Jan 12	Kiran Mk II	TD
64	2011-12	24 Feb 12	M-2000	TD
65	2011-12	05 Mar 12	M-2000	TD

Legend : UI-Under Investigation; TD-Technical Defect, HE(A)-Human Error (Aircrew), HE (S)- Human Error (Servicing), HE (SS)-Human Error (Support Services), HE (HAL)- Human Error (Hindustan Aeronautics Ltd), BS-Bird Strike, OF – Organizational Factor MISC-Miscellaneous, UR- Unresolved.

Twelfth Plan (period covering 1<sup>st</sup> April 2012 – 31 Mar 2016)

S No.	FY	Date	AC Type	Cause Factor for the accident
1	2012-13	30 Aug 12	2 X MI-17	HE (A)
2	2012-13	24 Nov 12	MIG-21 Bison	TD
3	2012-13	30 Nov 12	Jaguar	HE (A)
4	2012-13	12 Feb 13	MIG-27 ML	TD
5	2012-13	19 Feb 13	SU-30 MK I	TD
6	2013-14	07 Jun 13	MIG-21 Bison	TD
7	2013-14	24 Jun 13	MIG-29	HE (A)
8	2013-14	15 Jul 13	MIG-21 Bison	HE (A)
9	2013-14	08 Nov 13	MIG-29	TD
10	2013-14	20 Jan 14	MIG-21 T-69	IOD
11	2013-14	22 Jan 14	Jaguar	TD
12	2013-14	28 Mar 14	C-130 J	HE (A)
13	2014-15	27 May 14	MIG-21 Bison	TD+BS
14	2014-15	03 Jul 14	MIG-21 T-75	HE (A)
15	2014-15	25 Jul 14	ALH	TD

16	2014-15	01 Aug 14	Jaguar	UI
17	2014-15	21 Aug 14	Kiran	HE (A)
18	2014-15	20 Sep 14	AN-32	HE (A)
19	2014-15	14 Oct 14	SU-30 MK I	UR
20	2014-15	27 Jan 15	MIG-27 UPG	TD + HE (HAL)
21	14-15	31 Jan 15	MIG-21 Bison	TD
22	2014-15	05 Mar 15	Jaguar	UI
23	2015-16	25 Apr 15	MI-35	HE (A)
24	2015-16	08 May 15	MiG-27 ML	HE (S)
25	2015-16	19 May 15	SU-30 MK I	UI
26	2015-16	03 Jun 15	Hawk Mk 132	HE (HAL)
27	2015-16	16 Jun 15	Jaguar	HE (A)
28	2015-16	24 Aug 15	MIG-21 Bison	TD

Legend : UI-Under Investigation; TD-Technical Defect, HE(A)-Human Error (Aircrew), HE (S)- Human Error (Servicing), HE (SS)-Human Error (Support Services), HE (HAL)- Human Error (Hindustan Aeronautics Ltd), BS-Bird Strike, OF – Organizational Factor MISC-Miscellaneous, UR- Unresolved.'

3.19 Further, on the issue the Ministry apprised the Committee on various measures being taken to curtail the occurrence of accidents in Air Force. The Committee were furnished the information as state below:

'In fact, after the number of accidents that occurred, the Abdul Kalam Committee was appointed. The Committee asked for implementation for various things including simulators, flight safety infrastructure at the base and others. All those things have been implemented. What they have done is that whatever the systematic errors were there, which were because of the deficiency of the system, have been corrected. Almost all the issues have been covered.

The errors that are occurring now are errors of judgement, errors of skill in the cockpit. So, these are individual errors. That also we need to now work on people, who are actually in the cockpit with their hands on throttle and stick. So, this is the area we need to work now. Otherwise, errors owing to lapses in the system have been reduced to zero. It is because of the secret nature of our work, the points of inquiry cannot be open up to the public because our adversaries would be keenly looking at those things, but out code of inquiry is brutally honest. They go in depth. We spare no expenses at all in decoding as to exactly what has happened in a particular accident.

All accidents were investigated through Courts of Inquiry. The recommendations made by these enquiry committees and action taken by IAF are given below: -

(a) Implementation of Expert Committee on Aircraft Accidents (EXCOM) Recommendations. An expert committee was constituted by MoD in Dec 2004 to identify the root cause of aircraft accidents and to prepare a comprehensive action plan so as to reduce the losses to a minimum. The committee finalized its report in May 2005

and the recommendations of EXCOM have been implemented by IAF.

(b) The areas where significant improvements have been made are described below:-

(i) Invigoration of Aerospace Safety Organization. The flight safety organisation has been revamped and executive independence of the flight safety branch has been ensured at all levels by placing the functionaries directly under the Commanders. The safety functionaries in a station are specially chosen and posted to ensure effectiveness of accident prevention strategy. A pool of officers with specialist training on accident investigation is being maintained at Air HQ and all Cat-I accidents are investigated by them.

(ii) Database of Accidents & Incidents. A data base of all accidents and incidents in IAF has been created and maintained in Directorate of Aerospace Safety that can be accessed by safety functionaries of all Air Force Stations, Command HQs and Air HQ. This helps in real time monitoring and reporting of incidents and accidents. Accident Prevention Strategy at each base is being worked out by studying the trend of accidents/incidents specific to the fleet and place.

(iii) Revised Training Methodology. The training methodology of aircrew and technicians has been reviewed. Stage wise training of pilots has been implemented for enhancing the quality of training. New Basic Trainer (Pilatus) and Advanced Jet Trainer (Hawk 132) have been inducted for enhancing the quality of training. Emphasis has been laid on effective training of technicians in TETTRA (Technical Type Training) Schools to enhance their skill and knowledge.

(iv) Simulators. Simulators have been inducted to impart training of aircrew in realistic environment without increasing the risk involved in actual flying. Simulators are mandatorily procured for all new aircraft inductions. HPHC (High Performance Human Centrifuge) and DISO (Disorientation) Simulators have been procured for the conduct of OPTRAM (Operational Training in Aerospace Medicine) courses for all operational aircrew and flight cadets. Such training has resulted in a marked reduction in the incidents / accidents of disorientation and „G-Loc“ (G Induced Loss of Consciousness) in aircrew.

(v) Air Force System on Error Management (AFSEM) & other Measures. AFSEM is an online tool which helps IAF in recognizing errors with potential to cause accidents and institute timely remedial measures. Concepts like Operational Risk Management (ORM) and Crew Resource Management (CRM) are being followed to integrate safety aspects into operations. Accident Probability Factor (APF) calculator, a software based tool, is utilized to identify risks and hazards specific to the aircraft fleets and operational environment at IAF bases with a view to formulate effective accident prevention programme.

(c) Courts of Inquiry. Every aircraft accident in the IAF is followed by an investigation by a Court of Inquiry and institution of remedial measures based on the recommendations. The accident/incident reporting procedure has been further streamlined. Enhanced interactions with DI (Defect Investigation) agencies like NAL (National Aerospace Laboratory), DMRL (Defence Metallurgical Research Laboratory)

and HAL have resulted in qualitative improvement in defect investigation of aircraft components involved in accidents.

(d) Visits by Senior Functionaries. Regular visits to various flying stations in each command are regularly undertaken by senior aerospace safety functionaries of IAF to promote safety awareness amongst operators and support service providers at the field level as well as to obtain grass root level inputs that need to be addressed to strengthen aerospace safety environment.

(e) Operating Environment. Improvements in operating infrastructure have been catered for in new inductions as well as upgradation of facilities of existing fleet.

(f) Human Factors Analysis and Classification System (HFACS). HFACS has been introduced during accident investigation to identify root cause of human error and use it in prevention of similar accidents.

(g) Aviation Psychology. Aviation Psychology courses are being conducted for aircrew as one of the means to curb „Human Error“ accidents.

(h) Anti - Bird Measures. Anti - bird Measures have been revamped to suit the local conditions. In all incidents of bird strikes, the bird remnants are sent to Defence Institute of Physiology and Allied Sciences (DIPAS) for identifying the species and thus helping in taking species specific preventive measures to avoid further incidents. The other measures instituted are studies undertaken by the Ornithology cell, close monitoring of bird activities, implementation of Solid Waste Management projects at airfields etc. Avian radars (Bird Detection and Monitoring radars) are being procured to strengthen bird hazard control measures. IAF has inducted new Microlite aircraft for survey of birds and to enhance bird hazard management measures. Of the 72 aircraft contracted for, 46 have already been delivered and operationalised.

(j) Enhancement of Aerospace Safety Awareness. Impetus has been given to enhancement of awareness on human factors and error-prone situations amongst aircrew through dissemination of information on past accidents, voluntary error reporting by personnel and improving the standard and content of the aerospace safety magazine. Command Aerospace Safety Inspections Officers" Conferences/Workshops are conducted regularly that provide a forum for exchange of ideas on accident/incident prevention. Representatives from sister services, OEM and National Laboratories are also invited in these conferences to discuss aerospace safety issues.

(k) Aerospace Safety Courses. Institute of Aerospace Safety conducts dedicated classes on aerospace safety to inculcate safety culture and to strengthen the aerospace safety organisation in terms of prevention strategies and investigations. Further the intake for aerospace safety courses has been increased to spread more awareness about aerospace safety.

(l) Analytical Studies/Quality Audits. Analytical studies are carried out to identify critical vulnerabilities of aircraft and equipment. Regular theme based studies and joint quality audits of aircraft fleets are being carried out to identify vulnerable areas and institute effective remedial measures. Quality Audits of aircraft production/overhaul at

HAL divisions/BRDs (Base Repair Depot) are conducted, as and when necessary.

(m) Sharing of Aerospace Safety Information. Sharing of Aerospace Safety information between IAF /Army / IN /Coast Guard / HAL / CEMILAC / DGAQA has been introduced for better / faster trend analysis of failures and speedy implementation of remedial measures.

(n) MOU with Foreign Countries. Memorandum of Understanding (MoU) is been signed for sharing of aerospace safety information with Russia. An „Out-Visit“ to UK by a composite IAF Inspection and Safety delegation is planned during Feb/Mar 2018. Efforts are being made to have MoU with Australia, Malaysia, Oman and SAARC countries for enhanced sharing of information on common operating fleets.'

3.20 The representatives of Air Force also apprised the Committee during the oral evidence as per given information:

'So far as the hon. Member points regarding spare parts, accidents and lack of budget are concerned, I would say that in the Air Force, the aircraft is maintained on how many hours it has flown and what calendar life a particular part has on the shelf in the aircraft. A very good log is kept of that. If the aircraft is unserviceable, it is not flown with defective parts. That is not flown with parts which have not been checked up.

What happens often is that considered engineering and technical decision is taken whether a part on the aircraft is to be given an extension for the aircraft to fly. But we do not fly unserviceable aircrafts. There are possibilities of people making a mistake in maintenance. It does happen. But as a policy, we do not fly any aircraft that is not fit technically.

So far as accidents are concerned, I would say they are the issue of concern for us too. We have used to lose almost 30 to 40 aircrafts a year earlier. We reduced that number close to 10. Ours is a business where we have to take risk. If you are a fighter pilot, you cannot be trained well till the time you push the envelope. Every time you push the envelope as a fighter pilot, the element of risk increases. Our leaders, our supervisors keep training them and hope to judge operational risks – when to take a risk and when not to take a risk. That time, I cannot assure you that accidents will be zero. In no Air Force, nowhere is the accidents rate zero. I do not want to give as to what the accident rate in other Air Forces, but I would like to tell you that our accident rate is similar to the most professional Air Forces of the world.'

## **MISSILES**

3.21 The information regarding availability of missiles in Defence Forces is as given hereunder:

' was Test Firing of Aakash Missile - Fifteen Aakash Missiles were test fired successfully by Indian Army and Indian Air force in various validation flight missions against parabarrel targets, Banshee targets, electronic target and air craft launched bomb. The flight tests were carried out with delivered Aakash Missile Systems to IAF and Indian Army.

Test Firing of Astra Missile – Beyond Visual Range Air-to-Air Missile (BVR-AAM) Astra has undergone 5 Phases of Captive Flight Trials (comprising of 80+sorties) and 21 Air launch trials as on December, 2017. In the year 2017, Captive Flight Trials (CFT) were conducted for evaluation of indigenous RF Seeker performance and its Electronic Counter- Counter Measure (ECCM) features. Seven (7) air launch trials were successfully conducted against Banshee Targets covering multi-launch against multi-targets, warhead trials with destruction of targets and coverage of launch in supersonic envelope of Su-30. Two trials included test firing of Astra with indigenous RF seeker. The air launch trials have proven the successful and safe separation from the Sukhoi Su-30 MkI aircraft and capability to engage targets well within the lethal radius of the warhead.

Till now 8/8 Squadrons of Aakash Missile Systems were delivered and inducted in to Indian air Force. The infrastructure for storage, deployment and operations are created at IAF sites and Army sites. Six out of twelve troops delivered to Indian Army. More than thousand two hundred missiles are delivered to Indian Armed Forces.

All the Aakash Systems are independently operated by IAF and Army. Through Aakash Missile Programme the Air Defence Capability of IAF and Army have improved substantially. Production of delivery of missiles is continuously going on to support the Armed Forces.'

## **MODERNISATION OF AIR FIELDS**

3.22 There are 53 IAF airfields which are presently being used. List of 53 IAF airfields along-with their modernization status is given below: -

Sl No	Airfield	Location	Modernisation Status
1.	Bathinda	Punjab	Airfield commissioned on 25 Mar 14
2.	Adampur	Punjab	Airfield commissioned on 24 Sep 15
3.	Jorhat	Assam	Airfield commissioned on 09 Dec 15
4.	Kalaikunda	West Bengal	Airfield commissioned on 09 Sep 15
5.	Bareilly	UP	Airfield commissioned on 16 Oct 15
6.	Pune	Maharashtra	Airfield commissioned on 01 Oct 15
7.	Halwara	Punjab	Airfield commissioned on 23 Jun 16
8.	Hindan	UP	Airfield commissioned on 06 May 16
9.	Tezpur	Assam	Airfield commissioned on 13 May 16
10.	Gwalior	Madhya Pradesh	Airfield commissioned on 15 Jun 16
11.	Naliya	Gujarat	Airfield commissioned on 30 Jun 16
12.	Bidar	Karnataka	Airfield commissioned on 02 Jun 16
13.	Bagdogra	West Bengal	Airfield commissioned on 30 Dec 16
14.	Yelahanka (Bengaluru)	Karnataka	Airfield commissioned on 16 Dec 16
15.	Suratgarh	Rajasthan	Airfield commissioned on 17 Feb 17

16.	Jodhpur	Rajasthan	Airfield commissioned on 03 Feb 17
17.	Gorakhpur	UP	Airfield commissioned on 05 May 17
18.	Jamnagar	Gujrat	Airfield commissioned on 09 Jun 17
19.	Bhuj	Gujarat	Airfield commissioned on 18 Aug 17
20.	Ambala	Haryana	Airfield commissioned on 04 Aug 17
21.	Hashimara	West Bengal	Airfield commissioned on 30 Jun 17
22.	Agra	UP	Airfield commissioned on 07 Jul 17
23.	Pathankot	Punjab	Works in progress.
24.	Jaisalmer	Rajasthan	Airfield commissioned on 01 sep 17
25.	AFA (Dundigal)	Hyderabad	Works in progress
26.	Sirsa	Haryana	Works in progress
27.	Chandigarh	Chandigarh	Works in progress
28.	Chabua (Dibrugarh)	Assam	Works in progress
29.	Uttarlai (Barmer)	Rajasthan	Works in progress
30.	Sulur (Coimbatore)	Tamilnadu	Works in progress
31.	Allahabad	UP	Planned for Modernisation in Phase-II
32.	Awantipur	J&K	
33.	Bakshi-ka-Talab	UP	
34.	Barrackpore	West Bengal	
35.	Bihta	Bihar	
36.	Carnicobar	Andaman Nicobar	
37.	Darbhanga	Bihar	
38.	Jammu	J&K	
39.	Kanpur (Chakeri)	UP	
			Planned for Modernisation in Phase-II
40.	Leh	J&K	
41.	Panagarh	West Bengal	
42.	Phalodi	Rajasthan	
43.	Purnea	Bihar	
44.	Sarsawa (Saharanpur)	UP	
45.	Silchar (Kumbigram)	Assam	
46.	Srinagar	J&K	
47.	Tambaram	Tamilnadu	
48.	Thanjavur	Tamilnadu	
49.	Thoise	J&K	
50.	Udhampur	J&K	
51.	Nal (Bikaner)	Rajasthan	
52.	Hakimpet	Hyderabad	

53.	Kargil	J&K	Airfield on lease from AAI till 2033
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3.23 The airfields are being modernised through Modernisation Air Field Infrastructure (MAFI) Project. The status of MAFI is given below:-

(a) MAFI Project Phase I.

Command	BATCH-I	BATCH-II	BATCH-III	BATCH-IV	BATCH-V
WAC	Bathinda Adampur	Halwara Hindon	Suratgarh	Ambala Pathankot	Chandigarh Sirsa
EAC	Jorhat Kalaikunda	Tezpur	Bagdogra	Hasimara	Chabua
CAC	Bareilly	Gwalior	Gorakhpur	Agra	
SWAC	Pune	Naliya	Jamnagar Jodhpur	Bhuj Jaisalmer	Uttarlai
SAC					Sulur
TC		Bidar	Yelhanka		AFA

MAFI Phase-I Works in all Stations of Batch I, II, III & IV are complete except for Pathankot in Batch-IV. The works are in progress in all Batch-V stations.

(b) MAFI Project Phase II. Under mentioned stations are planned for MAFI Phase-II: -

Command	Stations
WAC	Srinagar, Sarsawa, Nal, Leh, Jammu, Udampur, Awantipur & Thoise
EAC	Panagarh, Barackpore, Kumbigram & Purnea
CAC	Allahabad, Bakshi-ka-Talab, Dharbhanga & Bihta
SWAC	Phalodi, Vadodara & Ozhar
SAC	Thanjavur
TC	Tambaram & Hakimpet
MC	Kanpur
ANC	Carnicobar

(c) Inadequate budgetary support for works is adversely affecting modernisation of airfield time table.

3.24 The details of allocation and expenditure are given below:-

FY	Allotment (Rs in Lakhs)	Expenditure (CGDA) (Rs in Lakhs)	% Expenditure
11 <sup>th</sup> FY Plan			
2007-08	0.00	0.00	0.00%
2008-09	0.40	0.05	12.50%
2009-10	2300.00	2296.63	99.85%
2010-11	11971.72	11701.68	97.74%

2011-12	29014.03	29668.24	102.25%
Total	43286.15	43666.60	100.88%
12 <sup>th</sup> FY Plan			
2012-13	32135.03	32905.37	102.40%
2013-14	15178.46	15032.84	99.04%
2014-15	23531.67	22534.24	95.76%
2015-16	17548.97	17187.71	97.94%
2016-17	14554.00	13925.55	95.68%
Total	102948.13	101585.71	98.68%

The data includes allotment/ expenditure details pertaining to resurfacing/ strengthening of Runways at Air Bases of IAF (Code Head 918/50 under Sub-Head (c) –IAF Special Projects under Minor Head 206 under Capital Works).

### **Air Fields in North East**

3.25 There are nine IAF airfields in the North Eastern part of India. Modernisation status of these airfields is given below: -

Sl No	Airfield	Location	Modernisation Status
1	Jorhat	Assam	Airfield commissioned on 09 Dec 15
2	Kalaikunda	West Bengal	Airfield commissioned on 09 Sep 15
3	Tezpur	Assam	Airfield commissioned on 13 May 16
4	Bagdogra	West Bengal	Airfield commissioned on 30 Dec 16
5	Hashimara	West Bengal	Airfield commissioned on 30 Jun 17
6	Chabua (Dibrugarh)	Assam	Works in progress. Expected date of completion Jun 18.
7	Barrackpore	West Bengal	Planned for Modernisation in Phase-II
8	Panagarh	West Bengal	Planned for Modernisation in Phase-II
9	Silchar (Kumbigram)	Assam	Planned for Modernisation in Phase-II

(a) The infrastructure development including the development of eight ALGs in Arunachal Pradesh, four runway resurfacing, six hangars and improvement of security infrastructure at 10 existing air bases in EAC AOR was sanctioned by CCS on 26 June, 2009 at a cost of Rs 1753.32 crore. The work has been divided into two phases for execution. The revised CCS sanction was accorded on 03 December, 2015 at a cost of Rs 2402.34 crore. Status of the project is as follows:-

## Advance Landing Grounds

PHASE – I WORKS (Rs 924.53 crore for ALGs and Rs 197.98 crore for Runway and Hangar)

Status of up gradation of ALGs and other infrastructure.

Name of Work	Physical Progress
Ziro	Completed on March 2016
Passighat	Completed on August 2016
Mechuka	Completed on May 2016
Walong	Completed on October 2015
Along	Completed on March 2016
Tuting	Completed on December 2016
Tawang ALG	Progress - 97%. PDC – 15 Jan 18
Vijaynagar ALG*	Deleted from scope of work due to lack of road connectivity from Miao to Vijaynagar.
ALH Hangar Tezpur	Completed on December 2015
Runway Resurfacing Panagarh	Completed on August 2015
Runway Resurfacing Jorhat	Completed on April 2014

\* The development of Vijaynagar ALG will be taken up subsequently after the road connectivity is established.

## PHASE – II WORKS

Phase-II Works amounting to Rs 1267.59 crore were sanctioned between the period from May 16 to Aug 16. The packaging of works is as under:-

### Package-I (Rs 430.36 crore).

Sl No	Name of Work	Date of sanction	Amt Rs (in crore)	Remarks
(i)	Base Security wk at Chabua	30 May 16	49.68	To be retendered due high rates and reduction in GST.
(ii)	Base Security wk at Mohanbari	30 May 16	30.87	
(iii)	Base Security wk at Jorhat	30 Jun 16	54.37	
(iv)	Base Security wk at Tezpur	30 May 16	7.28	
(v)	Hangar at Hasimara	30 Jun 16	121.53	
(vi)	Hangar wk at Chabua	30 Jun 16	166.63	
	Total Rs.		430.36	

### Package-II (Rs 388.64 crore).

Sl No	Name of Work	Date of sanction	Amt Rs (in crore)	Remarks
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(i)	Base Security wk at Kalaikunda	30 May 16	47.98	Technical bids have been opened. Status of two bidders requires clearance of Chief Engineer, Eastern Command.
(ii)	Base Security wk at Panagarh	30 May 16	32.07	
(iii)	Base Security wk at Bagdogra	30 Jun 16	68.60	
(iv)	Hangar wk at Kalaikunda	30 Jun 16	121.43	
(v)	Hangar wk at Bagdogra	30 Jun 16	118.56	
	Total Rs.		388.64	

Package-III (Rs 336.72 crore).

Sl No	Name of Work	Date sanction	Amt Rs (in crore)	Remarks
(i)	Runway resurfacing at Purnea	11 Aug 16	216.40	Under tender planning
(ii)	Runway resurfacing at Hasimara	30 Jun 16	120.32	
	Total		336.72	

Package-IV (Rs 111.87 crore).

Sl No	Name of Work	Date sanction	Amt Rs (in crore)	Remarks
(i)	Base Security at Hashimara	30 May 16	34.25	Preparation of RAEs in progress
(ii)	Base Security at Purnea	30 May 16	36.38	
(iii)	Base Security at Kumbhigram	30 May 16	41.24	
	Total Rs.		111.87	

3.26 The Committee enquired about the steps taken regarding disused airfields. An assessment of all disused airfields has been carried out. The following 15 disused airfields have been identified, which cannot be utilised by the IAF, of which four airfields are under the management of IAF. Case has been taken up with DGDE to suggest modalities for utilisation of these airfields by Sister Services.

SI No	State	Airfield	Management
1.	UT	Diu	IAF as per MLR of DEO
2.	West Bengal	Salboni	DEO
3.	West Bengal	Pandaveshvar	IAF
4.	West Bengal	Andal	DEO
5.	Assam	Sarbhog	IAF
6.	Assam	Sookerating	DEO
7.	Manipur	Pallel	Army
8.	Bihar	Hathwa	DEO
9.	UP	Iradatganj	DEO
10.	UP	Shahbazquli	DEO
11.	UP	Akbarpur	State Govt
12.	Chattisgarh	Mohanbatta (Kargi Road)	DEO
13.	Karnataka	Raichur	IAF
14.	Andhra Pradesh	Bobbili	DEO
15.	Tamil Nadu	Chettinad	DEO

3.27 In this regard, it was further informed that a total of 39 airfields are disused airfields. Out of these, 15 airfields have been recommended for surrender as mentioned above in question 85. The remaining 24 disused airfields are planned to be utilised for creating IAF infrastructure in terms of Weapons Storage Areas (WSAs), radars/missile Op locations, helipads, communication hubs etc.

3.28 The status of budgetary provision for airfields for CFY is given below:-

FY 2017-18	Allotment (Rs. in Lakhs)	Expenditure (CGDA) as on 31-12-2017	% Expenditure
CH 918/50	47505.70	44741.68	94.18%
MH 206	61573.00	56961.33	92.51%

The data includes allotment/ expenditure details pertaining to Code Head 918/50 (Resurfacing/ strengthening of Runways at Air Bases of IAF) and Minor Head 206 (IAF Special Projects) under Capital Works for the CFY 2017-18.

The IAF is in the process of upgrading the navigational facilities at all its airfields under the Modernisation of Airfield Infrastructure (MAFI) project. Project MAFI involves installation of modern navigational aids at all the IAF airfields to improve the operational environment and enhance aerospace safety. This turnkey project is being executed in two phases. The contract for Phase-I was signed with M/s TATA Power SED on 16 March 2011 for the modernisation of 30

IAF airfields. Bathinda was developed as the model airfield and declared operational on 25 March 2014. Twenty three airfields including the model base have been commissioned as part of Batches-I to IV. Two more bases are likely to be commissioned in Mar 18. Project execution has commenced at Batch-V bases and MAFI project Phase-I is scheduled to be completed on a time-bound basis by Jun 2018. The implementation of MAFI- Phase-II that involves 37 airfields of IAF, Navy and Ministry of Home Affairs has also been approved and procurement process has been initiated. The current status of these airfields is appended below:-

S.No	Location	Modernisation Status
<b>AIRFIELDS IN WESTERN AIR COMMAND</b>		
1.	Adampur	Airfield Modernisation completed
2.	Ambala	Airfield Modernisation completed
3.	Awantipur	Modernisation planned in phase-II
4.	Bhatinda	Airfield Modernisation completed
5.	Chandigarh	Modernisation project in progress
6.	Halwara	Airfield Modernisation completed
7.	Hindan	Airfield Modernisation completed
8.	Jammu	Modernisation planned in phase-II
9.	Kargil	Not included in MAFI project
10.	Leh	Modernisation planned in phase-II
11.	Nal (Bikaner)	Modernisation planned in phase-II
12.	Pathankot	Modernisation project in progress
13.	Sarsawa	Modernisation planned in phase-II
14.	Sirsa	Modernisation project in progress
15.	Srinagar	Modernisation planned in phase-II
16.	Suratgarh	Airfield Modernisation completed
17.	Thoise	Modernisation planned in phase-II
18.	Udhampur	Modernisation planned in phase-II
S.No	Location	Modernisation Status
<b>AIRFIELDS IN EASTERN AIR COMMAND</b>		
19.	Bagdogra	Airfield Modernisation completed
20.	Barrackpore	Modernisation planned in phase-II
21.	Chabua	Modernisation project in progress
22.	Hashimara	Airfield Modernisation completed
23.	Jorhat	Airfield Modernisation completed
24.	Kalaikunda	Airfield Modernisation completed
25.	Panagarh	Modernisation planned in phase-II
26.	Purnea	Modernisation planned in phase-II

27.	Kumbhigram	Modernisation planned in phase-II
28.	Tezpur	Airfield Modernisation completed
AIRFIELDS IN CENTRAL AIR COMMAND		
29.	Agra	Airfield Modernisation completed
30.	Allahabad	Modernisation planned in phase-II
31.	Bakshi-Ka-Talab	Modernisation planned in phase-II
32.	Bareilly	Airfield Modernisation completed
33.	Bihta	Modernisation planned in phase-II
34.	Dharbanga	Modernisation planned in phase-II
35.	Gorakhpur	Airfield Modernisation completed
36.	Gwalior	Airfield Modernisation completed
AIRFIELDS IN SOUTH-WESTERN AIR COMMAND		
37.	Bhuj	Airfield Modernisation completed
38.	Jaisalmer	Airfield Modernisation completed
39.	Jamnagar	Airfield Modernisation completed
40.	Jodhpur	Airfield Modernisation completed
41.	Naliya	Airfield Modernisation completed
42.	Phalodi	Modernisation planned in phase-II
43.	Pune	Airfield Modernisation completed
44.	Uttarlai	Modernisation project in progress
AIRFIELDS IN SOUTHERN AIR COMMAND		
45.	Sulur	Modernisation project in progress
46.	Thanjavur	Modernisation planned in phase-II
AIRFIELDS IN TRAINING COMMAND		
47.	Bidar	Airfield Modernisation completed
48.	Hakimpet	Modernisation planned in phase-II
49.	Dundigal (AFA)	Modernisation project in progress
50.	Tambaram	Modernisation planned in phase-II
51.	Yelahanka	Airfield Modernisation completed
S.N	Location	Modernisation Status
AIRFIELDS IN MAINTENANCE COMMAND		
52.	Kanpur	Modernisation planned in phase-II
AIRFIELDS IN ANDAMAN NICOBAR COMMAND		
53.	Carnicobar	Modernisation planned in phase-II

As part of Phase-I of MAFI, Bathinda was developed as the model airfield and declared operational on 25 March 2014. The project has been commissioned at twenty three airfields till date and two more airfields would be commissioned in Mar 2018. Project execution is in progress at six airfields of Batch-V. Phase-I of project MAFI

comprises supply, installation, integration, calibration and commissioning of the following equipment/ facilities at each of the 30 airfields:-

- (a) Air Traffic Management (ATM) System
- (b) ILS Cat-II with low power DME
- (c) DVOR and high power DME
- (d) TACAN
- (e) Runway Visual Range (RVR) equipment
- (f) Air Field Lighting System - Cat-II
- (g) Power ring
- (h) Data ring
- (j) Two each LMVs, Light Trucks and Bush Cutters
- (k) Fifty Personal communicators at each airfield

The modernization is also being done in the existing Air Force bases by executing the following works:-

- (a) Resurfacing and extension of runways and modernization of airfield lighting systems.
- (b) Creation and up-gradation of weapon storage areas.
- (c) Enhancement of security infrastructures.
- (d) Creation of Op, Maint and Adm infrastructure.
- (e) Construction of married accommodation.
- (f) Creation of infrastructure for induction of new equipments.
- (g) Provisioning of basic amenities, sports & recreations facilities, rainwater harvesting and external services.
- (h) Land acquisition for various projects.
- (j) Upgradation of ALGs in Arunachal Pradesh and infrastructure in the North East.
- (k) Activation of Panagarh and creation of 31 Wg in support of Mountain Div at Panagarh.

### **Manpower**

3.29 Establishment and Strength of officers (except Medical & Dental branch) and airmen in IAF, as on 01 December, 2017, is as follows:-

	<u>Establishment</u>	<u>Strength</u>	<u>Deficiency</u>
Officers	12549	12340	209
Airmen	142529	127510	15019

(a) In case of officers, deficiency of 209 is a variable figure which keeps fluctuating depending on Commissioning cycle, premature separation of officers etc and is considered negligible for such calculations. The induction plans have been revamped so as to gradually bring the strength at par with the sanctioned establishment. In addition, due to robust cadre management planning and implementation, there is likely to be no shortage of officers in the IAF in due course. Moreover, IAF publicity campaign has been enhanced by taking the under mentioned steps:-

- (i) IAF Career websites, Print Advertisements, Electronic Media Advertisements, Production of TV Spots, Mobile Game Application called "Guardians of the Sky", Publicity Hoardings and Interactive Voice Response System (IVRS).
  - (ii) Facilitation Pavilions at major airports (New Delhi, Kolkata, Chennai, Hyderabad)
  - (iii) Direct Contact Programmes like motivation talks, career fairs and visit by students to IAF Bases in different parts of the country to spread the career and induction related information regarding Officers cadre.
  - (iv) Road Drives by Induction Publicity Exhibition Vehicle (IPEV). IPEV has done four drives from inception and has resulted in one to one interaction with approximately 1 Lakh students.
  - (v) Presence in social media by uploading information from time to time in official account on Facebook and Twitter.
- (b) In case of airmen, the deficiency at the end of 11<sup>th</sup> plan was 7435. However, due to accretions, shortages increased once again. To bridge the gap, the induction which was 5000 annually till 2015 has been enhanced to 6800 annually wef 2018. In addition to publicity campaign mentioned above, for recruitment of Airmen, recruitment rallies are also conducted in remote/low response/ border / insurgency affected /naxal affected / tribal areas or hilly districts and island territories of the country so as to provide opportunities to the youth from these regions to join National main stream. IAF has made sustained efforts in reaching remote areas like Kalahandi in Odisha, Tezu in Arunachal Pradesh and Kavaratti in Lakshadweep and naxal infested areas of Jharkhand, Chhattisgarh, Odisha, in consultation with state authorities.
- (c) Online Examination System for Air Force Common Admission Test (AFCAT) and Scheduled Test for Airmen Recruitment (STAR) has been implemented with effect from Jan 2018. In the new system, there would be about 760 examination centres all over the country and the maximum distance a candidate would be required to travel will be less than 150kms from the place of his residence to the examination centre.

**3.30 The details of the Training Institutes for pilots in the Air Force are as follows:-**

<u>Sl No</u>	<u>Stage</u>	<u>Name</u>
(a)	Stage - I	Air Force Academy (AFA) (Dundigal, Hyderabad)
(b)	Stage-II (F) Stage-II (H)	Fighter Training Wing (FTW) and Helicopter Training School(HTS) at AF Stn Hakimpet, Hyderabad.
(c)	Stage- III (F)	AF Stn Bidar
(d)	Stage -II (T) & III (T)	Fixed Wing Training Flight (FWTF), AF Stn Yelahanka, Bengaluru.
(e)	Stage – III(H)	112 Helicopter Unit (HU), AF Stn Yelahanka, Bangaluru
(f)	Army Pilot Course	Basic Flying Training School (BFTS), Allahabad
(g)	Qualified Flying Instructors Course(QFIC)	Flying Instructors School (FIS), AF Stn Tambaram, Chennai
(h)	Stage-III (F)	Operational Conversion Unit "A" and Unit "B" at Air Force Station, Kalaikunda, West Bengal.

3.31 With regard to the present pilot to cockpit ratio, the Committee were submitted that this information is said to be sensitive in nature. However, it was informed that in so far as cockpit and pilot issues was concerned, significant efforts have been put in. Air Force don't currently have a problem in terms of recruitment. It always can get more people. But its capacity is limited by the number of people that can be trained because training period of a fighter pilot is quite long. By the time they mature, enormous amount of investment has to be made into those fighter pilots. Currently there is an Air Force exercise coming up where it will actually go to test it.

Like other modern Air Forces, Indian Air Force is also resorting to pharmaceutical interventions to ensure that our pilot is not fatigued and the same pilot with pharmaceutical intervention is able to fly more. So, this is another innovative measure that Air Force has adopted.

### **OBSERVATIONS/RECOMMENDATIONS**

#### **Security of Defence Personnel and Establishments**

1. The Committee, in their Twenty-ninth Report (16<sup>th</sup>Lok Sabha), have expressed

concern on the frequent terror attacks taking place on military bases, Defence establishments, critical facilities and even family quarters of soldiers. The Committee have been unanimous in condemning such acts of cowardice and desired that safety of our soldiers along with that of their families must be of prime concern, without any compromise. The Committee are, however, perturbed to find that such incidences have become a recurring affair. The recent terror attack on Sunjuwan Army Camp, Kashmir on 10<sup>th</sup>February2018 wherein families of soldiers were targeted is a fresh reminder that substantial efforts need to be made on the part of the Government. This is the latest in a series of attacks on military installations witnessed over the last few years. What is particularly worrisome in this regard is the repeated success of terrorists in infiltrating high-security military complexes. The Sunjuwan attack exposes the vulnerabilities in 'perimeter security' and the scant progress made in improving the security protocols since the attack on the Pathankot Air Force station in January 2016. Following the Pathankot incident, there have been major attacks in Uri, Handwara, Nagrota and Panzgam, all of which involved a substantial number of casualties.

2. On the issue of terrorist attack on Defence establishments, the Committee would like to point out that after the attack on the Pathankot air base, the Defence Ministry had appointed a Committee headed by Lieutenant General Phillip Campose, the then Vice Chief of Army Staff for reviewing the security set-up at the military bases and to suggest ways of improvement. The Committee, which submitted its Report to the then Defence Minister (in May 2016), had found gaping holes in the security set up at many installations. These should have been given top priority for being addressed. However, it took a series of attacks and numerous casualties for raising the brows and delegation of power to the Vice Chief (VCOAS) to spend Rs.14,097 crore for strengthening

**'perimeter security'. But for the attack, it's quite possible that funds for strengthening "perimeter security" may not have been sanctioned for quite some time to come.**

**3. The Committee cannot help expressing unhappiness with the state of affairs in the Ministry with regard to existing scenario of 'perimeter security' of defence establishments and installations, including offshore establishments. The Sunjuwan attack underscores the need for speedy measures, which go beyond 'inquiries' and 'policy announcements', so as to overhaul the security system. The implementation needs to be broad-based, and go beyond 'ad-hoc measures'. It must be borne in mind that a successful attack does not necessarily mean that the soldier on the ground is lax in performing his duties. Many bases along the border are located in tough terrain, and are in close proximity to civilian dwellings. This demands care from the soldier for avoiding civilian casualties in the event of a cross fire. For a country that takes pride in its modern, technologically advanced military, India continues to rely heavily on putting more 'soldiers on the ground'.**

**In this backdrop, the Committee observe that Defence mechanisms have to be modified in accordance with the changing dynamics of threat perception. Equipping our soldiers with state-of-the-art weapons for retaliating any attack is a necessity. Over and above this, it is inevitable to equip our Defence establishments with latest global technologies of surveillance and tracking systems. Promptness in monitoring and precision in detection of potential threat elements using software-based intelligence inputs will help in tracking the insurgent elements well in advance. In this manner, the trouble can be identified and nipped in the bud before it actually causes any damage. For this purpose, the Ministry of Defence needs to take measures for introducing the latest and best available surveillance technologies. In the current scenario, mere**

dependence on manual surveillance will definitely not suffice. Therefore, along with the installation of the requisite equipments, commensurate emphasis should be laid upon intellectual inputs and technology driven software based detection practices. Preventing terrorists from scoring a strike being the best line of Defence, it is time the Defence Ministry adopts a holistic approach, by making sure that the soldier is fully backed by technology and calibrated security drills.

4. The representative of the Army, while deposing before the Committee on the issue stated that the over all situation is very disturbing and the Defence Forces should get their due, with more attention paid to them. While the Ministry of Defence has delegated powers to the VCOAS to spend a little over Rs.14,000crore towards security related issues, there is no separate allocation made in this regard. The money has to be located from within the Army's Budget, thereby leaving no choice but to re-prioritize expending the budgetary resources by way of going slow on some planned acquisitions, reducing the spending etc. Therefore, the need for creation of a separate head of account for installation/hiring of security related equipment/technology has to be taken into account. This, the Committee feel to be essential so as to ensure that there is no laxity or incorrect spending of the budget allocations.

5. The Committee opine that the security of the Nation is paramount and safety of those defending the country cannot be left in a state of abandonment. The Forces must be capacitated in maintaining a robust and effective response mechanism to counter emerging threats. However, the budgetary provisions made under the Demands-For-Grants(DFG)2018-19 do not reciprocate the seriousness required towards meeting 'perimeter security'. Therefore, the Committee urge upon the Ministry of Defence to implement the afore-mentioned measures in order to strengthen the security of various military establishments across the country. The establishments include, cantonment

areas, institutions, living quarters etc. belonging to the three Services viz. Army, Navy and Air Force.

The Committee also desire that Para-military Forces like Border Security Force (BSF) etc. also need to be taken into confidence for introducing appropriate surveillance technologies in the areas under their jurisdiction so that terrorist/insurgent elements do not make use of porous borders for infiltration. Implementation of the aforesaid measures would require induction of more funds during the year, 2018-19. The Committee desire and hope that the concerns and opinions expressed are taken with due seriousness and progressively implemented. The Committee wish to be kept apprised of the developments in this regard. More specifically, they wish to be informed of the budgetary provisions made exclusively for installation/hiring of security related equipments/software in the upcoming financial year, without waiting for more crises that may involve irreparable loss of lives of our soldiers and their families.

## ARMY

### Army Budget 2018-19

6. The Budgetary Grant to Army for the Financial Year (FY) 2017-18 is a part of the Grant No. 20 (Defence Services - Revenue). In the Budget Estimates (BE) 2018-19, the total projection made by Army (including Revenue and Capital Budget) is Rs.1,96,387.36 crore. The allocation made against this projection is Rs.1,53,875.22 crore. This amounts to a shortfall of Rs.42,512.14crore or a 'budget deficit' of nearly 23 per cent vis-à-vis the projection. Keeping in view the increasing threat perception, which includes various occurrences of external strife and internal dissidence such as Doklam, increased external activities in Tibet over a year, rampant cross border firing, militant activities etc. the current budget is not supportive to the inevitable needs of the Army. Considering the facts of the matter, the Committee are of the view that providing adequate budgetary

support is unavoidable.

7. Further, on this count, a representative of the Army submitted while deposing before the Committee that taking into consideration, the possibility of a 'two front war', it is of utmost importance to remain conscious and pay due attention to modernization and bridging the deficiencies. Much to the distress of the Committee, however, they have been briefed that, over the years, the Indian Army has accumulated a substantial deficiency of weapons, stores and ammunition. This is because adequate attention has been lacking both in terms of policy and budget for modernizing the aging armoury.

However, what has been added as some sort of relief to the Committee, is the deposition of the representatives of the Army stating that a new Defence procurement policy for streamlining the procedures, delegation of emergency procurement powers to the Vice Chief, as also for purchasing ammunition, armaments, and spares, which enable for '10 days of intensive war' {10 (I)} are some of the steps that have been taken recently. Besides this, a series of systems and structural reforms undertaken in consultation with the Ministry of Defence have also empowered the Army in utilizing the allocation fully. These positives apart, the Committee cannot help noting the candid submission made by the representative of the Army, that the increase in the BE, 2018 barely accounts for the inflation and does not even cater for the increased tax burden.

8. With regard to the Revenue part of the Budget, Army had made a projection of Rs.1,40,515 crore while the allocation made is merely to the tune of Rs.1,28,164 crore. In RE 2017-18, Army was allocated a fund of Rs.1,22,628 crore. Hence, the increase in budget is to the extent that of Rs.5,536 crore or 4.51%. The Committee have been given to understand that bulk of this 4.5% increase in the revenue allocation would go towards the hike in pay on account of the 7<sup>th</sup> Pay Commission. There has been an increase of Rs.4,427 Cr. (4.76%) in salary expenditure on account of the Pay Commission. The

balance amounts to an increase of just over three per cent, which is not even on par with the trend of inflation.

9. The Committee view that the allocation under Operations and Maintenance is needed to meet basic sustenance requirements. While examining the Demands for Grants of the Ministry of Defence, the Committee found that there has been significant shortfall in budget allocation for operations and maintenance. Under this head, against a projection of Rs.40,073crore, an allocation of Rs.30,791 crore has been made. Hence, Shortfall is to the extent of Rs.9,282 crore. The increase in allocation for operations and maintenance over RE 2017-18 is Rs.1,109 crore (3.73%) which does even match the general level of inflation. The various components of significance under this head of account include, Transportation, Works, Supplies, Ordnance Stores and the Rashtriya Rifles. There is a noticeable budget deficit under all these heads of accounts. In transportation, against a projection of Rs.4,156 crore, the allocation is Rs.3,267 crore, thus resulting into a shortfall of Rs.889 Cr. For Works, against a projection of Rs.7,877 crore, allocation is Rs.6,464 crore, which amounts to a shortfall of Rs.1,413 crore. Similarly, for Stores, there is a budget shortfall of Rs.6,844 crore as the projection is Rs.25,181 crore and allocation is Rs.18,337 crore. Under the head, Supplies, the allocation in BE 2018-19 is Rs.6,324 crore against a projection ofRs.7,743 crore, which has resulted in a shortfall of Rs.1,419 crore.

Additionally, the Committee found that due to introduction of GST and the closure of Military Farms, an amount of Rs.545 Cr. for rations and Rs.874 Cr. for FOL, would be required. Also, there is a shortfall of Rs.136 crore in the allocation of funds for Rashtriya Rifles. Therefore, an additional requirement of Rs.9,282Cr. is needed to meet the mandatory sustenance requirements under Transportation (Rs.889 Cr.), Works

(Rs.1,413 Cr.), Supplies (Rs.1,419 Cr.), Ordnance Stores (Rs.5,425 Cr.) and Rashtriya Rifles (Rs.136 Cr.).

In the view of the Committee, the budget for operations and maintenance is a critical component for ensuring operational preparedness at any given point of time. Problems on this count will not only affect the serviceability of the equipment that the Army is holding, but may lead to legal issues that may arise on account of not making payments in time. Therefore, the Committee desire that the essential budgetary support to Army be provided for making up the shortfall of Rs.9,282 crore under Revenue Head, by way of providing additional grants during the financial year, 2018-19.

The Committee are also given to understand that additional burden of Rs.5,000 crore will be levied upon Army because of the new taxation laws, in the form of GST. This has not been accounted for in the current year's Budget. The Committee, therefore, desire that reasonability be shown in the budget for the Army, by way of providing for the additional burden to the extent of Rs.5000 crore due to the changes in the taxation laws. The Committee desire to be apprised of the measures taken in this direction.

### Modernization

10. During the course of the deliberations on Demands-for-Grants, the Committee learnt that any modern Armed Forces should have one-third of its equipment in the vintage category, one-third in the current category and one-third in the state of the art category. However, the current position in the Indian Army reveals that 68 per cent of equipment is of vintage category, just about 24 per cent of the current category, and only eight per cent of the state-of-the-art category. To be prepared for the scenario of a two front war, the huge deficiencies and obsolescence of weapons, stores and ammunition existing in Indian Army, does not auger well. It is, therefore, important to

channelise sufficient budget towards modernising the aging armoury and filling up the gaps. However, the allocation for modernization in this year's budget has a different story to tell.

The Committee note that allocation of Rs.21,338 crore for modernisation is insufficient even to cater to committed payments to the extent of Rs.29,033 crore, earmarked for 125 on-going schemes, emergency procurement of armaments and weaponry for 10 days of intense war {10 (I)} and other Director General Ordnance Factories requirements.

Further, the Committee have been made to realize that committed liabilities of 2017 will also get passed on to 2018, thereby accentuating the situation further. Therefore, liquidation of the committed liabilities will hardly leave any funds for new schemes in 2018-19. The Committee feel agonised by the current state of affairs with regard to financial provisions made towards the requirement of modernization of Army and desire that requisite budgetary support be given in this regard.

11. Furthermore, on this count, the Committee learnt that from the total Budget, 63 per cent goes towards paying salaries of Army personnel. The normal maintenance and operational requirements works out to 20 per cent and infrastructure takes around three per cent. Hence, the resources available for modernization amount to a mere 14 per cent of the allocation, which is grossly inadequate. According to the submission made by a representative of the Army, the budget for modernization has to be anything between 22 to 25 per cent of the overall budget, lest the Army is found to be wanting. With a view to equipping the Army to meet any eventuality, the Committee wish that the requisite budgetary provision is made for the specific purpose of modernization.

Indeginization

12. The Committee feel that 'Make in India' is a great step taken towards development and self-reliance in Defence capabilities. A large number of systemic changes outlined in the Defence Procurement Procedure of 2016 are aimed at achieving greater indigenisation. With regard to the projects earmarked for indigenized production, Army had identified as many as 25 projects for 'Make in India'. Nevertheless, the Committee find it disheartening to note that there is no adequate Budget made to support this. As a consequence, there appears to be a possibility of many of these projects getting foreclosed.

Yet another significant step which has been taken up by the Government relates to the strategic partnership of allowing a foreign company to partner with an Indian concern for making larger platforms including aircraft, submarines, ships, and tanks etc. The representatives of the Army informed that they were looking forward to manufacturing the future ready combat vehicles (FRCVs) and Future Infantry Combat Vehicles (FICVs), through these schemes. However, with the kind of Budget that has been allocated, this process may get unduly delayed. Thus, there appears to be no certainty of their future. The Committee note in this regard that while on one hand, indigenization in the Defence sector is being emphasized, on the other, budget support for the same is denied. The proposals for augmenting and indigenization and self-reliance by identifying dedicated projects for the purpose is appreciable. The Committee, nevertheless, are distressed to note that no substantial progress is being made in this direction. The Committee desire to be intimated of the extent to which the Army has proceeded on the Make in India initiatives with regard to the projects mentioned above. Also, the Committee wish that the Ministry take appropriate steps to financially support the indigenisation efforts of Army. The Committee wish to be informed about the steps taken in this regard.

### **Budget Allocation over the years**

13. In the course of examination of the Demands for Grants of the Ministry of Defence for the year 2018-19, the Committee noted that during the first seven years (i.e. 2012 till 2018) of Long Term Integrated Plan Period (LTIPP) 2012-2027, the total amount sought by Army was Rs.1064336 crore (approx.) whereas the allocation made was Rs.878001 crore (approx). This accounts to a shortfall of Rs.1,86,335 crore (approx.). These seven years constitute the first part of the LTIPP which was outlined to alleviate the huge shortages that cropped up in the Army. The Committee cannot help noting in this regard that the trend of budgetary allocation with a decline in capital share is indicative of inadequate emphasis being given to modernization and technological up-gradation. The Army faces critical shortage of good quality Bullet Proof Jackets (BPJs), Arms and Ammunition, Assault Rifles, Battle Tanks and surveillance and monitoring networks etc.

The Committee are of the view that funding merits serious attention and provision of adequate funds is an inevitable need that has to be met. As pointed out earlier too, the Indian Army has, over the years, accumulated a huge deficiency of weapons, stores and ammunition. It has also been highlighted that the Government has not awarded adequate attention both in terms of policies and budget for modernizing the aging armoury of the Army. The Committee desire that the Government introduce and implement appropriate positive measures categorically to address the shortcomings and channelize adequate funds, which would have the effect of generating some optimistic results during the current FY 2018-19 and the years to follow. The measures taken in this direction may be brought to the information of the Committee.

### **Bullet Proof Jackets**

14. The issue of non-availability of Bullet Proof Jackets (BPJs) has been consistently taken up by the Committee in the last five years. Unfortunately, however, tangible results are yet to be seen. In this regard, the Committee were assured that as a part of drive towards modernisation of Infantry, improvement in individual protective gear has been given the highest priority with a view to ensuring better 'survivability' of the soldier against the enemy and terrorists. An immediate requirement of 50,000 BPJs, based upon the earlier GSQR (GSQR 878), has been met through Revenue route. The process of procuring a quantity of 1,86,138 BPJs as per revised GSQR No. 1438 is presently at Trial stage.

15. The Committee have been given to understand that information pertaining to details of the total authorisation of Bullet Proof Jackets (BPJs) in the Indian Army is of sensitive nature. The Committee, nevertheless, feel that while authorizing the total quantity of BPJs, the ever increasing threats need to be adequately taken care of.

16. Furthermore, with regard to the quality of BPJs, the Committee have been apprised that the new GSQR 1438 prepared for the BPJs is at par with the extant standards being followed by the Armies of the developed countries. The Committee, while taking note of the assurances given by the Ministry regarding BPJs, wish to reiterate the need for ensuring that there shall be no compromise with regard to availability of BPJs both in terms of quantity and quality to our soldiers, especially those stationed in high risk or combat areas. Any casualty in Indian Army due to lack of BPJs either in terms of quality or quantity does not deserve to be pardoned.

17. To the concern expressed by the Committee on the issue of 'full body jackets', the Ministry informed that as per available information, there are no full body bullet proof

suits in the international market. This is due to the restriction such suits impose on the body movement as also the weight such suits would have. However, Bullet proof jackets being procured for the Indian Army afford protection all around the body, above waist line, in order to protect all vital organs. The Committee opine that along with jackets, ample emphasis has to be paid for providing bullet proof helmets as well to the troops. The Committee wish to be intimated of the details of progress made in regard to procurement of Bullet Proof Jackets and helmets.

18. With regard to the present position on manufacturing of Bullet Proof Jackets, the Committee found that Industrial licenses for manufacturing of Bullet Proof Jackets and Vests have been issued to 10 companies by DDP. Four companies have reportedly commenced production. Nevertheless, the Committee recommend that the Ministry remain vigilant and cautious in regard to the quality of BPJs being supplied by these companies.

19. The Committee have also been given to understand that OFB, on its own initiative, in association with MIDHANI, has taken up the task of development of Bullet Resistant Jackets. After development, the same can be offered to the Army as per their requirement. In this connection, the Committee express the hope that the Bullet Resistant Jackets are not a diluted alternative to Bullet Proof Jackets. Relevant information, inclusive of the progress made in this direction, needs to be furnished to the Committee.

20. Going by the detailed description of the issues pertaining to the matter, as made in the foregoing paragraphs, the Committee cannot help expressing deep anguish over the fact that even after the approval by the DAC in 2009; and the matter having been taken up by the Committee time and again, our soldiers continue to suffer due to the 'insufficiency'/'inadequacy' of BPJs. What is particularly worrisome to note in this regard is that presently there is a huge deficiency of Bullet Proof Jackets vis-à-vis the authorization level in all the Commands, units etc. of the Indian Army.

Further, the Committee observe that when the trial is rejected, all the expenditure incurred from the stage of sanction of the procurement, up to the trial stage goes in vain. Therefore, the Committee sternly wish and hope that the procurement of 1,86,138 BPJs of GSQR No. 1438 is made within the stipulated time frame. This is notwithstanding the fact that even following the procurement, a huge deficiency of BPJs would continue to remain in the Army vis-à-vis the requirement. The Committee, therefore, recommend that necessary efforts are made towards timely procurement of the balance BPJs also, as safeguarding the lives of our soldiers is a prime responsibility in regard to which compromises of any kind cannot be made. The Committee would like to be apprised of the developments made in this direction.

### Arms and Ammunition

21. With regard to the authorization of arms and ammunition held with the Indian Army, the Committee have been given to understand that the details of authorised and held strength of equipment i.e. guns, missiles, aircraft, tanks, ammunition etc. with the Indian Army is sensitive in nature. However, during the course of the deposition by the

representatives, it has been learnt that the Army endures with a huge deficiency of arms and ammunition. This is possibly the outcome of continued negligence over the years. Furthermore, on this aspect, the Committee learnt that the deficiencies of in-service weapons and equipment are identified every year through Annual Provision Review and procurements are carried out accordingly. To the knowledge of the Committee, some of the steps that have been taken in the recent past to build up the ammunition stock levels in the Indian Army, include Five-Year Roll-on-Indent for ammunition which has been placed on OFB for the period 2014-19 and according approval for procurement of 35 ammunition items which were not being produced by OFB through import. Moreover, in order to ensure that the Armed Forces are always well-equipped for meeting emergent operational requirements, the powers for procurement to maintain minimum levels of critical ammunition and critical spares, have been delegated to the Service Headquarters vide MoD Order dated 30<sup>th</sup> December, 2016.

22. The power and responsibility is, therefore, given to the Armed Forces to ensure that the minimum critical levels for ammunition and spares are maintained at all times. Financial powers have been delegated to Vice Chief of Army Staff for undertaking procurement of some critical armaments & mines vide Order dated 16.08.2017. To facilitate development of indigenous capacity and reduce dependence on import with the long-term objective of building capacity within the industry as a robust alternative source of ammunition, the Government have approved manufacturing of selected ammunition for the Indian Army by Indian Industry.

23. With regard to the issue of shortage of ammunition, the Committee understand that a Five Year Roll on Indent for ammunition has been placed on the OFB for the period 2014-19. Further, MoD had accorded Emergency Procurement Powers to VCOAS

under Schedule 23 of DFPDS 2016. This will enable in fast-tracking the procurement. However, the build-up of stocks will depend on the vendors capacity to supply the ammunition being procured. Eight types of ammunition have been identified for manufacture by Indian Industry. RFI has been uploaded and responded to by 23 vendors. Preparation of RFP is under progress. MoD has delegated the powers for procurement to SHQ in order to maintain minimum levels of critical ammunition (10(i) levels of WWR) and critical spares. Here, the Committee are concerned to note that although measures like increasing vendor base within the country and delegation of powers are good, insufficiency of budget continues to be a major roadblock. The Committee wish that the concern expressed in this regard is addressed and appropriate allocation is made available. This would be essential as insufficiency of quantity as well as the quality of ammunition can be detrimental to the overall capabilities of the Army.

24. The Committee found that DRDO has been associated in bringing about improvement in INSAS Rifle. The current in service version of the 5.56 mm INSAS Rifle INSAS MK 1B1 was introduced after carrying out minor improvements based upon the feedback of Operation Vijay in 1999. DAC, vide decision dated 20.11.2009 had accorded AoN for procurement of Assault Rifles under “Buy & Make” category with ToT to OFB. Request for Proposal (RFP) was issued for procurement of dual calibre Assault Rifle in November, 2011. However, as the equipment fielded for trials did not fulfil General Staff Qualitative Requirement (GSQRs), the RFP was retracted in June, 2015. Meanwhile, AHQ has decided to change the calibre of the Assault Rifles to 7.62x51mm, based on their adoption of a different operational philosophy. Accordingly, the case for capital procurement of 7.62x51mm Assault Rifle to meet the desired operational requirement is reportedly being progressed with as per the extant Defence Procurement Procedure

(DPP).

25. The Committee are aghast to note the repeated failure of trials, which also involve substantial costs. It is disheartening that OFB has not been able to develop the guns as per the requirement/specifications of the Army and a diluted QR cannot be used on the frontline. In this context, the Committee have learnt that the Army is importing a certain quantity and for the rest, the work is in progress. The Committee desire that the guns be procured after following the successful completion of trials. Any compromise in this regard would not be acceptable.

26. The Committee have been informed that Air Defence Guns, L70 and Shilka, which are vintage equipment and are becoming obsolete, are being upgraded. 100 L70 guns and 48 Shilka guns have been given for refurbishment. In the absence of a viable replacement, the Army has gone for a comprehensive upgrade whose main element is electro optics, under which the sighting system gives enhanced range and visibility in the battlefield scenario. The Committee appreciate the above mentioned efforts and desire that such innovative initiatives are encouraged. However, at the same time, they emphasize that these measures shall not be taken as a permanent alternative to the requirements of modernization. Therefore, a positive and multi-faceted approach is needed for procuring and upgrading the weaponry available with the Army.

### Manpower and Training

27. The Committee, while deliberating on the Demands for Grants 2018-19, have noted that the Army is facing shortage of manpower. In case of officers, the sanctioned strength is 49,932 whereas the held strength is 42,253. With regard to JCOs/OR the existing strength is 11,94,864 against an authorised strength of 12,15,049. Further, the Committee have found that the recruitment in the Armed Forces is a continuous

process and the Government has taken a number of measures to reduce the shortages. These include, sustained image projection, participation in career fairs and exhibitions and publicity campaign to create awareness among the youth on the advantages of taking up a challenging and satisfying career. Further, Government has taken various steps to make jobs in armed forces attractive, including by way of improvement in promotion prospects. Recruitment of Personnel Below Officers Ranks (PBORs) in Army is carried out through Open Rally System being conducted regularly throughout the country. Efforts are made to cover the entire country including remote and tribal areas. The Committee wish to be apprised of the outcome achieved on account of implementation of various measures as mentioned above.

28. Along with recruitment, the Committee feel that necessary training also needs to be imparted to the manpower so that the Army is well equipped with handling newer technologies. The advancements made with regard to development of training facilities in consonance with technological upgradations may be brought to the know of the Committee.

## INDIAN NAVY

### Budget Estimate 2018-19

29. The Revenue budget of the Navy consists of two components viz. salary and non-salary accounts. While the budgeting for the salary component is made in 'absolute terms' in case of the non-salary part, while the Navy had projected a requirement of Rs.11320.39 crore, the allocation has only been to the extent of Rs.7985.06 crore. This amounts to 70.54 percent of the projected requirement. The Committee in this regard also observe that this amounts to an increase of only Rs.220 crore over RE of 2017-18, which works out to a rise of only 2.84 per cent. This increase would not even cater to the

inflationary pressure. Matters such as maintaining the requisite armament level as well as emergency procurements would indeed require more funds. The Committee also note in this regard that the Budget has also not factored in the impact that GST will have on the naval expenditure.

30. The Committee also found that the salary to non-salary ratio of the budget for the FY 2018-19 is 52:48, while it was 45:55 in the year 2015-16. The Committee are of opinion that this is not a healthy sign as lower allocation of budget would negatively affect the maintenance and upkeep of Naval Forces. This will also impact the progress of infrastructure projects and efforts to mitigate shortage of accommodation. Procurement of ammunition and spares, serviceability of ships, submarines and aircraft, upkeep of ageing infrastructure and even day-to-day running of the Navy are likely to be affected due to the inadequate allocation.

India's economic resurgence is intrinsically linked to the Seas as 95 per cent of the trade by volume and 68 per cent by value is transacted through the sea route. In addition to the economic implications, the Indian Ocean Region, which hosts over one-third of the world's population has multiple security challenges. Also, there is a coexistence of developing as well as backward economies in the region. Besides this, the area faces rampant threat of piracy and trans-national crimes. Furthermore, the area is also prone to natural disasters in the event of which, the Indian Navy plays a benevolent role. The challenges in maritime domain require a capable and modern Navy which would require induction of adequate funds. Therefore, the Committee desire that the funds that are essential are directed to the Navy at least at the later stage of the FY 2018-19 by way of providing additional grants. The Committee may be kept informed about the same.

### **Share of Naval Budget**

31. The Committee note that the share of the Naval Budget to the total Defence Budget is witnessing a consistent decline. From 18.12 per cent in the year 2012-13, it has come down to 13.11 per cent in the year 2018-19. This is indeed a matter of concern for the Committee. The role and responsibilities of Navy are multi-faceted. There have also been capability voids, as brought out in the succeeding paragraphs, which need to be bridged. In the opinion of the Committee, such a dismal scenario would lead to a setback in morale and pace of modernization of Indian Navy. Therefore, the Committee feel that due impetus has to be given to budgetary provisions for Indian Navy so that modernization can be carried out as per approved long term plans.

### **Modernization**

32. The Committee also note that the major part of the modernization budget of the Service comes from the Capital component. For BE 2018-19, while the Navy made a projection of Rs.33458.38 crore for the capital segment, the allocation made has been Rs.20003.71 crore. Furthermore, in the case of committed Liabilities, the projection was Rs.25106.74 crore whereas the allocation is to the extent of Rs.15083.00 crore. This amounts to a huge shortfall of almost 40 per cent of the budget projected as required.

In this regard, the representative of the Navy, while deposing, confided to the Committee that this has been the case for the last three financial years. There has always been disparity over the last three financial years in the modernization Budget vis-à-vis- committed liabilities. The Committee have also learnt that the budget is managed through the financial year by deferring certain committed liability payments so that a certain amount can be earmarked for the purpose of modernization and implementation of new schemes.

**33. While going through the information submitted by the Ministry, the Committee have also noted that the percentage share of capital segment of Naval Budget to the total defence budget has declined from 12.81 per cent in the year 2012-13 to 7.46 per cent in the year 2017-18. This data, by itself is reflective of the unsympathetic attitude towards the modernization drive of the Naval Forces.**

**34. The Committee, while taking note of the grossly dismal scenario, cannot also help pointing out that this may lead to delay in induction of 'critical capabilities' and resultant cost overruns. A 'budget deficit' by nearly 40% will indeed have a cascading impact on the operational preparedness and technological upgradation of the Navy. This will also possibly impact the progress of infrastructure projects and efforts to mitigate shortage of accommodation for the naval personnel. Therefore, it is expected that necessary funds for modernization of the Indian Navy are channelized and the Committee informed of the details thereof.**

**35. In this connection, a representative of the Navy also intimated the Committee of the possibility of the budgetary constraints hampering the modernization work by confiding that the Naval ship building programmes do not run on time, and the stagewise payments get deferred at times. Therefore, on occasions, the committed liabilities get deferred and are carried over to the next financial year.**

**The Committee feel aghast to note that there appears to be an element of complacency with regard to 'acquisition projects', and shortfalls, and delays in meeting the payment obligations are responsible for the same. All the Departments, from the Headquarters to the Shipyards appear to be habituated to delays. Also, this has become a regular feature of the manufacturing and induction plan. The system, therefore, merits**

a revisit, and improvisation. Thus, a concrete plan of budgeting and expenditure needs to be put in place. In case, the Navy has certain commitments of payments for procurement, these should be abided with stringently. Similarly, if companies delay deliveries, these should be taken up with due concern so that the Force does not suffer.

### Delays in Projects

36. The Committee have also noted that repeated delays in procurement projects have become a part and parcel of the procedure. More seriously, there appears to be a level of complacency in the system in regard to addressing the deviations that occur in meeting the stipulated targets. From the details furnished, it is observed that considerable delays have taken place in the case of a number of projects of the Navy. These include, P15A, P 28, Indian Aircraft Carrier, Naval Offshore Patrol Vessels, P 75, P 17A, Fast Interceptor Crafts, Landing Craft Utility Mk-IV, Water Jet Fast Attack Crafts etc. The delays have also adversely impacted the exchequer. As for the reasons for the delays, the Committee note that delivery of steel from Russia is a cause for the delay in P 15A and IAC. In this regard, the Committee would like to know of the details of the action taken on the supplier for the delays. The other reasons attributed include, unrealistic assessment of the cost of weapons and sensors, and increase in equipment cost and yard material. The Committee are distressed to note that factors relating to costing are not assessed and calculated well in advance. The revision of cost from Rs.3580 crore to Rs.11662 crore, in the case of P 15A Project is immense and hard to be believed.

37. In the case of cadet training ships which was contracted out to ABG shipyard in June 2011 at a cost of Rs.1453.14 crore, the ships were to be delivered in 2014. In all, it included three vessels, but by 2014, the project was completed to a level of 20, 12 and 6

per cent respectively in case of each of the three ships. The shipyard was subsequently shutdown in June 2015. As no progress was made on the CTS Project since June 2015, a letter terminating the contract, was issued in Sept 2017. To the dismay of the Committee, apart from the required capability not being handed over to the Navy, the cost incurred on the project turned to a complete waste. The Committee, in this regard, would like to be informed of the action that was taken against the ABG shipyard and the holders of the Company.

38. The Committee would like to recommend that due care be taken in concluding contracts. Also, regular follow ups are an inescapable necessity. Otherwise, the precious funds of the exchequer will continue to keep going in vain. The remedial measures taken on these aspects may be brought to the know of the Committee.

#### Force Level

39. Information regarding currently approved Force Level of Navy is of sensitive nature. The existing strength of the Naval force is 136 ships and submarines and 219 aircraft. The Committee, in this regard, have been informed that the capability voids are reviewed by MoD on regular basis. In order to mitigate the shortages, the Service life of ships/submarines is extended through Service Life Extension (SLE) Programme, based on the operational necessity, material state and anticipated delays in induction of replacement platforms. While examining the Demands for Grants, 2017-18, the Committee observed that the force level of the Indian Navy was 138 ships and submarines and 235 aircraft. Thus, there has been a decline in the Force Level held by the Indian Navy as compared to the previous year. The Committee are of the view that this information would suffice in highlighting the apathetic and unfortunate state of affairs prevalent towards capability building of Naval Forces. In light of the above, the

Committee are hard pressed to opine that the Long Term Integrated Plan 2012-27 is of little relevance as no substantive efforts are being made at the 'ground level' to turn this into a realistic development programme.

40. Further on the issue, the Committee understand that some major Projects, which are aimed at alleviating the capability gaps are in the pipeline. The procurement/acquisition programmes include, Ships and Submarines under construction in India. The Committee, in this regard, express the hope that the projects are progressed in a time-bound manner. They would like to be apprised in detail of the progress of these projects in the Action Taken Notes.

#### Naval Base

41. Upgradation and modernization of the Naval base need to be advanced progressively. In this connection, the Committee have been told that all the major works envisaged as part of Phase I of the Project Sea Bird have been completed. The Naval Base is being further augmented and upgraded as part of Phase IIA. While applauding the efforts being made, the Committee express the opinion that the said Naval base is very crucial from the strategic point of view. The landmarks achieved in this area may be furnished to the Committee in the Action Taken Notes.

#### Coastal Security

42. There are many agencies/stakeholders working in the maritime domain. Nevertheless, it is incumbent upon Indian Navy, being the lead agency responsible for coastal security to take all possible measures towards ensuring coastal security. One of the essentialities is ample coordination among all the agencies. These agencies include the Indian Navy, Indian Coast Guard, Ministry of Home Affairs, Coastal State

**Governments, IB, R&AW, Ministry of Agriculture/Fisheries, DG/Ministry of Shipping, Port and Customs Authorities, Ministry of P&NG, Private operators, CISF etc. The Committee wish to be informed of the measures taken towards enhancing co-ordination and building collective response mechanism by various agencies.**

**43. Along with co-ordination, it is equally important that the Navy should procure latest world-class surveillance equipments. Since there are multiple agencies/stakeholders in the maritime domain, it is pertinent that identification of threat perception is accurate and verifiable. For this purpose, the most advanced technologies available in the world for monitoring and tracking devices/software need to be procured. This will help in tracking and tackling the threat targets before any trouble is created.**

#### **Islands Security**

**44. Alongwith long coastline, India boasts of a large number of island territories which consist of 1382 islands. These islands are very sensitive areas from the point of view of their geographical location, demography and vicinity. The Committee wish that Navy takes up the security aspect of these island territories with all sincerity and sensitivity.**

#### **Accidents**

**45. The Committee have been concerned about the occurrence of accidents in the Navy. Further, the Committee have been informed that certain measures have been taken to mitigate recurrence of accidents. The Committee hope that these measures are implemented in letter and spirit and turn fruitful in mitigating accidents. This has to be ensured by way of putting in place all matters of relevance right from procurement,**

maintenance, training etc. to execution. In the event of an accident taking place, appropriate remedial action by way of imposing penalty/punishment needs to be meted out.

### **Manpower**

46. As against a sanctioned strength of 11827 officers in Indian Navy, the borne strength is 10384. Thus, there is a shortfall of 1443 officers. In case of sailors, the borne strength is 57310 personnel against a sanctioned strength of 71,656 personnel. The shortage is thus to the extent of 14346 personnel. The Committee observe that along with the desired force levels, trained manpower is equally significant for an efficient and powerful Navy. They wish that the Ministry of Defence take necessary steps towards mitigating the deficiency of manpower. Along with induction of the requisite manpower, necessary emphasis needs to be laid on up-gradation of training programmes *inter-alia* taking into account the latest technological developments. The developments made in this direction may be brought to the know of the Committee.

### **Joint Staff - Budgetary Provisions**

47. For the year 2018-19, Joint Staff has made a projection of Rs.5796.53 crore while the allocation is Rs.3796.94 crore. The Committee note that the Head Quarters - Integrated Defence Staff is a growing organisation. The Committee note that the allocation is grossly inadequate for executing the critical role of the organisation, particularly from the point of view of intelligence gathering and dissemination. Major requirement of funds is for the purpose of building infrastructure for 'new raisings' and to maintain the existing operational assets.

48. The Committee wish that the allocated funds are optimally and fully utilized towards operational activities and the schemes reprioritized as per necessity/importance so as to ensure that urgent and critical capabilities are acquired without any compromise to the operational preparedness.

### AIR FORCE

#### Budget 2018-19

49. The Committee have found that for the current year 2018-19, Air Force has made a projection of Rs.1,14,526 crore while the allocation is only to the tune of Rs.65,891 crore. Out of this allocation, the Revenue budget allocation is Rs.30,121 crore as against a projection of Rs.36,561 crore. This amounts to a shortfall of Rs.6,440 crore vis-à-vis the projection. In case of the Revenue Budget, the allocation is made under two heads of account, one being the salary account head, and the other, the non-salary head of account. The allocation for the salary part is provided for in entirety on the basis of the projection. The remaining part of the Revenue budget caters for non-salary expenditure viz. supporting mandatory sustenance and operational requirements of the Service. Hence, the deficit or shortfall of Rs.6440 crore in the Revenue Budget is likely to impact the operational preparedness, ability to procure spares & fuel, apart from leaving gaps in training programs, serviceability of older systems and provision of basic amenities to the Air Force personnel.

50. In addition to the shortfall in budget allocation vis-à-vis the projections, the Committee note that there would be an additional burden of taxes due to the new taxation laws. On this count, the Committee have gathered that in 2016-17 the customs duty paid was to the tune of Rs.943.62 crore, which has since hiked up to Rs.1614.28 crore in 2017-18. This amount has not been reimbursed to the Air Force during the year.

The estimated outgo of funds as part of custom duties for FY 2018-19 is Rs.1726.98 crore. The Committee, therefore, suggest that appropriate allocation be made so as to address the issues of taxation in the budget2018-19 and by way of keeping in mind, the additional burden that has been levied on the Air Force due to the increase in duties paid during the year, 2017-18.

51. The Committee also realize in this regard that the expenditure for meeting Emergency requirements and procurements for the purpose of 'war readiness' has also to be met from the same budgetary allocation. While tendering evidence, the Vice Chief of Air Staff apprised the Committee that deals worth Rs.20,000 crore have already been entered into for the purpose of acquiring war reserve armaments for '10 days of intense conflict'. The Committee, note in this regard that the Budget Estimate allocation for the IAF is short of their requirements. Further, the Committee opine that the budget does not reflect the intent of achieving strategic objectives that are desired as part of the Long Term Integrated Plan Period 2012-27.

52. In order to achieve the strategic objectives of IAF, which include, deterrence on 'two fronts', along with an offensive Defence posture, enhanced Air Defence capability, enhanced combat force levels, increased surveillance and automation of Air Defence, the Ministry needs to be supportive of the budget projections as made by the Air Force. The Air Force also has a hard pressed need for continued induction of SU 30 Mki Aircraft, Akash-surface to Air missiles, latest radar systems, Rafale and Tejas Aircraft, etc. in order to stand at the 'basic minimum'. In order to achieve the planned targets, the Committee are of the view that it is of utmost importance that the Air Force is assigned essential funding during the FY 2018-19.

## **Budget Review**

53. During the course of examination of the Demands for Grants (2018-19) of the Ministry of Defence, the Committee have learnt that the percentage share of Air Force budget has declined considerably during the last few years. In the year 2012-13, it was to the extent of 24.93 per cent, and has stooped down to 22.51 per cent in the year 2017-18. The Committee observe that such a downward trend would impinge upon the morale, operationability and modernization of Air Force. Moreover, such deficiencies would result in asymmetry in capabilities vis-à-vis envisaged threat perception. The Committee, therefore, desire that the Ministry of Defence take up the planned targets of Air Force with due seriousness. The same needs to be resonated by way of adequate allocation in the budgeting.

## **Modernization**

54. While going through the information submitted by the Ministry, the Committee found that over a period of time, the allocations made under the capital head for the Air Force, which is largely accountable for modernization budget of the Service, has consistently plummeted. In the year 2007-08, it was to the tune of 17.51 per cent of the total defence budget and has gone down to 11.96 per cent in the year 2016-17. Air Force is a capital intensive service as acquisitions such as aircraft involve huge amounts/expenditure. In order to meet the challenges of a two front war, Air Force has to be equipped with essential combat capabilities and modern ground facilities. With the skinning of the budget under the capital segment, the Committee are compelled to point out the that there appears to be a lack of sufficient sincerity towards capacity enhancement and modernization of the Air Force. Flight safety also becomes a matter of

concern due to issues of obsolescence. In this context, the Committee further believe that inadequacy of budget allocation would result in deferment of certain procurements, thereby, deepening the capability deficit further. Therefore, the Committee express the opinion that requisite stress needs to be laid on the modernization programme for which allocating sufficient funds would be a necessity.

### Force Level

55. At present, the Indian Air Force has 31 active fighter squadrons. With regard to the sanctioned requirement of the Force level, the Committee have been apprised that the related information is of sensitive nature. The Committee, however, are given to understand that there is a gap in the force level since 'induction' is not commensurate with 'de-induction'. As regards the existing capabilities, the representatives of Air Force, stated that, undoubtedly it is challenging to fight a two-front war with the current resources that the Air Force holds though they are in a position to take any challenge head on. As per the submission, the cost of victory could be a little more. Further, the representative also added that Air Force is a Service where innovativeness is awakened and there is an inherent ability to do more with less; and this is being carried on with for a very long time. The Committee further note that presently, there are four types of aircraft in the possession of the Air Force. These are, Mig-21 that is upgraded to 'Bison', Mig-27 that is upgraded to 'Mig-27 upgrade', upgraded 'Mirage-2000' and upgraded 'Mig-29'. There is likely to be a substantial increment in the performance following the exercise of upgradation.

56. The Committee are appreciative of the innovative efforts being taken and accomplished by the Air Force. However, at the same time, the Committee wish that

endeavour shall be made to move the trajectory of squadron strength from the present downward level to an upward one with a view to enabling Air Force to take up and seize the task at their hands. The representatives of Air Force also confided to the Committee that so far as priorities are concerned, which is already available with the Ministry of Defence, requirement of fighter aircraft is the first.

57. As regards the induction plan of Air Force, the Committee found that the production of balance Su-30 MKI at HAL out of the contracted number is under process and will be completed by 2020. Induction of LCA into the IAF has commenced. Induction of 36 x Rafale aircraft will commence by 2019. Recently, the RFP has been issued for procurement of LCA Mk1A. Meanwhile, the Government is also examining other suitable options. The shortfall in fighter aircraft is a matter that the Committee have been concerned about since long. The 'Rafale deal' is under process and LCA programme is under the aegis of HAL for decades, and has involved huge costs and repeated time overruns. The Committee expect that the apparent sluggishness and insincerity is overcome with dedication and action. This is a necessity, as otherwise, the existing strength will be further depleted as older platforms will retire after a stipulated time. Induction and de-induction schedules do not occur unexpectedly but can be well anticipated and calculated in advance and planned for appropriately.

#### Trainer Aircraft

58. With regard to the number of authorized trainer aircraft/simulators and their existing strength, the Committee have been informed that the Trainer Aircraft held by IAF currently include Basic Trainer Aircraft (BTA), Intermediate Jet Trainer (IJT) and

**Advanced Jet Trainer (AJT). The existing strength of trainer aircraft is 310 as against the sanctioned strength of 432. Simulators have also been provided for each type of aircraft. The procurement of simulators is built into the contracts of all aircraft and the IAF is now undertaking the procurement accordingly.**

**59. As regards the basic trainer, the Committee have been informed by Ministry of Defence that IAF has a requirement of 183 Basic Trainer Aircraft (BTA). At present, IAF has 75 x PC-7 Mk-II BTA. Case for procurement of additional 38 PC-7 Mk-II aircraft is being progressed. The remaining 70 Basic Training Aircraft are to be manufactured by HAL under 'Make in India' Project. The Committee desire that HAL delivers these basic trainers within the stipulated time frame.**

**60. With regard to the Intermediate Jet Trainer, the Committee have been apprised that the Kiran (IJT) aircraft have already started retiring and are planned to be replaced by the HAL built IJT. However, in view of the imminent retirement of existing trainer aircraft (Kiran) and delay in progress of IJT Design & Developmental (D&D) activities, Air HQ has studied the feasibility of conducting 'Two Aircraft Type Flying Training pattern' instead of the normally followed 'Three Aircraft Type Flying Training pattern'. As per the information furnished the 'Two Aircraft Type Flying Training pattern' is being implemented successfully.**

**61. The Committee are perturbed to note that due to non-availability of IJT and failure on the part of HAL to deliver the same, despite being in the process since 1999, the Indian Air Force has had to modify their training programme from a 'three level approach' to two levels. This is indicative of an unsavory state of affairs. Training is a**

very critical component from the point of view of capacity building of Air Force. It involves lives of our valuable personnel and any lacuna, on this front can possibly result into fatalities. Therefore, any delinquencies in this regard cannot be acceptable. Modification of the training pattern appears to be an effort to conceal the factual position of non-availability of IJTs.

62. Even in case of two aircraft type flying pattern, only 75 basic trainers are available as against the sanctioned strength of 183 aircraft. On this front, the Committee fail to understand as to how, the IAF will manage to continue with the two level training pattern with the scarcity of first level trainer aircraft being to the extent of 60 per cent. While taking note of the dismal scenario, the Committee desire that the Ministry of Defence undertake earnest efforts towards bridging the gaps in availability of trainer aircraft with the IAF. The Committee desire to be kept informed of the progress made in this regard.

#### Transport Planes and Helicopters

63. The Committee have come to know that presently IAF has 27 Units of Transport aircraft and 36 Units of Helicopters as against the sanctioned strength of 29 Units of Transport aircraft and 39 Units of Helicopters. As regards phasing out, the Committee have been given to understand that phasing out of all the transport planes and helicopters is undertaken as per their stipulated life span. In some cases, depending on the condition and utilisation of the fleet, intensive life extension studies are conducted and the lifespan of the aircraft extended.

64. On the issue of procurement of light utility helicopters, the Committee have been intimated that the case for procurement of 197 Reconnaissance & Surveillance

Helicopters had been withdrawn in the recent past. The case for procurement has reportedly been withdrawn on three different occasions at different stages of owing to various reasons. Acceptance of Necessity was accorded by Defence Acquisition Committee on 13 May 2015 for procurement of 200 kamov 226T helicopters (60 flyways and 140 to be manufactured in India) from Russia through the Inter- government Agreement (IGA) route in accordance with the provisions of Para 71 of DPP 2013. An IGA has been signed with Russian government in Dec 2015. JV has been registered on 2.5.2017 as M/s Indo Russian Helicopters Limited. The case is presently at Request for Proposal(RFP) Stage. Cheetah/ Chetak fleet is proposed to be replaced by these 200xKamov 226T Helicopters from Russia. The Committee desire that the above mentioned procurements progress in a time-bound manner and they be informed of the developments.

### Accidents

65. Accidents in Air Force aircraft is a cause of concern as they not only involve material loss but also the irreparable loss of human lives. To the concern expressed by the Committee in this regard, the representative of Air Force, while tendering evidence stated that earlier, the Air Force used to loose almost 30 to 40 aircrafts in a year. This has now come down to close to 10.The Committee, in this regard, expressed the need for ensuring that this number is brought down further by way of adhering to the standard operational procedures and imposing penalty on those found guilty by the Board of Inquiries.

66. The Committee found that as per priority list of Air Force, long range SAM S-400 System is a high priority requirement. The Air Force has also placed its bet on the same.

This is expected to substantially change our posture, both towards the adversary in the Northern front as well as the one on the Western front. The Committee, therefore, recommend that fund outgo towards procurement of S-400 system be made during the year as per the upcoming demand.

#### Modernisation of Air Fields

67. The Committee found that there are 53 IAF airfields which are presently being used. The airfields are being modernised through Modernisation Air Field Infrastructure (MAFI) Project. MAFI Phase-I Works in all Stations of Batch I, II, III & IV are complete except for Pathankot in Batch-IV. The works are in progress in all Batch-V stations. The phase-II work has commenced at various stations. However, the Committee have been apprised that inadequate budgetary support for works is adversely affecting the time schedule for modernisation of airfields. Budget inadequacies will lead to delays as well as cost overruns which will ultimately put more pressure on the exchequer. Therefore, the Committee desire that the requisite budget be provided for the same in accordance with the work requirements.

#### Manpower and Training

68. During the deliberations on the Demands for Grants, 2018-19, the Committee have learnt that in the case of officers, the sanctioned strength is 12549 while held strength is 12340. Hence, there is a shortage of 209 officers.

69. In the case of Airmen, the present sanctioned strength is 1,42,529 while the held strength is 1,27,510. Thus, the shortage is to the extent of 15019 personnel. Last year, while examining the Demands (2017-18), the shortage was found to be to the extent of 13,001. The Committee take serious note of the increasing shortfall as compared to the

last year and wish that henceforth, concrete measures be taken for making up the shortage of officers & Airmen in a time bound manner.

### Pilot-Cockpit Ratio

70. During examination of Demands for Grants (2015-16), the Committee were informed that the sanctioned Pilot to Cockpit ration in Indian Air Force was 1:25 for fighter planes, 1:5 for transport planes and just 1 for helicopter. The Committee had opined that this could be one of the reasons for high accident rates. With regard to the present pilot to cockpit ratio, the Committee have been informed that this information is said of sensitive nature. However, it has been informed that currently there is no problem in terms of recruitment. But the capacity is limited by the number of people that can be trained because the training period of a fighter pilot is quite long. By the time they mature, enormous amount of investment is already made on the fighter pilots. The Committee wish that concerted efforts are put in place to achieve the desired levels of pilot to cockpit ratio and training infrastructure be augmented as per the requirement.

71. In this connection, the Committee have observed that on the lines of other modern Air Forces, Indian Air Force is also resorting to pharmaceutical interventions to ensure that our pilots are not fatigued. The same pilots, with pharmaceutical intervention are able to fly more. While noting the innovativeness of the approach, the Committee cannot also refrain from expressing the need for ensuring that such pharmaceutical interventions are well researched and tested, and do not have any other implications.

New Delhi  
12 March, 2018  
21 Phalgun, 1939 (Saka)

MAJ GEN B C KHANDURI, AVSM (RETD)  
Chairperson  
Standing Committee on Defence

**STANDING COMMITTEE ON DEFENCE (2017-18)**

**MINUTES OF THE FIFTH SITTING OF THE STANDING COMMITTEE ON  
DEFENCE (2017-18)**

The Committee sat on Thursday, the 15<sup>th</sup> February, 2018 from 1100 hrs. to 1520 hrs. in Committee Room No. 53, Parliament House, New Delhi.

**PRESENT**

**Maj Gen B C Khanduri, AVSM (Retd)**

-

**Chairperson**

**MEMBERS**

**LOK SABHA**

- |    |                                |
|----|--------------------------------|
| 2  | Col Sonaram Choudhary(Retd)    |
| 3  | Shri Thupstan Chhewang         |
| 4  | Shri H D Devegowda             |
| 5  | Shri Sher Singh Ghubaya        |
| 6  | Dr Mriganka Mahato             |
| 7  | Shri Kalraj Mishra             |
| 8  | Shri Partha Pratim Ray         |
| 9  | Shri A P Jithender Reddy       |
| 10 | Smt Pratyusha Rajeshwari Singh |

**RAJYA SABHA**

- |    |                      |
|----|----------------------|
| 11 | Shri Harivansh       |
| 12 | Shri Basawaraj Patil |
| 13 | Smt Ambika Soni      |

**SECRETARIAT**

- |   |                       |   |                     |
|---|-----------------------|---|---------------------|
| 1 | Smt Kalpana Sharma    | - | Joint Secretary     |
| 2 | Shri TG Chandrasekhar | - | Director            |
| 3 | Smt Jyochnamayi Sinha | - | Additional Director |
| 4 | Shri Rahul Singh      | - | Under Secretary     |

**LIST OF WITNESSES**  
**MINISTRY OF DEFENCE**

2.  
outset,

SNO	NAME OF OFFICER	DESIGNATION
1.	Shri Sanjay Mitra	Defence Secretary
2.	Dr Ajay Kumar	Secretary (DP)
3.	Dr S Christopher	Secretary DR&D
4.	Lt Gen Sarath Chand	VCOAS
5.	Lt Gen SK Dua	CISC
6.	Shri SK Kohli	FA(DS)
7.	Shri Apurva Chandra	DG(Acq)
8.	Shri Jiwesh Nandan	Additional Secretary
9.	Shri Sanjiv Mittal	FA (Acq)
10.	Lt Gen RR Nimbhorkar	MGO
11.	Lt Gen Sanjay Verma	DG WE
12.	Lt Gen PN Rao	DG FP
13.	Lt Gen SK Patyal	DCOAS
14.	Lt Gen BS Sehrawat	DGNCC
15.	Vadm AK Jain	DCIDS (PP&FD)
16.	Vice Admiral G Ashok Kumar	DCNS
17.	Dr Zakwan Ahmed	DG(R&M)
18.	Sh AN Das	Addl FA & JS
19.	Shri Subir Mallick	Addl FA & JS
20.	Shri Rajib Kumar Sen	Economic Adviser
21.	Shri R K Karna	Addl FA & JS
22.	Shri Ashwini Kumar	Addl FA & JS
23.	Rear Admiral Sanjay Vatsayan	ACNS (P&P)
24.	Ms Dhartiri Panda	Addl FA & JS
25.	Shri V Anandarajan	Joint Secretary
26.	Shri Rajeev Singh Thakur	JS (Army)
27.	Smt Nidhi Chibber	Joint Secretary
28.	Maj Gen KJS Dhillon	ADG PP 'A'
29.	Maj Gen Shantanu Dayal	ADG Proc
30.	Maj Gen HS Shanbhag	Technical Manager (LS)
31.	Maj Gen Sanjay Thapa	ADG FP
32.	RAdm KM Dhir	ACIDS
33.	IG VD Chafekar	DDG (P&P)
34.	Maj Gen Pankaj Saxena	ACIDS (FP)
35.	Rear Adm B Dasgupta	ADG (A)
36.	Brig Deepak Obhrai	DDG P&M Cell
37.	Brig Dhiraj Seth	DDG PP (Plans)
38.	DIG Alankar Singh	PD(SA)
39.	Cmde G Rambabu	Inspecting Officer SSC
40.	Cmde Vineet McCarty	PDNP
41.	Captain Prakash Gopalan	DNP
42.	Mrs Maulishree Pande	Director (Fin/Budget)
43.	Col Rajeev Kapoor	Offg DACIDS (Budget)
44.	Shri TD Diwivedi	Dir (Air-II)
45.	Smt Vibha Sood	PD P&F
46.	Brig Shivender Singh	DDG (Lgs)
47.	Col SK Vohra	Dir Lgs(A)
48.	Col Chetan Gurbax	Dir Coord
49.	Col Sudhanshu Arya	Inspecting Officer SSC
50.	Col Puneet Aggarwal	Dir PP(Lgs)
51.	Col PG Sankpal	Dy MA to VCOAS

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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 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 non-reduction of amount at Revised Estimates stage by Ministry of Finance due to healthy expenditure pattern of Ministry of Defence.

4. The Committee were informed about delegation of powers to Coast Guard, NCC, BRO, Services Headquarters for post contract management and perimeter security aspects. Thereafter, A power Point Presentation on General Defence Budget was made before the Committee. This was followed by detailed deliberations on the following issues:

- (i) Issue relating to non procurement of Bullet Proof Jackets.
- (ii) Procurement of Ammunition and Weapon System.
- (iii) Low Allocation to Army.
- (iv) Escalation in the cost of equipment nullifying the increase in the budget.
- (v) Non availability of adequate Capital Budget.
- (vi) Continuous reduction of Defence Budget in terms of percentage of GDP of the Country.
- (vii) Making capital budget as 'Roll on and Non-Lapsable'.
- (viii) Measures for adequately equipping being taken for 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) Steps taken to achieve timely, effective and efficient procurement.

- (ii) Impact analysis of newly-formulated Defence Procurement Procedure (DPP 2016).
- (iii) Strategic Partnership with Private Sector.
- (iv) Impact of 'Make in India' policy on existing production policy.
- (v) Issues relating to huge committed liabilities and non availability of budget for new schemes owing to ceiling from the Ministry of Finance.
- (vi) Support to Medium, small and Micro Enterprises (MSME) in area of Defence production.

**The Committee took break for lunch and resumed the Sitting at 1400 hrs.**

6. Thereafter, the Chairperson invited the representatives of Army. The representatives of the Army commenced their briefing through a Power Point presentation. This was followed by detailed deliberations on following issues:

- (i) Status of present operational preparedness of Army;
- (ii) Issues relating to deficiencies of weapons, stores and ammunition;
- (iii) Non availability of capital budget for Committed Liabilities and New Schemes;
- (iv) Break up of utilisation of Army Budget i.e. 63 per cent for salaries, maintenance; operational requirement; 20 per cent for modernisation, 14 per cent for other matters etc.

7. Thereafter, the Chairperson invited the representatives of NCC. The representatives of the NCC commenced their briefing through a Power Point presentation. This was followed by discussion on following issues:

- (i) Issues relating to Introduction of NCC in more schools;
- (ii) Need for creating infrastructure and improving quality of training with the increase in strength of cadets.

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

- (i) Opening of more Sainik Schools in the States;
- (ii) Making Sainik Schools co-educational/separate Sainik Schools for girls; and
- (iii) Measures taken to improve standard of training in Sainik Schools so as to increase the intake of cadets of Sainik Schools in NDA.

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

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

**The Committee then adjourned.**

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**STANDING COMMITTEE ON DEFENCE (2017-18)**

**MINUTES OF THE SIXTH SITTING OF THE STANDING COMMITTEE ON  
DEFENCE (2017-18)**

The Committee sat on Friday, the 16<sup>th</sup> February, 2018 from 1100 hrs. to 1550 hrs. in Committee Room 'B', Parliament House Annexe, New Delhi.

**PRESENT**

**Maj Gen B C Khanduri, AVSM (Retd)**

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**Chairperson**

**MEMBERS**

**LOK SABHA**

- 2 Shri Dipak Adhikari (Dev)
- 3 Col Sonaram Choudhary(Retd)
- 4 Shri Thupstan Chhewang
- 5 Shri Dharambir Singh
- 6 Dr Mriganka Mahato
- 7 Shri Kalraj Mishra
- 8 Shri Partha Pratim Ray
- 9 Smt Mala Rajya Lakshmi Shah
- 10 Smt Pratyusha Rajeshwari Singh

**RAJYA SABHA**

- 11 Shri Harivansh
- 12 Shri Madhusudan Mistry
- 13 Shri Basawaraj Patil
- 14 Smt Ambika Soni

## **SECRETARIAT**

- 1 Smt Kalpana Sharma - Joint Secretary
- 2 Shri TG Chandrasekhar - Director
- 3 Smt Jyochnamayi Sinha - Additional Director
- 4 Shri Rahul Singh - Under Secretary

## **LIST OF WITNESSES**

<b>SNO</b>	<b>NAME OF OFFICER</b>	<b>DESIGNATION</b>
1.	Shri Sanjay Mitra	Defence Secretary
2.	Dr. S. Christopher	Secretary DR&D
3.	Lt Gen Sarath Chand	VCOAS
4.	Air Mshl SB Deo	VCAS
5.	Vice Admiral Ajit Kumar P	VCNS
6.	Shri Jojneswar Sharma	Director General (Secy. Rank)
7.	Lt Gen SK Dua	CISC
8.	Shri S.K. Kohli	FA(DS)
9.	Shri Jiwesh Nandan	Additional Secretary
10.	Shri Sanjiv Mittal	FA (Acq)
11.	Air Mshl R Nambiar	DCAS
12.	Lt Gen Suresh Sharma	Engineer-in-Chief
13.	Vadm AK Jain	DCIDS (PP &FD)
14.	Lt Gen Ashok Ambre	QMG
15.	Lt Gen. PS Rajeshwar	DG PP (AS Level)
16.	Lt Gen Sanjay Verma	DGWE
17.	Lt. Gen Anil Chauhan	DGMO
18.	Lt. Gen SK Shrivastava	DGBR
19.	Lt Gen PN Rao	DG FP
20.	Lt Gen SK Patyal	DCOAS
21.	Shri Rajendra Singh	DGICG
22.	Dr Zakwan Ahmed	DG(R&M)
23.	Shri A. Bhaskar Reddy	Sr. Addl Director General(AS level)
24.	Shri Jayant Sinha	Joint Secretary (Works)
25.	Sh. A.N. Das	Addl.FA & JS
26.	Shri Subir Mallick	Addl FA & JS
27.	Sh. R.K. Karna	Addl. FA & JS
28.	Ms. Dharitri Panda	Addl. FA(D)
29.	Sh. Ashwani Kumar	Addl. FA & JS
30.	Shri Bharat Khera	JS (Air/BR)
31.	Shri Sanjai Singh	JS & AM (Air)
32.	Maj Gen Pankaj Saxena	ACIDS(FP)
33.	Maj Gen Sanjeev Jain	DG MAP
34.	Maj Gen Dig Vijay Setia	
35.	Maj Gen SPS Kohli	Offg DG Works
36.	Maj Gen Sanjay Thapa	ADB FP
37.	Maj Gen KJS Dhillon	ADG PP 'A'
38.	Air Vice Mshl MSG Menon	ACAS (AF Works)
39.	Maj Gen Shantanu Dayal	ADG Proc
40.	AVM BR Krishna	ACAS (Plans)
41.	AVM J Chalapati	ACAS (Proj)
42.	AVM P Subhash Babu	ACAS(Fin P)
43.	IG VD Chafekar	DDG (P&P)
44.	Rear Admiral Sanjay Vatsayan	ACNS (P&P)
45.	Shri P Daniel	Addl Director General (JS level)
46.	Shri Rakesh Mittal	Addl Director General(JS level)
47.	Sh. Ajay Singh	Chief Executive CW&E
48.	Shri BK Jain	CE Jt DG
49.	Brig KC Panchanathan	DDG Mo(C)
50.	Brig. AK Das	DDG (TP)
51.	Brig Anurag Bhasin	DDG 'B'

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2. At the outset, the Chairperson welcomed the Members of the Committee and informed them about the agenda for the Sitting. The Chairperson welcomed the representatives to the Sitting of the Committee and drew their attention to Direction 55(1) of Directions by the Speaker, Lok Sabha.

3. The Chairperson initiated the discussion and requested the representatives of the Ministry of Defence to brief the Committee on various issues included in the agenda for the day.

4. The representatives of the Ministry of Defence commenced their briefing through a PowerPoint presentation on Air Force. This was followed by detailed deliberations on following issues:

- (i) Allocation of funds and expenditure,
- (ii) Requirement of additional funds to meet emergency procurements and war situation,
- (iii) Efforts towards 'Make in India',
- (iv) Depletion in squadron strength,
- (v) shortage of manpower and cockpit to pilot ratio,
- (vi) shortfall in trainer aircraft,
- (vi) modernization of military air fields, etc.

5. Thereafter, a presentation was given on Navy and Joint Staff which was followed by discussion on following points:

- (i) Shortfall between required and allocated budget,
- (ii) 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 base,
- (viii) Operational preparedness, etc.

6. Thereafter, a presentation on Coast Guard Organization was made before the Committee. This was followed by queries from Members on various issues which included the ones shown hereunder:

- (i) shortfall in provision of funds,
- (ii) state of coastal security, etc.
- (iii) issues relating to GST and customs duty.

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

7. A presentation was made on Directorate General Defence Estate (DGDE) which was pursued with deliberations on the subject. Members made various queries on the following points:

- (i) Blocking of roads used by ordinary citizens by DGDE,
- (ii) Encroachment of Defence Lands by civilians and removal of the same with the help of State Governments,
- (iii) Digitisation of records in DGDE,
- (iv) Financial problems of Cantonment boards,
- (v) issues relating to building bye-laws in cantonment
- (vi) Inviting public representatives, MPs and MLAs of that area to the Sitting.

8. The Ministry gave presentation on Military Engineer Services. This was followed by detailed discussions on the subjects and Members asked questions on the following issues:

- (i) Delay in completion of projects,
- (ii) Prioritisation of available resources,
- (iii) Adoption of state-of-the-art technology,
- (iv) Pending cases in the Ministry of Defence.

9. The Ministry made presentation on Married Accommodation Project. This was followed by detailed discussions on the subjects and Members asked questions on the following issues:

- (i) Satisfaction level of the forces,
- (ii) Early completion of phase-II and phase-III of MAP,
- (iii) Amendments in MAP works procedure,

10. Thereafter, a presentation was made on Border Roads Organization (BRO) which was followed by discussion on the following points:

- (i) Status of Border connectivity,
- (ii) Delegation of financial powers in BRO,
- (iii) Handing over of roads from BRO to PWD and *vice-versa*
- (iii) Long Term Roll on Works Plan,
- (iv) Fund for Sela pass project, etc.

11. The Chairperson directed the representatives of the Ministry of Defence 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**

### **MINUTES OF THE EIGHTH SITTING OF THE STANDING COMMITTEE ON DEFENCE (2017-18)**

The Committee sat on Monday, 12 March, 2018 from 1000 hrs. to 1030 hrs. in Committee Room 'C', Parliament House Annexe, New Delhi.

#### **PRESENT**

**Maj Gen B C Khanduri, AVSM (Retd)**

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**Chairperson**

#### **Lok Sabha**

2. Shri Suresh C Angadi
3. Shri Shirang Appa Barne
4. Col Sonaram Choudhary(Retd)
5. Shri Dharambir Singh
6. Shri Gaurav Gogoi
7. Smt Mala Rajya Lakshmi Shah
8. Smt Pratyusha Rajeshwari Singh

#### **Rajya Sabha**

9. Shri Harivansh
10. Shri Sanjay Raut

#### **SECRETARIAT**

1. Smt. Kalpana Sharma - Joint Secretary
2. Shri T G Chandrasekhar - Director
3. Smt Jyochnamayi Sinha - Additional Director
4. Shri Rahul Singh - Under Secretary

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) Thirty-Seventh Report on 'Action Taken by the Government on the Observations/Recommendations contained in the Twenty Eighth Report (16th Lok Sabha) on General Defence Budget, Border Roads Organisation, Indian Coast Guard, Military Engineer Services, Canteen Stores Department, Directorate General Defence Estates, Defence Public Sector Undertakings, Welfare of Ex-Servicemen, Defence Pensions and Ex-Servicemen Contributory Health Scheme'.
- ii) Thirty-Eighth Report on 'Action Taken by the Government on the Observations/Recommendations contained in the Thirtieth Report (16th Lok Sabha) on Ordnance Factories, Defence Research and Development Organisation, Directorate General of Quality Assurance and National Cadet Corps'.
- iii) Thirty-Ninth Report on 'Action Taken by the Government on the Observations/Recommendations contained in Thirty Fourth Report (16th Lok Sabha) on Provision of Medical Services to Armed Forces including Dental Services'.
- iv) Fortieth Report of the Standing Committee on Defence (16th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2018-19 on General Defence Budget, Border Roads Organisation, Indian Coast Guard, Military Engineer Services, Directorate General Defence Estates, Defence Public Sector Undertakings, Welfare of Ex-Servicemen, Defence Pensions and Ex-Servicemen Contributory Health Scheme (Demand No. 19 & 22)'.
- v) Forty-First Report of the Standing Committee on Defence (16th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2018-19 on Army, Navy and Air Force (Demand No. 20)'.
- vi) Forty-Second Report of the Standing Committee on Defence(16th Lok Sabha) on `Demands for Grants of the Ministry of Defence for the year 2018-19 on Capital Outlay on Defence Services, Procurement Policy and Defence Planning (Demand No. 21)'.
- vii) Forty-Third Report of the Standing Committee on Defence(16th Lok Sabha) on 'Demands for Grants of the Ministry of Defence for the year 2018-19 pertaining to Revenue Budget of Ordnance Factories, Defence Research and Development Organisation, DGQA and NCC (Demand No. 20)'.

3. After deliberations, the Committee adopted the above mentioned reports with slight modifications.
4. The Committee 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.

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