

IDSA Monograph Series
No.29 January 2014

REVENUE PROCUREMENT PRACTICES IN THE INDIAN ARMY

venu GOPAL



IDSa MONOGRAPH SERIES

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ISBN: 978-93-82169-30-7

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First Published: January 2013

Price: Rs. 300/-

Published by: Institute for Defence Studies and Analyses
No.1, Development Enclave, Rao Tula Ram
Marg, Delhi Cantt., New Delhi - 110 010
Tel. (91-11) 2671-7983
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Layout &
Cover by: Vaijayanti Patankar

Printed at: M/S A. M. Offsetters
A-57, Sector-10, Noida-201 301 (U.P.)
Mob: 09810888667
E-mail: amoffsetters@gmail.com

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ACKNOWLEDGEMENTS

This monograph is a part of my study as Research Fellow at the Institute of Defence Studies and Analyses (IDSA). The study has tried to contribute to the scarce literature on Defence Revenue Procurement and it is hoped that the practices discussed in the monograph are taken note of by the policy makers and shall benefit the strategic community.

I sincerely thank the DG, IDSA and the Military Centre for their encouragement and the referees for their able guidance and insight.

Brig. Venu Gopal

ABBREVIATIONS

3PL	Third Party Logistics
AON	Acceptance of Necessity
APR	Annual Provision Review
AR	Assam Rifles
BE	Budget Estimate
BSF	Border Security Force
CAG	Comptroller & Auditor General
CBI	Central Bureau of Investigation
CDM	College of Defence Management
CFA	Competant Financial Authority
CLAWS	Centre for Land Warfare Studies
CO	Commanding Officer
COE	Contingent Owned Equipments
CONDO	Contractors on Deployed Operations
COTS	Commercially Off the Shelf
CP	Central Purchase
CPO	Central Police Organisation
CRPF	Central Reserve Police Force
CSD	Canteen Stores Department

CVC	Central Vigilance Commission
DCOAS	Deputy Chief of Army Staff
DGMS	Director General Medical Services
DGOF	Director General Ordnance Factories
DGQA	Director General Quality Assurance
DGS&T	Director General Supply & Transport
DPM	Defence Procurement Manual
DPP	Defence Procurement Procedures
DPSU	Defence Public Sector Undertaking
DRAT	Desirability Rating Analytical Tool
DRDO	Defence Research & Development Organisation
EME	Electrical & Mechanical Engineers
FDDI	Footwear Design & Development Institute
FDI	Foreign Direct Investment
FMS	Foreign Military Sales
FPU	Formed Police Units
GDP	Gross Domestic Production
GFR	General Financial Regulations
GS&C	General Stores & Clothing
GSL	Government Sanction Letter
HQ IDS	Headquarters Integrated Defence Services
IA	Indian Army
IAF	Indian Air Force

ICC	Inventory Carrying Cost
IKI	Individual Kit Items
IN	Indian Navy
ITBP	Indo Tibetan Border Police
L1	Lowest Vendor
LP	Local Purchase
LTIPP	Long Term Integrated Perspective Plan
MARCOS	Marine Commandos
MEA	Ministry of External Affairs
MGO	Master General of Ordnance
MoD (F)	Ministry of Defence (Finance)
MoU	Memorandum of Understanding
NCNC	No Cost No Commitment
OEM	Original Equipment Manufacturer
OL Dte	Operational Logistics Directorate
Ord Dte	Ordnance Directorate
PIFA	Principal Integrated Financial Adviser
PMF	Para Military Forces
PNC	Price Negotiation Committee
PPP	Public Private Partnership
QR	Qualitative Requirement
R&D	Research & Development
RC	Rate Contract
RFP	Request for Proposal

SCM	Supply Chain Management
SD Dte	Staff Duties Directorate
SIPRI	Stockholme International Peace Research Institute
SO	Supply Order
SOP	Standard Operating Procedure
SRD	Ordnance Depot Shakurbasti
TE	Tender Enquiry
TPC	Tender Purchase Committee
UE	Unit Entitlement
UH	Unit Holding
UNM	United Nations Missions
UNSC	United Nations Security Council
WE Dte	Weapon & Equipment Directorate
WPI	Wholesale Price Index

INTRODUCTION

“A strong defence is the surest way to peace.... Weakness invites war”¹

Truly said, since deterrence to aggression, the primary role is no longer the only responsibility or duty of the armed forces. As its secondary role, from combat to disaster management, from providing supplies and succour to evacuation, from defending to peace-keeping- all sorts of services, come under the purview of the armed forces. India has been a strong regional power and is visibly emerging as a pan-regional super-power. The nation is looked upon as a provider and hence rightfully aspires to be a permanent member of the United Nations Security Council (UNSC).

India won a well-fought, hard-earned independence in the last century. Sixty-five years hence, we still insist on calling ourselves a young nation. The truth is we have long passed the hiccups of adolescence as far global lifespan is concerned. Gone is the time for petty name calling and fighting proxy wars with neighbours. India is now expected to take its seat among the ‘mature and responsible’ group of nations. This translates into developing the capability of handling conflict not just at local or regional level, but also at the global level. Conflict today, has become synonymous with violence. Its widespread and unbordered threats as well as long-term repercussions are a geo-political reality.

Keeping in mind the plethora of demands, to meet the varied challenges put up by a difficult neighbourhood, India’s strategic assertion has to be supported by capable and well-equipped armed forces. The defence forces have to be prepared continually, with modernised assets, state-of-the-art capability and a well-planned and executed military supply-

¹ “Public Paper of the President of the United States”, Gerald R. Ford, 1974, p. 11, Apr 11, <http://www.ford.utexas/library/document/facebook/foreign.htm>.

chain network. This calls for a well-evolved logistics infrastructure which can capitalise on indigenous as well as the latest technological advances, maximise operational effectiveness and also increase flexibility and adaptability. It is understood that India's defence forces have to be continually prepared with modernised assets and a well-planned and executed supply chain network. To achieve this, a close study of the extant procurement procedure, the process of allocation of the defence budget, and the lacunae therein, is necessary. The second chapter ponders on the challenges or peculiarities faced during the revenue procurement process for the Indian Army. Defence procurement, unlike procurement of other departments, involves a deliberate and complex procedure. It has to include constant reforms and flexibility, integrating not just feedback from end-users and the approving authorities, but also the ever-changing defence perception. As pointed out by the Comptroller and Auditor General of India (CAG), defence procurement is a 'cross-disciplinary activity requiring expertise in technology, military, finance, quality assurance, market research, contract management, project management, administration and policy making'. An integrated and synergised approach under a firm monitoring force performing within a strict time frame in a transparent manner, will definitely help in delivering the right goods affirming our operational preparedness and efficiency. The major issues to be addressed are capability definitions, technical and commercial evaluation, requirements of structural elements for efficient procurement, contract and project management, improving IT capabilities, empowering the defence industrial and R&D base, and efficient logistics management.

Keeping in mind the need of the day, which is a synergised approach using the best possible resources most cost efficiently as well as effectively, the third chapter discusses the concept of applying 'Third Party Logistics' in defence practices. Third party logistics or 3PL, another term for 'outsourcing' has been accepted as an important component of modern commercial, economic and management practices. Logistics outsourcing involves the use of an external organisation to execute logistic activities that have traditionally been performed within an organisation itself. As per the Fifth Annual Outsourcing Index, the top three reasons for commercial organisations to outsource are improving company focus, reducing and controlling operating cost, and making free in-house resources for other useful purposes, in tune with the core

functioning of the company. These reasons hold good for the armed forces as well. Keeping in mind the cost effectiveness, long-term economic benefits, extensive resources, expertise, and quality of services that outsourcing can provide, it would be prudent if the armed forces start delegating their non-core requirements to such service providers.

The Government of India has agreed in principle to the outsourcing of certain services, and modalities for the same have been worked out. However, 3 PL support has not become integral to the administrative functions of the defence forces yet. Considering the funds that can be saved, work force that can be freed to train for operational readiness, the adept, proficient and skilful resources that can be used to upgrade its standards and capabilities, the armed forces should not drag their feet on this important issue. It is a fact that there is a significant rise in conflicts, which though seem temporary and localised or regional in demeanour, have extensive global implications. As discussed earlier India has a major strategic role to play in maintaining world peace. However, that does not absolve the armed forces of the country from maintaining a state of operational readiness keeping in mind the state of the regional strategic environment. In this regard, with an eye on the rapid expansion and hi-tech quality of modern warfare, sophisticated weapons, high maintenance instruments and equipment, and advanced capabilities, India requires requisite integrated technologies and specific skills. Given India's limited means and restricted budgetary allocation, the investment requirements to procure these technologies and develop the necessary skills to meet these new expectations are too great. Here exists a moot point to explore the feasibility of outsourcing non-core operations, non-core competencies, and routine administration. Outsourcing will support the optimising of defence expenditure, improve routine productivity, increase day-to-day efficiency, concentrate on core-competency, i.e., ensure operational readiness. It will save on suitable utilisation of human resource and quantifiably reduce resource liability.

Traditionally, the exclusive portal of government duties has included providing basic civic service, developing sound infrastructure, creating public assets and fulfilling socio-economic objectives of the state. The involvement of the private sector in these important areas had neither been sought nor had it been forthcoming. This could have been for

reasons political or economic. Today, thankfully, the crucial role of infrastructure in fostering economic growth, reducing social disparity and for larger political stability has been well recognised. Nevertheless, several issues like the changing economic scenario, burgeoning population pressure, increasing pressure on cities and other developmental trends have severely constrained the government's ability to serve the state's requirements. These are some of the main factors responsible for the private sector gaining importance, worldwide. It complements and supplements investments to serve the cause of the Public Private Partnership (PPP, also called P3). In addition, most governments are reluctant to either borrow money to fund the needed additional capital infrastructure or to fund it directly. P3s are thus an attractive potential option. The fourth chapter therefore, discusses this important concept, which can be overlooked only to the peril of any serious study of the procurement procedure.

The fifth chapter is a case study on the procurement for UN bound missions and focuses on the 'Problems of Equipping the Units Proceeding on UN Missions' followed by the remedies for the same. No study of a system that works on the national level can attempt fulfilment, unless it is compared and contrasted with similar mechanisms existing within the country on a micro level and in other nations on a macro level. In this study, the existing system being followed in the Indian Army is deliberated upon along with the procedures being followed by the Indian Air Force (IAF) and the Indian Navy. The study also dwells upon the mechanism of procurement by governmental agencies as well as some South Asian countries. Thereupon, it studies the problem areas. Finally, the case study recommends remedies to overcome the existing lacunae in the system to tackle the problem effectively and efficiently.

This study has led the cursor over various aspects of the revenue procurement procedure. It brings to fore the importance of the theories of 3 PL and Public Private Partnership (PPP), and the necessity to include the two in keeping the defence system up to date so that the Indian army's logistics support system can evolve into a truly competent and globally viable industry. The integration of the same is thus, worthy of serious consideration. The case study of the procurement process for UN bound troops has tried to throw light on the challenges faced

in their equipping and their remedies, by incorporating certain policy based steps. Different projects or categories of procurement warrant different approaches of management. It would bode well for the Indian defence policy to move beyond its alignment to a threat-based course of action. Calibrated and refined force modernisation is an obligation that cannot remain unfulfilled if India is to keep pace with the future threat scenario. The palpable role of informatics practices, information technology (IT) and automation in the supply chain mechanism and inventory management has to be adopted as well as updated on a regular basis. It would be prudent to collaborate with efficient co-ordination and communication, and it would be beneficial to identify and prioritise the goals to be achieved as well as study the factors that influence their fulfillment. In this age of constant insecurity, it is high time for the government to firm up decisions and get down to the serious business of ‘mending wall’².

² Robert Frost, 1914, ‘Mending Wall’, *North of Boston*, 1917, Henry Holt and Company.

REVENUE PROCUREMENT IN THE INDIAN ARMY AND ITS SCOPE

“Defence Acquisition is a complex decision-making process that endeavours to balance the competing requirements of expeditious procurement, development of an indigenous defence industry, and conformity to the highest standards of transparency, probity and public accountability”. – Shri A K Antony (Raksha Mantri)³

Logistics is an expensive exercise that needs serious and whole-hearted support when it comes to allocation of funds. The capital and revenue requirements of the armed forces hang heavy on the defence budget, which is already sizeably limited. A nation’s economic strength, its deposit of resources, competing demand from other sectors, the sheer size of the defence budget and its impact on other sections of national needs etc, are some of the issues that raise the question as to how much a country can afford for its defence. The purpose of this chapter is to study the extant procurement procedure, the lacunae therein and suggest possible ways to close the gaps.

Hence, the focus will be on the following three sections with a view to understand, first, the process of allocation of the Defence Budget; second, the Revenue Procurement System as existing in the army; and third, to recommend measures to overcome the shortfall in the defence revenue procurement system as existing in the Indian army currently, with a view to increase its operational as well as administrative efficiency.

ECONOMIC CONSIDERATIONS OF THE DEFENCE BUDGET

The logistics requirements of the defence forces are a costly affair. It is these requirements that decide how much has to be allocated towards the defence allocations not only for sustaining the military, but also to

³ In his Foreword to the Defence Procurement Procedure 2011 dated Dec 27, 2010.

cater for their modernisation and future force projections. The role of the Indian army is no longer restricted to dealing with its immediate neighbouring nations. It has reached a regional, and one may add, even a global level. It cuts a wider swath to protect its energy security, economic interests, territorial integrity and other national interests. In our environment, the 'bottom-line' is that an important aspect of efficient material support for the military has to be cost-effective and must relate not only to economically viable routes but also to the growth and progress of the nation.

As reported by various oversight agencies, such as the CAG and the Parliamentary Standing Committee on Defence, there are glaring capability voids in defence preparedness, which need urgent attention of the defence establishment. The question to be answered is whether this gap/void can be covered by the existing defence allocation. After all, the modernisation of the forces is not a one-time affair and has to be tackled therefore, with a long-term perspective.

PROJECTION/ALLOCATION OF FUNDS FOR THE SERVICES

The financial planning directorates of the three Services and the organisations of Research and Development (R&D) and Director General Ordnance Factories (DGOF) carry out the estimation of budget initially based on the inputs they obtain from the lower units/formations/establishments. The 'running' or 'operational' expenditure of the three services and other departments/wings are provided by the government under Demand for Grants No. 22 to 26, commonly referred as the Defence Budget. The Revenue Expenditure Demand for Grant No. 22 also includes expenditure on Pay and Allowance, Transportation and Revenue Stores (like ordnance stores, supply by ordnance factories, ration, petrol, oil and lubricants, spares etc). Subsequently, the projections of the services financial planning directorates and departments are examined by the respective integrated finance within the Ministry of Defence (MoD), after which the complete defence projection is examined and assessed by the budget division of the MoD. The final estimation carried out by the budget division is projected to the Ministry of Finance (MoF), which is commonly referred to as the Defence Budget, for allocation/approval, of the Defence Secretary and the Raksha Mantri.

The demand-wise position of allocation in the Budget Estimates(BE) and Revised Estimates(RE) for the year 2008-09 and Budget Estimates of 2009-10 is as under⁴: -

*(Rupees in crores)

Sr. No.	Demand	BE 2008-09	RE 2008-09	BE 2009-10
1.	Army (Revenue expenditure of Army, NCC and Director General of Quality Assurance (DGQA))	37678.25	49877.91	60270.83
2.	Navy (Revenue expenditure of Navy and Joint Staff)	7503.05	8116.05	8404.11
3.	Air Force (Revenue expenditure of Air Force)	11288.86	12633.25	14911.10
4.	Defence Ordnance Factories (Revenue expenditure of Ordnance Factories)	1109.99	2825.75	2496.95
5.	Research & Development (Revenue expenditure of R&D)	3413.59	3874.78	4787.67
6.	Capital Outlay on Defence Services (Capital expenditure of all services/departments)	48007.00	41000.00	54824.00
	Total (Gross)	109000.74	118327.74	145694.66
	Receipt/Recoveries	3400.74	3727.74	3991.66
	Total (Net)	105600.00	114600.00	141703.00

⁴ The first Report of the Standing Committee Demand for Grant, MoD, 2009-10.

In addition, the broad categories of revenue and capital budget during the Financial Years 2008-09 and 2009-10 are as under⁵:-

Revenue	BE 08-09	RE 08-09	BE 09-10	BE 08-09	RE 08-09	BE 09-10
Pay & allowances	26588	41196	52876	46.16 (25.18)	55.97 (35.95)	60.86 (37.31)
Stores & equipment	19940	20489	21479	34.62 (18.88)	27.84 (17.88)	24.72 (15.16)
Transportation	2190	2160	2400	3.80 (2.07)	2.93 (1.88)	2.76 (1.69)
Misc. charges	3047	3227	3423	5.29 (2.89)	4.38 (2.82)	3.94 (2.42)
Revenue works	5829	6529	6701	10.12 (5.52)	8.87 (5.70)	7.71 (4.73)
Total Revenue	57593	73600	86879	100 (54.45)	100 (64.22)	100 (61.31)
Capital	48007	41000	54824	100 (45.46)	100 (35.78)	100 (38.69)
Total defence	105600	114600	141703			

The above statistics indicate that the net revenue for 2008-09 increased by Rs 16,007 crores over the projected requirement/estimate i.e. from an estimate of Rs 57,593 crores the allotment in real terms was Rs 73,600 crores (net increase of Rs 16,007 crores). However, the point to be noted here is that the increase in the revenue head was mainly to cater for the additional requirements because of Pay & Allowances of departments/services post implementation of the recommendation of the Sixth Central Pay Commission recommendations, and due to hike in prices of petroleum products.

Revenue Estimates for the Financial Year 2009-10 reflects a total allotment of 61.31 per cent towards revenue requirements of the

⁵ Ibid.

services as compared to 38.69 per cent against capital requirements. This has been a cause of concern in various economic debates/research circles such as those in the IDSA, the Centre for Land Warfare Studies (CLAWS) etc, as it is felt that the allocation towards revenue and capital procurements should be equal in distribution. This, as of now, seems to be a distant dream and is likely to take considerable time to see the light of day.

Further scrutiny of the details of Revenue and Capital allocation for the financial year 2009-10 reveals that out of the total budgetary allocation of Rs 1,41,703 crores, the Revenue budget share was Rs 86,879 crores as against the actual expenditure of Rs 73,006 crores in the financial year 2008-09, a growth of 18.04 per cent. However, the growth against capital budget allocation was a mere 4.20 per cent as compared to the financial year 2008-09. The overall Defence Budget growth was to the tune of 34.19 per cent over the Budget Estimate of the Financial Year 2008-09 and 23.6 per cent over the Revised Estimate for the Financial Year 2008-09.

THE GROWTH OF DEFENCE EXPENDITURE

In the absence of a clear framework for evaluating the affordability of defence spending, many analysts tend to view the same from the perspective of a country's share of defence in Gross Domestic Product (GDP) over a period of time, or by comparing these shares with those of other countries. However, this method of relative measurement suffers from ambiguities. This is because it does not take into consideration a country's specific security concerns, its economic requirements in totality and the availability of resources to fulfil the existing as well as future needs. In the global contract, the affordability of military spending of some of the world's major military spenders⁶ varies not only in degrees but also from time to time. While the variation in the degree of affordability indicates the changing security scenario and threats that are perceived differently by different countries, the fluctuation in affordability over time points to the fact that what may be affordable at one point of time, may not be so at another time.

⁶ According to SIPRI, US, UK, France, Japan and India rank first, second, third, fifth and tenth respectively, in the list of countries with the highest military expenditure in 2010, *SIPRI Yearbook* 2010.

The macro economy, which guides major spending heads of government, could be a factor in controlling defence spending.

The under-stated table shows defence expenditure as a percentage of the total central government expenditure as well as the Gross Domestic Product (GDP)⁷ :-

Year	Def. Expr. as % of Central Govt Expr.	Def. Exp. as% of GDP
1988-89	17.81	3.16
1989-90	15.52	2.97
1990-91	14.65	2.71
1991-92	14.67	2.50
1992-93	14.34	2.34
1993-94	15.40	2.52
1994-95	14.46	2.29
1995-96	15.06	2.25
1996-97	14.68	2.14
1997-98	15.20	2.31
1998-99	14.28	2.28
1999-00	15.79	2.41
2000-01	15.24	2.36
2001-02	14.97	2.38
2002-03	13.44	2.27
2003-04	12.74	2.18
2004-05	15.24	2.41
2005-06	15.91	2.25
2006-07	14.64	2.07
2007-08	12.86	1.94

⁷ The first Report of the Standing Committee Demand for Grant, MoD, 2009-10.

Year	Def. Expr. as % of Central Govt Expr.	Def. Exp. as% of GDP
2008-09	12.72	2.15
2009-10	13.88	2.42
2012-13	12.97	1.90
2013-14	12.23	1.79

The given data indicates the growth of defence expenditure vis-à-vis economic parameters indicating that the expenditure was highest in the Financial Year 1988-89 at 17.81 per cent and 3.16 per cent of the GDP. Thereafter, the expenditure gradually has shown a downward dip and for the financial year 2009-10, it stood at 13.88 per cent and 2.42 per cent of the GDP. It is well below the desired level of three per cent of the GDP as considered by the government, to effect major modernisation changes required by the defence services, both against capital and revenue procurement.

A comparative study of the defence expenditure incurred by different countries in terms of the GDP is as follows⁸:-

		% of GDP	% of GDP	% of GDP
S. No.	Country	Year 2009-10	Year 2010-11	Year 2013-13
1.	India	2.8	2.12	1.79
2.	US	4.9	4.7	-
3.	UK	2.8	2.5	-
4.	France	1.7	1.6	-
5.	China	1.4	1.3	-
6.	Russia	3.1	2.8	-
7.	Germany	1.3	1.2	-
8.	Japan	1.0	1.0	-
9.	Saudi Arabia	11.0	10.4	-
10.	Pakistan	3.2	3.2	-

⁸ The first Report of the Standing Committee Demand for Grant, MoD, 2009-10.

When asked for the comments of the ministry on the declining trend of GDP vis-à-vis defence preparedness of the country to face challenges on various fronts, the ministry in its written reply has stated,⁹

The co-relation of Defence expenditure with GDP is just an indexation. Other than that, it has no bearing on defence preparedness or ability to safeguard the interest of the country. It is also not a fact that the GDP share of defence expenditure is only going down. The GDP share of Defence expenditure has, in fact, been fluctuating between a low of 2.07 per cent in 2006-07 and a high of 2.42 per cent in 2009-10. Only in 2007-08, Defence expenditure was 1.94 per cent of the GDP. Despite this fluctuation, the allocation for defence in absolute terms has been growing steadily, registering an increase of 185 per cent between 2000-01 (Rs 49, 622 crores) and 2009-10 (BE) (Rs 1, 41,703 crores). Thus, there is a consistent and regular increase in the budgetary allocation, commensurate with the requirement of the defence services and the ability of the government to meet it.

DEFENCE SPENDING, PROJECTIONS AND ALLOCATION: THE RESOURCES GAP

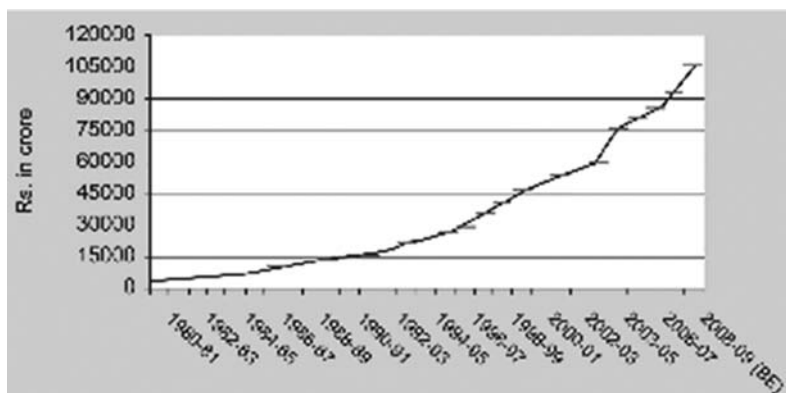
India's defence spending in current rates¹⁰ has increased substantially over the years from nearly Rs 1,200 crores in 1980-81 to Rs 1.14,600 crores in 2008-09. In the last one decade, it has increased by an average of nearly 10.99 per cent per year. The linear graph depicting India's defence spending since 1980-81 is as on next page:

⁹ Defence allocation in India, presented in the form of Defence Services Estimates, is broadly divided into two components, i.e., Revenue expenditure and Capital expenditure, and includes expenses of the Armed Forces as well as that of Defence Research and Development and Ordnance Factories. Revenue expenditure includes expenditure on Pay & Allowances, Revenue Stores (like ordnance stores, supplies by Ordnance Factories, rations, petrol, oil & lubricants, spares, etc), Revenue Works (maintenance of buildings, water and electricity charges, rents and taxes, etc) and other miscellaneous expenditures. The Capital expenditure includes expenditures on Land, Construction Works, Married Accommodation Projects and Capital Acquisitions (aircraft & aero engines, heavy and medium vehicles, other equipment, naval fleet, naval dockyards/ projects, etc).

¹⁰ Figures derived from SIPRI Military Expenditure Database, at http://first.sipri.org/non_first/milex.php

INDIA'S DEFENCE SPENDING, 1980-81 TO 2008-09¹¹

Notwithstanding the growth in defence spending, the defence outlays do not necessarily match the demands of the defence establishments.



For instance, in the years 2003-04 to 2007-08, the unmet demands of the services/departments varied between Rs 5,880 crores and Rs 26,150 crores, which is nearly 6.27 per cent of the projected demands. The shortfall in the Revenue ranges between four per cent and 13 per cent, and that on the capital side varies from as low as 6.9 per cent to over 49 per cent. Please refer below table

Projections, Budgetary Allocations and Shortfalls in the Defence Budget

Year	Projections made by Services /Dept	Budget Allocation as per ceiling made by MoF	Shortfall	% of Shortfall	% of Revenue Shortfall	% of Capital Shortfall
2003-04	89374.16	65300	24074.16	26.9	8.0	49.1
2004-05	103150.7	77000	26150.7	25.4	13.3	36.8
2005-06	94567.89	83000	11567.89	12.2	3.6	22.1

¹¹ See <http://business-standard.com/india/news/cagdefence-buys-tehelka-syndrome/285130/>, (Accessed on April 15), 2012.

Year	Projections made by Services /Dept	Budget Allocation as per ceiling made by MoF	Shortfall	% of Shortfall	% of Revenue Shortfall	% of Capital Shortfall
2006-07	94880.09	89000	5880.09	6.2	-	-
2007-08	103940.47	96000	7940.47	7.6	8.2	6.9
2008-09	109844	98862	10982	9.9	-	-
2009-10	141878	131153	10725	7.5	-	-
2010-11	158963	135948	23015	14.47	-	-

Source: Compiled and extrapolated from the Reports of the Standing Committee on Defence Demands for Grants (relevant years).

The lesser percentage of ‘shortfalls’ in revenue allocation as compared to that of capital allocation shows that while the former is more or less fixed, the latter is relatively flexible. At the same time, the ‘shortfalls’ both in absolute and percentage terms indicate that all the demands made by the defence sector are not fully in conformity with the resources available with the government. This may lead to voids in the capacity/capability of the defence forces, which in turn would affect operational efficiency in terms of serviceability of existing equipment and will have a negative effect on the modernisation process being undertaken for the defence forces.

EFFICACY OF THE REVENUE PROCUREMENT PROCEDURE OF THE INDIAN ARMY

Revenue procurement entails procurement of already sanctioned assets in service including renewals and replacements. In addition, it involves procurement of maintenance requirements of the field army in terms of equipment, spares, general stores and clothing. The process of procurement hinges on accuracy of provision reviews (requirement determination), speed in processing of financial sanctions, indenting and placement of orders, and efficient contract management. Hence, dedicated indulgence of various functionaries at depots, service headquarters, the Director General of Quality Assurance (DGQA),

the Integrated Financial Advisor (IFA), the MoD and the MoF (Finance) as the case may be, assumes great importance.

Though fairly well established procedures for provision and procurement exist, in the form of the DPM-2009 for revenue procurement, yet over a period they have developed deviations especially in terms of **authority** and **accountability** at various levels. The procedures have to be fine-tuned to the changing requirements of the army, the developments in the industrial and economic environment of the country and the exponential increase in requirements due to the proliferation of inventory. The procedures have to be constantly modified and remodified. As the organisation evolves, revenue procurement has to be restructured or reconnected with the same. Thus, dynamism in evolving and changing according to the contemporary scenario, in the procurement process, which is ever so important, has to be maintained.

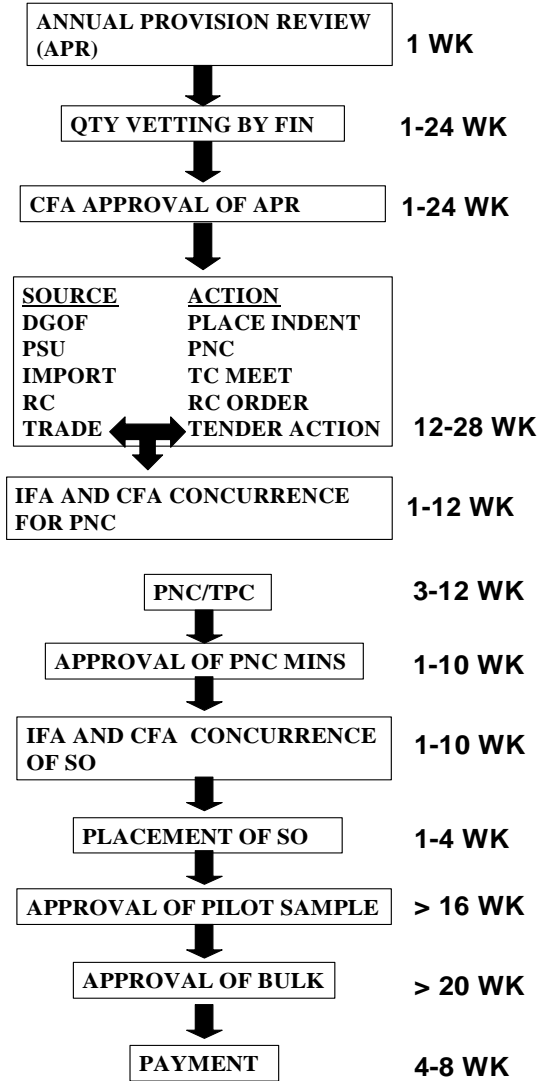
The army has suffered owing to delays in processing of cases and under-utilisation of the sanctioned budget. This drift towards delayed procurement has been observed and keenly studied at service headquarters. It has been understood that there is a need for procedures to be redesigned and reorganised, as in any field, with a view to ensure availability of equipment and stores to the army, in a smooth free flowing manner, in the shortest possible time.

PROCEDURE FOR PROVISION AND PROCUREMENT

This section aims to analyse the present revenue provision and procurement procedure and organisation, with a view to identify choke points and problem areas, and recommends the corrective measures required in order to ensure optimum availability of equipment and stores on time. It also advises optimal utilisation of budget allocations, thereby ensuring operational efficiency.

The flow chart for procedure on provision and procurement of stores being followed in the army as per the Defence Procurement Manual-2009 (DPM-2009) is given on the facing page:

REVENUE PROCUREMENT PROCEDURE



Note: The complete procurement process ideally should take anything between 18 to 24 weeks from the stage of necessity to the placement of supply order, as per the timelines laid out in DPM-2009.

Experience however has shown that time taken for provision and procurement activities, extends well beyond the ideal timeline of 12 months to 24 months. This statement is further substantiated by looking at the outcome of the case study undertaken in the year 2009-2010, to ascertain actual time taken for the process of provisioning and procurement at Central Ordnance Depots (COD), Army Headquarters(Ordnance Directorate) and for cases which were to be dealt with at MoD/MoD(Finance) level :-

	Cod / Cod i&bc	Ahq / ifa	Mod / Mod fin
Apr	1	1	1
Qty vetting / aon	1	8	12
Cfa approval	1	4	12
Dgqa vetting of indent	4	4	4
Prep of te	1	2	2
Issue of te and tender opening	7	10	12
Pnc	4	10	12
Placement of so	1	4	10
Total	20	43	65
Submission and approval of sample (min pd)	15	16	16
Submission and approval of bulk (min pd)	20	20	20
Total	55	79	101

Note: The data has been collected and collated by the author from inputs derived from the Ordnance Directorate Service Headquarters.

Thus, as seen from the above case study, the process for ascertaining the requirement (provisioning) and the activity of procuring the requirements, was the fastest and most efficient at Central Ordnance Depot (COD) level. It was felt that the processing speed was the best at lower levels due to fewer numbers of bottlenecks or interferences, external or internal, for the processing of the revenue procurement

cases. This is also a major contributor to the reality that the army is starved of its authorised entitlements, resulting in ineffectiveness in the services provided, thus affecting the operational preparedness of the force.

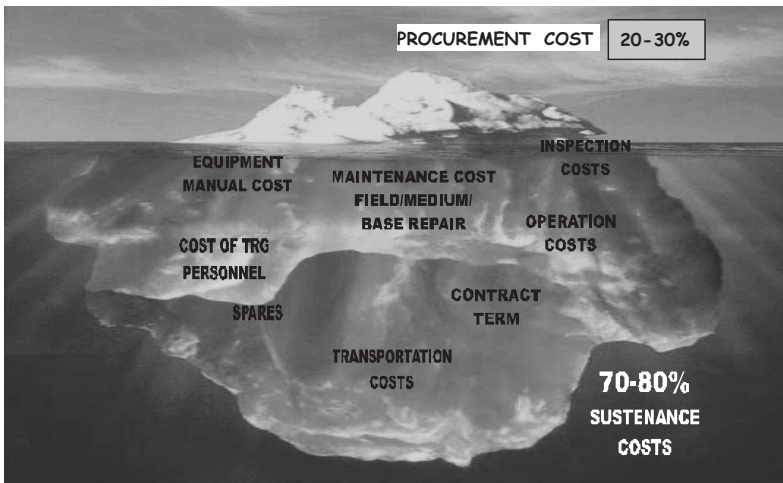
PECULIARITIES AND CHALLENGES IN REVENUE PROCUREMENT

The reduced allocation of revenue requirements for the army against the projected requirement is an area of concern as it has a direct effect on the serviceability of the 'In-service' equipment and the operational preparedness of the army as a whole. This is because capital acquisition and modernisation of the defence gets due priority without according equally due diligence being shown to revenue procurement, which is the primary source of sustenance of the equipment, thus paving way to slippages. Therefore, it results in the creation of cumulative deficiencies over the years.

The peculiarities or challenges faced during the process of revenue procurement can be qualified under the following heads:

i) Acquisition, Life Cycle Management and Costs: The life cycle management and costs of equipment in use with the army can be well depicted by the use of the Reverse Iceberg Model:-

REVERSE ICE BERG MODEL



It is quite evident from the above that the initial cost of purchasing the main equipment constitutes a mere 20-30 per cent of the total cost of purchase. The balance 70-80 per cent is required for effective sustenance of the equipment, by way of expenditure required for spares, work force, training, inspection etc for the equipment held.

ii) Large inventories with multi level stocking echelons: The range and depth of the inventory held with the stocking echelons are not only huge but are also stocked in ordnance depots across the length and breadth of the country to ensure availability of stores. This is because most of these store requirements for the army are specific or unique in nature. Generally, these stores are not available in the local civil market, as these are meant exclusively for use in the services. This aspect is important, as any dilution in allocation of the revenue budget will have a negative impact on the equipment serviceability of the army.

iii) Large numbers of equipment bought without adequate equipment service package: The problem of procurement without adequate spares support has been an area of concern for the material managers, as these have a direct bearing on the operational efficacy of the equipment during its service period. A case study undertaken in the year 2005 clearly quantifies this. In this case study it was revealed that procurement of radars, through the Foreign Military Sales (FMS) route without adequate spares back up in the original contract resulted in a situation wherein the availability of these radars had come down drastically from 12 (originally purchased) to around six radars (reduction of approx 50 per cent for operational use).

iv) Long gestation period of procurement: Though, the DPM-2009 has a well laid out period to be adhered by all stakeholders, but the de facto time for processing of procurement cases takes on an average two/three years. The delay results in the depletion of operational availability of important equipment, e.g tanks, radars, artillery guns etc. This trend if not arrested will lead to a situation where spares and services are not available for a considerable period, thereby depleting the reserves, causing panic or crises. Thus, it will affect the overall force level available with the army for operations, if and whenever it is required.

v) Multiple verticals for examination of procurement proposal: The process of procurement has to pass through multiple agencies as

laid down in DPM-2009 with the primary aim of achieving/ensuring transparency in the process. However, this vertical movement of files poses delays in the system. This is because any observation/observations by any functionary in the vertical results in reverting the case-file back to the originator, thereby causing considerable delay in the processing of the procurement cases.

vi) Inadequate staffing of MoD and MoD (Finance): The Master General of Ordnance (MGO) branch on an average processes 300-400 fresh cases for procurement every year, post the provisioning activities. However, after the decentralisation of the financial powers in the year 2006 by the government, out of these 300 cases only 30-40 cases were forwarded to MoD/MoD (Finance) for processing and approval. These were cases beyond the financial powers of the functionaries at the service headquarters. Such cases take considerable time due to inadequacy of the number of staff members, resulting, first in time and cost delays, and later and more importantly in the non-availability of the legitimate requirements, post provision review of a particular year. This statement is substantiated by the fact that there is only one director level officer who acts as the nodal point at the MoD. He looks after the entire set of cases of revenue procurement initiated by the MGO's branch. This is considered grossly inadequate to ensure effective and quick decisions and approval. In addition, the Integrated Financial Advisor (IFA) at MoD (Finance) is also short of staff. This has a cascading effect on the procurement cases as most of the procurement cases are required to be financially ratified by the MoD (Finance) before being transcribed into supply orders.

vii) Specific or unique requirements of the army: The requirements of defence stores are usually specific in nature and rarely have commonalities of views elsewhere (civil market). Therefore, it ends up limiting competition and vendor base for these items unlike the items that have civil end use and can be procured commercially off the shelf from the open civil market.

viii) Quality Imperatives: Defence equipment, is required to be used in extreme terrains and hence is usually ruggedised. This often results in frequent rejection in inspection/trials, thereby upsetting the complete supply chain mechanism. In addition, stores required by the defence are requirement to undergo trial evaluation which results in time and

cost delays. Unrealistic or incomplete quantitative requirements result in considerable delay in procurement. Thus, there is a pressing need to ensure that quantitative requirements are drawn diligently and trials are carried out in a time bound manner.

ix) Limited Vendor Base: The unique nature of items required by the army (defence specification) results in a limited vendor base. There are only a few who are willing to undertake manufacturing of spares and stores required by the services, paving way for monopoly/cartel formation between the vendors, at times resulting in hampering the procurement process. This trend could be negated to a great extent by bringing in an effective as well as efficient policy on public private partnership in the defence sector by the government, thereby not only ensuring that requirements of the defence are met in totality, but also ensuring the growth of the Indian economy. This will also ensure reduction in reliance on import of defence equipment/spares, which is currently 70 per cent of the total requirement. Though the DGQA evaluates and registers manufacturing firms and promulgates this information through its website, no such agency exists for purchases from dealers, distributors and local firms. Registration of firms for such purchases is done locally in an ad hoc manner, resulting in dipping of both, quality and reliability, of goods purchased through these agencies. Thus, there is a need for setting up a **central agency at HQ IDS** for registering firms, dealerships and distributors desirous of supplying to the defence forces after due evaluation of credentials against set parameters. E-Registration is also a viable solution that could be resorted to. Details of such firms promulgated on websites for the benefit of all purchase authorities will pave the way for ensuring quality and efficient procurement, thereby enhancing operational efficiency.

x) Constraints of Transparency: Defence procurement in the backdrop of secrecy, lacks transparency, leading to corrupt practices. This results in not only delay in the availability of the stores, but also causes great loss to the state due to cost and time factors. At times, it even ends up in the scrapping of the complete procurement process. Accountability and responsibility are hence the key areas, which have to be kept in mind to ensure fast and honest dividends.

xi) Officers' Tenure Vs Acquisition Cycle: On an average, a service officer has a staff tenure of two to three years in the service headquarters.

This includes officers posted in various procurement directorates like the MGO's branch, the Weapons and Equipment Directorate (WE), the Ordnance Directorate (ORD) etc. This, as compared to the average time taken to fructify defence procurement cases, generally between four to five years, at time results in delay in the complete procurement process due to perception changes effected by the new incumbent, and ends up starting the acquisition cycle all over again. Even the CAG has pointed out that procurement being handled by unspecialised personnel who are posted for a limited period of two- three years is not sufficient to really do any justice to the practice. There is a need to ensure continuity of all stakeholders, especially at the working level to ensure effective and clean procurement practices.

xii) Lack of Technical Knowledge: Officers dealing with acquisition often lack technical capability or expertise of the equipment they are to acquire. This absence of technical capability of the officers posted, serves to retard any procurement program. The CAG had emphasised that “defence acquisition is a cross disciplinary activity requiring expertise in technology, military, finance, quality assurance, market research, contract management, project management, administration and policy making”¹². Equipment procurement is a vital function which needs to be given due importance in terms of the qualification and capability of the officers entrusted with this important task. Overlooking the fact that any mechanism is as good as the people who operate it, professional competence of the personnel implementing the procedures was given little importance. The lack of a core, well-qualified and adequately trained acquisition staff became the weakest link of the acquisition chain and this deficiency was first highlighted in an article that appeared in 2005 in the *Indian Defence Review*.¹³

xiii) Decision Paralysis: Defence procurement is generally a big-ticket transaction, which can easily become the subject of financial frauds, both, real and perceived. Sensitivity of officers to being accused in a swindle has resulted in a decision paralysis in the army. Ever since the

¹² Mrinal Suman, “Quality of Acquisition Staff: A Key Factor in Defence Procurements”, *Indian Defence Review*, 20(1), January 2005, pp.26-29.

¹³ Laxman Kumar Behera, “India’s Ordnance Factories : A Performance Analysis”, *Journal Of Defence Studies*, New Delhi, 6(2), April 2012, p. 71.

Bofors scandal, procurement by the defence ministry has continued to be mired in controversies. The Parliamentary Standing Committee, CAG and Central Vigilance Commission (CVC) reports, bundled with CBI investigations have now regrettably become routinely attached with defence purchases. In such an environment of intense suspicion, “no decision” becomes the best decision, resulting in no acquisition. There is no easy answer to this. However, if insulation from such pressures and a stress-free environment is maintained with stern vigilance over any malpractices, this problem can easily be overcome.

xiv) Procurement from Ordnance Factories and Defence Public Sector Undertakings Defence: Stores, which are in the production line of Ordnance Factories (OFs) and Defence Public Sector Undertaking (DPSUs), are required to be exclusively procured by them. 70-80 per cent of the defence requirement is procured from ordnance factories and Defence PSUs. This is an area of concern, as these agencies do not deliver goods as per the laid out schedule, causing huge slippages. This, thereby, results in shortages in the supply chain. The dependency of the services on these organisations is akin to a scenario where the service headquarters are de-facto “captive customers” and are unable to de-link themselves in order to procure the un-delivered stores from other sources in the civil market. The problem is further compounded by the exorbitant rates charged by both the DPSUs and OFs. These are invariably unrealistic and high. The Finance division of the MoD has devised a system based on the actual cost of production of the last two years, cost estimates for the year of pricing and the projected cost for the next year. It also provides for the interaction between the OFB, the users and the finance division of the MoD. This will help them to fix an appropriate rate of the product after due deliberations. However, according to a former secretary, Defence Finance, this system is constrained because of delays in finalising and reporting the cost estimates at the time of price negotiations. This along with absence of benchmarking against material procurement cost and the productivity gains over the years renders the system of little use.¹⁴ Although OFs have a wide range of products, they are unable to fulfil the demands of the army. This forces the government to directly import from other

¹⁴ Laxman Kumar Behera, “India’s Ordnance Factories : A Performance Analysis”, *Journal Of Defence Studies*, New Delhi, 6(2), April 2012, p. 66.

countries. According to the *SIPRI*, between 1980 and 2008, India imported artillery and armoured vehicles valued over \$ 10 billion (at constant 1990 prices). These imports are from various countries such as Israel (towed gun and mortar); Italy (naval guns); Union of Soviet Socialist Republics (USSR)/Russia (naval gun, towed gun, Surface-to-Surface Missile (SSM) launcher, Multiple Rocket Launcher (MRL), Mobile Air Defence (AD) system, tank, Armoured Personnel Carrier (APC), Infantry Fighting Vehicle (IFV); Sweden (towed gun); Poland (Armoured Recovery Vehicle [ARV]); Slovakia (ARV); South Africa (APC/ Internal Security Vehicle [ISV]); and the United Kingdom (UK) (Airborne Early Warning [AEW]). Now, the goods delivered by OFs are not only supposed to fulfil the demands of the army but also to make our defence production self-reliant. However, with regard to the latter, the organisation has not been very successful, despite years of producing the same item. For instance, after nearly 25 years after the start of production of T-72 tanks, the OF is still dependent on Russia for certain vital components.¹⁵

xv) e-Procurement: e-procurement remains limited in usage. This is mainly due to either deficient computer literacy or of techno-savvy staff. There is a need to outsource e-procurement to IT firms such as 'India-One' for all purchase requirements of the army as it affords efficiency, competition and transparency in procurement. Once enough experience is gained over a given period maybe of two to three years, the army should set up its own e-procurement portal. This, as on date is lacking and requires immediate attention.

xvi) Rate Contract: Director General of Supplies & Disposal (DGS &D) executes rate contract for items of general stores nature as per the requirement of various departments of Government of India. However, since the requirement of the army is specific in nature, DGS &D is unable to cover the entire depth and range of spares/stores required by the army. This issue if addressed appropriately will yield rich dividends in the complete procurement process and practices, resulting in enhanced availability of stores to the services.

¹⁵ Ashwin Mahalingam and Venkata Santosh Kumar Delhi (2012): A contested organisational field perspective of the diffusion of public-private partnership regimes: evidence from India, *Engineering Project Organisation Journal*, 2 (3), pp. 171-186.

xvii) Inspection of stores by Director General of Quality Assurance (DGQA): The stores contracted by the services are required to be inspected by the DGQA, the in-house inspection agency for the services. In addition, the DGQA is also required to ascertain the production as well as manufacturing capacity of the prospective vendors who have shown interest in the procurement process. This is to ensure that only vendors of repute are given the final order as per the laid down qualitative and quantities parameters, as required by the army. This process of capacity verification by the DGQA is also a sore point in the system of procurement. The delay or rejection of vendors or firms during their capacity verification thereby causes setbacks. At times, the complicated and time-consuming process results in genuine and reputed vendors/firms being ignored. Making the procedure time-bound, objective and transparent will ensure only the best deals are accepted.

RECOMMENDATIONS/SUGGESTIONS:-

The recommendations made alongside the chronicled challenges, as well as the following suggestions, if implemented, are bound to reap positive results/dividends in the process of revenue procurement:

1. Since modernisation of the armed forces is a continuous process, defence allocation should also be seen from a long-term perspective. Only then can our preparedness be one-step ahead of our adversaries. There should be a continual study, cross-referring and comparison of systems. This should be with the objective of benchmarking, peer learning and picking up lessons.
2. Constitution of Services Revenue Procurement Coordinated Committee (SRPCC), for Procurement cases under MoD Powers (25-30 cases approx per year), composition and charter should be as under:
 - (a) Chairman: Defence Secretary
 - (b) Members: Special Secretary, Joint Secretary (Ordnance/Navy), Master General Of Ordnance Services, Director General Of Ordnance, Additional Finance Advisor, Joint Secretary (Land Systems), Joint Secretary (Ordnance Factories), Additional Director General Procurement (MGO's Branch) and other Co-opted members as per requirement.

- (c) Member Secretary: Deputy Director General Procurement (MGO's Branch)
 - (d) Charter
 - (i) Approve Procurement Plan for the next Financial Year
 - (ii) Approve acceptance of necessity of items to be procured post revealing of requirement for floating of the tenders
 - (iii) Review progress of revenue procurement cases to ensure all hurdles and bottlenecks are cleared with least possible delay
 - (e) Frequency of meeting: Quarterly
4. Composition of Services Revenue Procurement Sub Committee (SRPSCC), for cases within the powers of service headquarters:
 - (a) Chairman: MGO
 - (b) Members: DGOS, Principal Integrated Financial Advisor (PIFA), All Additional Director General of Ordnance Services and other Co- opted members if required
 - (c) Charter of duties and the frequency of meeting is the same as recommended for SRPCC.
 5. There should be a separate IFA to deal with revenue procurement cases, under the MGO.
 6. An additional full time JS level officer should be appointed at the MoD to deal exclusively with revenue procurement cases of the Army.
 7. The appointment of an Additional Director Level Officer at the MoD will help to look into revenue cases under the powers of the MoD.
 8. The IFA system has greatly enhanced the transparency and accuracy of procurement. However, until the issue of DPM-2009, duties of the IFA were largely regulated by various policy letters issued by government from time to time. In the absence of a well-framed

and comprehensive policy on the subject, the IFA had apportioned to itself a number of duties that do not strictly fall within its ambit. This practice continues despite these “duties” not being reflected in the DPM-2009. Further, the concept of IFA was to be integrated with the functioning of the Competent Financial Authority (CFA). However owing to non-availability of officers, the IFA system is perceived by the CFAs to have evolved a separate entity sitting in judgement over the actions of the CFA. Having objected to the existing course taken up by the CFA, the IFAs fight shy of rendering advice on alternate courses of action. The IFAs insist on separate case files being forwarded to them for perusal, thus entailing loss of precious time. They are rather unwilling to accept responsibility for delays in procurement or incorrect procurement, which should logically be shared by them also since they are the advising and overseeing authority. Thus, the role and functions of IFAs need to be redefined in consultation with service headquarters.

9. The DGQA and the IFA should be integrated, physically, functionally and electronically, under the service headquarters (MGO’s branch) to achieve synergy, thereby not only ensuring greater availability of stores, but also ensuring transparency in the dealing of defence revenue procurement cases. In addition the new integrated organisation, would include all specialisations like contract negotiations, contract management, project management and supervisor, vetting of major proposals, decision making etc thus incorporating “quality service, technical know-how, finance, quality assurance and administrative elements- under one accountability centre” as highlighted by the CAG’s report in 2007 to the Parliament. This way the entire procurement procedure will be re-engineered and redundancy minimised, if not decimated.

CONCLUSION

Defence procurement has been consistently subjected to detailed and more than often, biased scrutiny and in-depth critical study. Intensive brainstorming and diligent efforts have been made to procure the best material required, in the shortest possible period and to get the best value for the finances expended. Streamlining the procurement system is an ongoing process in today’s world of ever-changing and advancing technologies. In order to achieve enhanced op-efficiencies, it is then

but natural to expect our equipment-readiness and its procurement procedures to keep abreast of the latest and most effective systems. Though, the government and the service headquarters have made efforts to improve the revenue procurement structures and procedures, there is still much scope for reforms. It would be prudent to keep in mind that no policy is worthwhile unless it wins acceptability from the end-users. Op efficiency of the end-users is the result of the combined efficiency of the machine along with the man behind the machine. The machine is efficacious if there is availability of operating expendables, spares and service. A well-organised and competent revenue system will go a long way in ensuring potent and productive results.

Defence procurement, unlike procurement of other departments involves a deliberate and complex procedure that has evolved over a long period. This is done keeping in mind the safety and security of the nation, and the threat perceptions-extant as well as new ones, and therefore the ever-changing defence scenario needs to keep pace. Though, a well-framed DPM-2009 is being practised, it is understood that reforms and flexibility have to be integrated with the DPM based on feedback from the end-users, the approving authorities and based on the ever-changing defence perception. The lack of an integrated and synergised approach has to be made up. Strict adherence to a time frame under a strong monitoring force will work to the advantage of the system and ensure dauntless and resolute decision taking. A well-trained and dedicated team of professionals, well versed specifically in procurement tasks will be better able to deliver the goods especially when performing under an extended tenure. This will ensure much closer participation of the defence forces, right from decision making to delivery of service. The MoD

has to ensure greater collaboration between the defence procurement units and the private sectors in order to fulfil the government's much-reiterated plan to procure 70 per cent of its demands from our indigenous sources. The e-procurement initiative should be extended to include all segments with advice to indenters and vendors to be familiarised with the system at the earliest.

Finely tuned and dealt with integrity of the highest order, a transparent defence procurement system though arduous, will definitely provide the necessary filip to our op-preparedness and efficiency.

3PL

Third Party Logistics or 3PL is another term for outsourcing. It is outsourcing all or much of a company's logistics operations or non-core operations to a specialised agency. According to the Council of Supply Chain Management Professionals (CSCMP), **3PL** is defined as "a firm that provides multiple logistics services for use by customers". Preferably, these services are integrated, or bundled together, by the provider. First used in the early 1970s, the term 3PL was used to identify Inter-modal Marketing Companies (IMC) in transporting contracts. Initially, those companies went for outsourcing that needed to cut down on their assets or wanted to outshine their rivals or competitors. Today the client may be any company that sees benefit in delegation of its non-core functions to other specialised groups. Think of the term outsourcing and the first picture that comes to mind is that of call centers and BPOs. In fact, India continues to be associated most often with such operations as far as outsourcing is concerned. Traditionally, 3PL focused on specific functions such as transportation, warehousing etc within the supply chain. Slowly but surely, Informative Practices, IT and Legal Services have also gained popular currency in the outsourcing field. As the basic functions have become commoditised, the base range and services for 3PL have expanded significantly. The 3PL system is a process, which targets a particular function in the management.

If one delves deep into history, one comes face to face with the surprising fact that the armed forces pioneered the concept of outsourcing. Military history dating back to the feudal system and beyond is witness to the fact that soldiers and fighters were sourced from outside by emperors or kings— especially from local or regional lords and chiefs.

THE REQUISITE AGENDUM

In layman terms, outsourcing can be explained as functions, materials, products and allied services that a company may be capable of doing

on its own but would rather purchase from others because of substantial benefits. For this purchase, an apt source has to be selected. A whole set of processes are involved in the selection of the source. To begin with, there has to be an in-depth assessment, comparative studies, and performance rating of the suppliers in the concerned field. Quality, reliability, viability, co-coordinating capability and equally important, pricing, are some of the dimensions that have to be covered during the assessment of prospective suppliers. Once selected, a comprehensive contract that covers the supply chain performance, increases the supply chain surplus, safeguards the legitimate interests of the vendor/supplier as well as the buyer, has to be negotiated and drawn up. An in-depth analysis has to be conducted to identify opportunities for cost cutting or minimising expenditure. Since the cost of the product is affected right from the design stage, collaborations between the suppliers and the buyer should be planned with efficient co-ordination and communication right from the designing till the manufacturing of the final product. While planning or designing the entire strategy for outsourcing, identifying and prioritising the targets to be achieved as well as the factors that influence the fulfillment of these targets, are of utmost importance.

MILITARY OUTSOURCING

As per the Fifth Annual Outsourcing Index, compiled by the Outsourcing Institutes, the top three reasons for commercial companies to outsource are:

- improving company focus,
- reducing and controlling operating cost, and
- making free in-house resources for other useful purposes, in tune with the core functioning of the company.

These reasons hold well for the armed forces as well.

The leading countries utilising outsourcing services are the US (considered one of the pioneers in this area), Britain, New Zealand, Israel, Australia, Canada, France and many more. There are, in fact, more than 150 companies offering their services in over 50 countries across the world. Many countries have chosen the American concept

of military outsourcing and are focusing on redefining and maintaining non-core activities by outsourcing to private military companies. This has proved to be a highly cost-effective option. By outsourcing day-to-day administrative tasks, countries have laid claims to having made savings of 15 to 40 per cent on their expenditure. Since defence budgets are limited in almost all countries, it is an accepted fact that the forces must look towards avenues, which get the best value for limited resources and at reduced costs. The resource crunch and ever-depleting allocation of funds to the armed forces has led to the acceptance of 3PL as an important tool.

The expanding role of the private industry in the US military services can be seen in the change of ratio between military personnel and contract workers. Military manpower reductions, governmental push to privatise extant military functions, increasing reliance on contractors for maintenance of sophisticated state of the art weapon systems and mandated troop ceilings are some of the pivotal factors for the US outsourcing policy. The US statute requires the US army to 'use' the least expensive form of personnel (cooks, drivers, mechanics, plumbers et al) consistent with military requirements and other user needs of the Department of Defence (DoD), vide instruction no 3020.37, 'The DoD components shall rely on the most effective mix of the total force, cost and other factors considered, including active, reserve, civilian, host nation, and contract resources necessary to fulfill assigned peacetime and wartime mission'.

The British MoD has opted for competitive bidding under its 'Competing for Quality' policy for all non-core functions of its armed forces. They have a policy of open competition where efficiency and economics are the main criteria. Britain, having taken over as a leader in outsourcing, supports the 'Contractors on Deployed Operations' (CONDO) policy and the 'PPP' programme.

The New Zealand Defence Forces have used 3PL support for logistics, plant maintenance, electronic mail and procurement of clothing among others. The New Zealand government claims to have saved, through 3PL, approximately 8.5 per cent of their total spending. In addition, their outsourced IT systems support everything—purchasing uniforms, supply, and ammunition, managing facilities like dry docks, rifle ranges, bulk stores and even military housing numbering more than 2500 units.

The Israel Defence Forces (IDF) have outsourced their visual intelligence services for carrying out missions for field security. Their decision to outsource the primary health care services and hospitalisation of soldiers have resulted in a high grade of satisfaction among soldiers in terms of attitude, facilities, quality, availability and accessibility of medical care.

General Henri Bentégeat, head of the European Union's Military Committee (EUMC) believes that countries that are a part of the European security, and defence policy missions in other countries should take into consideration hiring of third parties to handle their logistics tasks. Speaking at the European Defence Agency's (EDA) Conference on outsourcing logistics he opined that there would always be a need to outsource in multinational operations because member states never commit the whole chain of logistics.

RELEVANCE OF 3PL FOR THE INDIAN ARMY

Though there is global military redundancy, it is a fact that there is a significant rise in conflicts, which temporarily may seem localised or regional, but have extensive global implications. India today has a major strategic role to play in keeping world peace. At the same time, the state of the regional strategic environment demands that the armed forces of the country should maintain a state of operational readiness. In this regard, keeping in mind the rapid expansion and hi-tech quality of modern warfare, sophisticated weapons, high maintenance instruments and equipment, and advanced capabilities, India requires requisite integrated technologies and specific skills. The investment requirements to procure these technologies and develop the skills to meet these new expectations are too huge, given India's limited means and restricted budgetary allocation. Here exists a moot point to explore the feasibility of outsourcing non-core operations, non-core competencies, and routine administration. Outsourcing will help optimise defence expenditure, improve routine productivity and day-to-day efficiency, concentrate on core-competency, i.e., ensure operational readiness, save human resource and quantifiably reduce resource liability.

According to J. Paul Dittmann, Ph.D., executive director of the Global Supply Chain Institute at the University of Tennessee, industry surveys indicate that the most important factor in establishing a successful 3PL

relationship by good communications between the two parties is trust. The 3PL providers report that finding people qualified and dedicated to the client's business and taking it to the next level is one of the greatest challenges. However, in order to be successful in the enterprise, several steps must be initiated and executed. Establishing a checklist is a step that must take top priority. It includes learning about the provider's core competencies and its labor relations. John Langley, Ph.D., professor of supply chain and information systems at Penn State University suggests "onboarding", or the gradual integration of cultures based on management of performance and feedback processes as a definite point to include. He adds that a "pre-planned exit strategy" should also be pondered upon. "There is delicate balance to be maintained during the initial collaboration, and if either party fails to understand the shared objective, they should part ways before the situation worsens", says Langley. Robert Lieb, professor of supply chain management at Northeastern University, advises users and 3PLs to "cross-train" as part of the implementation process. This will help both the partners in learning the same tactics and strategies necessary for collaboration. "Don't look at the relationship between the two companies as a zero-sum game", he adds. "And don't panic during tough times. My research has indicated that at least one-third of 3PL relationships actually improve during periods of time when the parties look at their problems and work toward resolving those problems together".

In June 2007, the Government of India agreed in principle to allow outsourcing of essential services of the armed forces on a case-to-case basis, for which the services would need to address related security concerns. Modalities for the same have since been discussed, framed and formulated in the DPM-2009 and Rule 178-184 of the General Financial Regulations 2005 (GFR 2005). However, it was only in July 2009 that Operation Logistics Directorate, Integrated Headquarters of MoD (army) was designated as the nodal directorate to oversee the outsourcing requirements for the Indian Army.

APT CASES FOR OUTSOURCING FOR THE DEFENCE FORCES

Taking a pragmatic view of all non-core functions, their scope should be studied in depth, their effect and worth should be evaluated, their cost effectiveness ascertained along with the configuration of the

availability of competent service providers. Such gainful outsourceable functions can be:

- **Repair/Maintenance/Overhaul of In-Service Equipment/Vehicles through Trade**

The repair, maintenance, and overhaul of in-service equipment/vehicles is the responsibility of the Army's Corps of Electrical and Mechanical Engineers (EME), who incur huge cost, and considerable resources are spent on training technical personnel, incurring huge inventory holding costs thereby further depleting the limited resource allocated to the army. Therefore, outsourcing maintenance, repair and overhauling of indigenous origin vehicles/equipment to Original Equipment Manufacturer (OEM), is a highly preferred option.

- **Clothing Items**

The provisioning of clothing and general stores, as required by the army, is the responsibility of the Army Ordnances Corps. However, it is the OFs that provide the complete range of clothing items, resulting in a situation wherein the army has literally become "Captive Customers" of the OFs, as they are the only agency required to manufacture and provide the requirements as projected by the army. This not only results in quality concerns but is also seen as a big drain on the allocated budget, as rates quoted by the factories are always on the higher side. Hence, to improve the quality and to be cost effective, there is an urgent need to outsource the clothing requirements for the Indian army to more competent and competitive suppliers.

- **Tyres, Tubes and Batteries**

Tyres, tubes and batteries, as required by the army, can be outsourced from the OEM directly, because these are easily available in the open market, being civil end-usable items, ensuring good quality and cost effectiveness as these will be transported to the final stocking echelon(destination), by the OEM, reducing the overall Inventory Carrying Cost (ICC).

- **Dry Cleaning Plants**

Dry Cleaning Plants are established in specific sectors for washing and cleaning Special and Extreme Cold Clothing items. These plants are

not located at all places and hence units are required to carry the clothing items to the nominated places for dry cleaning purposes. This problem can be overcome by outsourcing dry cleaning under the aegis of the local formation headquarters.

- **Catering Services: Training Establishments**

The Indian Army has Category “A/B” training establishments that impart training to all personnel of the army. As the strength of these institutes is substantial, the requirement of day to day catering in these institutes can be outsourced, of course with the military decorum continued to be maintained, albeit with skeleton staff, thereby permitting the troops to concentrate on their primary task, i.e. in this case training, disburdened from sundry services.

- **Building and Maintenance**

The responsibility for constructing and maintaining all types of buildings, roads, bridges, waterworks, electric supply and infrastructure, and other services, lies with the Military Engineering Services. Construction of buildings, roads and other infrastructure and their maintenance can be outsourced to established companies. The Married Accommodation Project (MAP) is one such initiative. Consequent to the promise made to the Indian Armed Forces by the Government of India, the MAP was initiated to construct married accommodation for the three services, with a view to removing over a period the complete deficiency of married accommodation for service personnel of the Indian Armed Forces. However, this project is still on a trial basis and flaws, if any, will take time to surface. With genuine feedback and assessment, similar projects can be allotted to private builders.

- **Training Facilities**

Independent defence establishments catering to the training needs for imparting technical skills to armed forces personnel require immense expenditure, extensive resources and manpower. Such training can be outsourced. IT training can be outsourced to the excellent civilian IT centres that India boasts of. Technical trade training can be taken care of by Industrial Training Institutes (ITI) and Polytechnics. Driving skills can be imparted by driving schools in a much shorter but more satisfactory manner. Development of software for various applications

would be much faster and up to date if outsourced, given the competence and prowess of the Indian IT sector.

CONCLUSION

A competent, operationally ready, and war-worthy army has to be on its toes to maintain its combat ability. The very purpose of a standing army is to be able to tackle its adversary successfully by honing up its fighting proficiency continuously. To achieve this, the forces must have enough resources, manpower, facilities and support. 3PL is a prudent and cost effective way of freeing the armed forces of the shackles of routine administrative functions. It is only sagacious that the forces engage better-equipped civilian service providers who are experts in their respective fields instead of indulging in wasteful expenditure, unnecessary duplication and time and resource consuming exercises, which at the end of the day, do not deliver the desired results. Outsourcing has been accepted as a pillar of modern management and economic practice. With regular monitoring, open communication, transparency and detailed feedback, outsourcing can help the Indian armed forces increase their efficiency.

PUBLIC PRIVATE PARTNERSHIP (PPP) IN PROCUREMENT PRACTICES

Providing basic civic service, developing sound infrastructure, creating public assets and fulfilling socio-economics objectives of the state have traditionally been the exclusive portal of government duties. For reasons political or economic, the involvement of the private sector in these important areas was neither sought nor had it been forthcoming. The crucial role of infrastructure in fostering economic growth, reducing social disparity and for larger political stability has been well recognised. However, the changing economic scenario, burgeoning population pressure, increasing pressure on cities and other developmental trends have severely constrained the government's ability to serve the state's requirements. Hence, the private sector has gained importance, worldwide. It complements and supplements investments to serve the cause of the PPP (also called P3). In addition, most governments are reluctant to either borrow money to fund the needed additional capital infrastructure or to fund it directly. P3s are thus, an attractive potential option.

PPP POLICY

PPP, as per the approach paper on defining PPP issued by the Government of India, Department of Economic Affairs (DEA), February 2010, means an arrangement between a government or statutory entity or government owned entity on one side and a private sector entity on the other, for the provision of public assets and/or related services for public benefit, through investments being made by and/or management undertaken by the private sector, and the private sector receives performance linked payments that conform (or are benchmarked) to specified, predetermined and measurable performance standards. "Given the quantum of infrastructure that needs to be developed in India over the foreseeable future, private sector participation in infrastructure development is inevitable. The Government of India has taken several steps to enable PPPs for

infrastructure development at the state and municipal levels. While these schemes are available for most Indian states, their adoption has varied considerably. Some states have embraced the notion of PPPs and have leveraged the incentives and schemes initiated by the central government to craft vibrant PPP programmes. Others have chosen to ignore PPPs or create hybrid institutional forms for project delivery”.¹⁶

The Government of India has come under a lot of criticism after a series of corruption scandals that have further stalled policymaking. Vociferous demands for cleaning up the system of awarding government contracts have forced the PM to announce a Public Procurement Bill as part of his strategy to combat corruption. The government is expected to draw from the United Nations Model Law, while drafting India’s Public Procurement Legislation, which will also cover PPP projects. Such a law will promote India as a stable investment destination with due importance given to receiving value for money, thereby negating abuse in the procurement process, in terms of corrupt practices.

PPP AND DEFENCE PROCUREMENT

For the present, the mandate of the proposed PPP seems biased towards the development of infrastructure (airports, roads, etc.), although it is likely to get extended to include public health and education in the near future. Researching the possibility of using the platform of PPP towards procurement process to fulfill defence requirements may yield outstanding results. It is definitely possible if the government shows the inclination to put in place an efficient, hassle free and transparent PPP policy. In this regard, the Indian Defence Minister, Shri A K Antony’s words have been definitely motivating, We can realize our full potential in defence R&D only by achieving far greater synergy between the Defence Research and Development Organisation (DRDO), defence Public Sector Undertakings (PSUs), the Ordnance Factories, the private sector, academia and research-based institutions in the country. We must adopt the best R&D practices and strive to make our defence R&D establishments rank amongst the best in the world.

¹⁶ Adapted from the Keynote Address delivered by Hon’ble Defence Minister, Shri A K Antony at the International Seminar on Defence Acquisition, Institute for Defence Studies & Analyses, New Delhi, (July 12, 2011).

We would like the private sector to play a bigger role- in collaboration with the public sector. There is a lot of space for the private and the public sector to coexist. There is also a lot of scope in the defence sector in various spheres- infrastructural developments, logistics, training, simulation and exports. The defence could also provide enormous scope for Indian businesses and industries in spheres such as infrastructural development, exports and for becoming an important constituent of the global defence supply chain. Joint ventures and technical collaborations would help the Indian defence industry to strive for greater excellence in defence R&D, design, engineering and manufacturing.

With the latest defence production policy, we want to strengthen the defence industrial base-both in the public and private sector. We need to clearly identify and define our priorities in the defence technology and manufacturing capabilities. We want to achieve maximum synergy between our Armed forces, Defence Public Sector Undertakings, Ordnance Factories, Indian Industries and Research & Development institutions. For this to happen, we must encourage innovation and entrepreneurship. Our public and private sector entities must be cautious while exploring strategic acquisition of a strong defence R&D or manufacturing entities from other countries to strengthen our own defence industrialization process.¹⁷

In addition, the recent thought process of the government to increase the ceiling limit against Foreign Direct Investment (FDI) in the defence sector from the existing 26 per cent to 74 per cent (some recommend 100 per cent), when clubbed with the PPP, will ensure that entrepreneurs of repute will come forward to participate in the process of defence procurement. The reason for this is that the system will assure an efficient and level playing platform in the processes of contract formulation with minimum/nil avenues for mid-term corrections/amendments, due to the very nature of the contract-operating period. The contract-operating period in the case of India is planned for a timeframe of 30

¹⁷ Abu Naser Chowdhury, Po Han Chen & Robert L K Tiong (2011): Analysing the structure of public-private partnership projects using network theory, *Construction Management and Economics*, 29 (3), pp. 247-260.

years. In addition, as rightfully brought out by the PM himself, since allocation of scarce resources (be it land or material resources) is at stake while dealing with these projects, the system of PPP has to be transparent to yield the desired results while at the same time curtailing corrupt practices. “Application of network theory can help fill gaps and identify and distinguish potential stakeholders in PPP affiliation and can effectively contribute to an in-depth analysis of the relationships between participating partners. The analysis can identify important features like core-peripheral stakeholder(s), influential intermediary participants and their interdependence, and influences of a PPP structure on its substantive outcome. With the introduction of the network theory, a more thorough analysis of PPP structures can be achieved, which may provide valuable information to project sponsors as well as legal and financial advisers”.¹⁸

An efficient, transparent PPP policy dovetailed with an effective FDI framework is the need of the hour. It will not only ensure that state-of-the-art equipment is procured against defence requirements (in addition to other sectors), but will also be instrumental in transferring technology/R&D (a field where India is lacking). This will pave the way for not only enhanced industrial development but will also ensure indigenous production of defence equipment in the country, thereby ensuring reduction in dependency on import for this essential equipment. It will also result in greater growth of the Indian economy from the present 07-7.5 per cent to say 8.5-9 per cent, a win-win situation for all the stakeholders.

SHORTCOMINGS OF PPP IN DEFENCE PROCUREMENT

Factors that restrict the endeavours of the Small and Medium Enterprises (SMEs) in defence production are high cost of development, preferential treatment to Defence Public Sector Undertakings (DPSUs) and the Ordnance Factory Board (OFB), fluctuating orders being placed resulting in uncertainty and lapse in cost-effective business, unilateral changes in specifications, lengthy procedural and financial processes, reluctance to risk sharing by the

¹⁸ Ministry of Defence, *Annual Report, 2010-11*, Government of India, New Delhi, 2011, p. 30.

Services Headquarter, especially when keeping in mind liquidation and consequential damage, adhocism in procurements and delays in payment.

The private industry has expressed the need to review certain policies and core issues that hinder their greater involvement. The difference of opinions of public and private partners may give rise to conflict.

SUGGESTED SOLUTIONS

The competitive bidding process is a major point of contention. Competitive bidding to leverage private partnership must become the norm as far as possible. Price preference to PSUs should be discouraged. Direct offsets that involve transfer of technology for manufacturing products should be encouraged. The existing policy of 'No Cost No Commitment' has to be reworked giving way to a policy of "Risk-sharing Gain-sharing". The private industry inducted into defence R&D and production with due incentives like tax rebates can give rise to a fruitful environment. Long term projects must be phased out over a period, as is the practice in the corporate world. High accuracy, effective, assignment based and phase wise budgets and projects should be set up with regular monitoring of time and cost schedules. The monitoring and reporting should lead to variance analysis i.e. the difference (if any) between the planned and the on ground performance, further subdivided into volume and price variance. This should be followed up by enforcing accurate accountability. Drawing on the global empirical evidence on P3s and incorporating certain institutional design features will help to ensure P3's success. The need of the day is a detailed examination of the normative rationales for P3s and then the presentation of a positive theory perspective that focuses on the conflicting goals of public and private partners. Maintenance of a Desirability Rating Profile is also recommended. PPP projects are highly leveraged capital-intensive projects as can be studied from the example of a PPP road project from a National Highways Development Programme (NHDP) undertaken by the National Highway Authority of India (NHAI), Government of India. Lenders, who provide a majority of the financial back-up in the form of debt, have to undertake loan approval to examine the various aspects of the projects that could assess and influence the debt servicing capability while taking credit decisions. To this effect, the Desirability Rating Analytical Tool (DRAT) has been developed to help the project

sponsor to assess how desirable the project is from a debt financing perspective. With this tool, a desirability rating profile can be maintained, which will provide valuable information for taking important decisions and will support in formulating strategies on improving the performance or the result of a project that may not have been satisfactory earlier. The MoD needs to take the following steps as opined quite sagaciously by Maj Gen (Retd) Mrinal Suman,

Preferential treatment of the public sector must be stopped. A level playing field must be provided to the private sector. Despite frequent promises, private sector companies are yet to be given a fair chance to compete. ... For example, for warship building, no orders should be given to the public sector shipyards by nomination. Let the most efficient shipyard, public or private, bag orders. Similarly, private sector companies should also be eligible to receive technology for maintenance.

Categorisation of procurement proposals specifies the route chosen for their further progression. It is a critical process and needs to be rationalized. There are nine different categories specified in DPP. The number of categories should be reduced to three- 'Buy and Make', 'Buy (Global)' and 'Buy (Indian)'. ... It should be left to Indian vendors to determine whether to develop the equipment by themselves or to join hands with foreign partners for technology infusion. MoD should be happy as long as the equipment performs as per the required parameters and is supplied in time. In both the cases, indigenous technological competence will get a boost.

CONCLUSION

Over the last couple of decades, the Indian private sector has evolved steadily, comparable with the best in the world and turning truly globally competitive. It has shown potential to reach the top with its capacity to innovate and adjust. All that is required is a level-playing field and a thrust for greater involvement. A positive atmosphere of cooperation, mutual trust, transparency and streamlined procedures in consonance with the vision of a truly efficient and globally competitive defence industry will help achieve India's aim of self-reliance.

EQUIPPING UNITED NATION FORCES: CHALLENGES AND REMEDIES

The Indian Army has been sending its troops contingents for deployment in various UN Peace Keeping Operations since independence. According to the MoD, “Since 1950, India has participated in 45 UN Missions, committing more than 1, 65,000 troops, out of the total 69 missions, across the globe”¹⁹. Eloquently, India has also the largest number of fatal casualties among nations participating in peacekeeping operations, thereby indicative of its deep commitment and sacrifice. The MoD Annual Report notes that the Indian military “...has demonstrated unique capacity of sustaining large troops contingents all over the globe, over prolonged periods. Known for their professionalism, compassion, equanimity and forbearance, the Indian troops have been popular, effective and always in demand”. In its Annual Report, the MEA articulates, “During its forthcoming term in the Security Council, India’s immediate priorities will include...the strengthening of UN peacekeeping and peace-building efforts. India is also committed to continue working for bringing about much needed structural reforms to the UN Security Council”.

The deployment of Indian troops is done in battalion groups in two rotations of six months duration each. This necessitates detailed planning for timely equipping of the troops contingent well before they embark upon their mission areas. The additionalities required to be issued to the contingent are categorised in two heads viz Individual Kit Items (IKI), which are required to be issued to each individual and Contingent Owned Equipment (COE), which are required by the unit to carry out their assigned tasks. The nature of additionalities is also of two types, i.e. in-service additionalities, which are scaled and form a part of the army inventory and ex-trade additionalities, which are not part of the army inventory.

¹⁹ *Defence Procurement Manual- 2006*, Para 5.5.1.

A formal procedure for equipping the UN bound units has been laid out through various SOPs issued by Operational Logistic (OL) Directorate and Ordnance Services (OS) Directorate. However, the same is long-winded and complicated and leads to delays in procurements. Such a state is not desirable as it not only affects the morale of combat troops, but also projects the country in poor light in the international fora. Units/Battalions participating in UN Missions are a reflection on the Indian Army and the nation as a whole.

EXAMINATION OF THE EXISTING SYSTEM

Units proceeding on UN missions are required to report to Delhi approximately four months in advance of their induction in the mission areas. During this period, the unit is involved in various activities like preparation for move, training, recce of the operational area and logistic planning for sustenance of the force in the mission area. Units are required to be equipped not only with the items/stores as authorized as per “War Tables” but are also required to be provided with additional items , known as additionalities which can be broadly categorised in two parts as under :-

In Service Items: Items introduced in service and scaled to the army.

Items ex Trade: Items that are Not in Vocabulary (NIV) but are essential for the units proceeding on UN missions.

The above two categories can be further subdivided into:-

IKI: This includes personnel clothing kit and such necessities, which is required to be provided to each individual of the Unit/Battalion.

COE: This will include spares, medical, drugs, expendable stores and any other misc ite as deemed to be required in the mission area on initial induction.

CATEGORISATION OF ADDITIONALITIES

The stores required by the inducting Unit/Battalion, are further classified under three schedules as under:-

Schedule – I: This comprises of IKI, which are to be issued to each individual.

Schedule – II: This comprises of items required by the unit ex-trade and can be procured under the CO's powers.

Schedule – III: These comprise of a bulk of the items and are linked to the survey board held in the mission area.

THE EQUIPPING PROCESS

Stake Holders: There are a large number of stake holders in the entire system viz. Dy Chief Of Army Staff(IS&T), Staff Duty Directorate(SD-3), Operational Logistics Directorate(OL-2), Master General Of Ordnance Branch/ Ordnance Directorate, Engineering-in-Chief's Branch, Signal Directorate, Infantry Directorate, Supply and Transport Directorate, Director General Medical Services(Army), Principal Integrated Financial Advisor(M), Principal Integrated Financial Advisor (O), Director General Quality Assurance, Principal Controller of Defence Accounts, Ordnance Depot, Shakurbasti (SRD) and the user units. However, the bulk of the procurement is carried out under the aegis of the Master General Ordnance Branch/Ordnance Service directorate with specific responsibility for procurement being undertaken by Ordnance Depot Shakurbasti, respective line directorates and Commanding Officers of the Units/Battalion.

Budgetary Aspects: There is no separate budget head provided for incurring expenditure on procurement of stores for UN Missions. Presently the expenditure is being met out of the Army's Revenue Head. However, the UN reimburses Rs 10 Crore to the Government of India for every rotation of troops (i.e. of six months duration). However out of Rs 10 Crore, approximately Rs 5.5 Crores are Ordnance nature items, the procurement of which is the responsibility of the Ordnance Services.

Procurement of Schedule I Items (IKI): The responsibility of procurement of these items is with Commandant SRD. The process being followed is in line with Defence Procurement Manual-2009, and commences on issuance of the Government Sanction Letter (GSL). The list comprises 65 IKI which are to be issued to each indl. An indicative list of such items is attached as **Appx A**.

Procurement of Schedule II Items: These are limited no of items which are procured by the CO of each Unit/Bn. The fin powers of

Commanding Officer (CO) is restricted to Rs 2,500/- per item and not exceeding Rs 50,000/- for complete qty. The overall ceiling for expenditure of all items under this schedule is capped up to Rs 30 Lakhs. The procedure for procurement is governed by provisions of DPM-2009 and SOP issued by Operational Logistics (OL) directorate. The indicative list of items under this schedule for CO's and OsC powers for various missions are listed at **Appx B**.

Procurement of Schedule III Items: These are bulk of the items, which are required in the msn areas. These items are procured on the basis of the survey boards held in the mission areas. All items conditioned as unserviceable in the survey boards are procured by SRD in the similar manner as for Schedule I items. However, due to delay in receipt of the board's the procurement process is often delayed. The **indicative list** of these items is attached as per **Appx C**.

PROBLEMS ENCOUNTERED IN THE EXISTING SYSTEM

Even though the Indian Army has been sending troops to undertake operations in UN missions for over the last two decades, the entire process of procurement of additionalities has still not been streamlined. This has been resulting in not only receiving adverse comments by the audit authorities but also more importantly, not being able to issue the required stores, including personnel kit items to troops, in a majority of the cases before induction. The major problems/constraints are as follows:-

Absence of Central Organisation for UN Procurement: At present, there is no dedicated organisation for undertaking procurement of the UN additionalities. The task is being performed by SRD, which otherwise primarily is responsible to provide Ordnance support to units of the Western Command.

Approved Procedure for Procurement: Though, internal Standing Operating Procedures (SOPs) for UN procurements exist, they do not have the approval of the MoD as in 2009, the government including the finance advisor at MoD declined to approve of the same, stating that since the SOPs are in conformity to the DPM-2006, no additional approval is required. Presently, the procurement is being done under provisions of the DPM- 2009 without any specific financial powers and budget head. This is often cited as a procedural impropriety by

the Integrated Finance while dealing with cases against procurement for UN mission, there by causing delay in the procurement process.

No Financial Powers with Ordnance CFAs for purchase of NIV Items: All items of ex-trade additionalities fall under the category of Non Introduced / NIV items and there are no financial powers vested with the Ordnance CFAs. A proposal to authorise the powers to Ordnance CFAs for UN procurements has been pending with the MoD for the last one year and is likely to take approximately one year more.

No Separate Budget Head: There is any separate budget head earmarked for expenditure of UN additionalities. The expenditure is being met out of Local Purchase budget (Revenue Head) allocated to Army Ordnance Corps.

Non-Conclusion of Rate Contracts: Rate Contracts (RCs) for 17 items of IKI were concluded by the Ordnance Directorate in year 2006 with Original Equipment Manufacturers/ Branded Company's. The Individual Kit Items constitute the bulk of the requirements of the UN bound units. This Rate Contracts expired in 2009, and thereafter, efforts to re-new/conclude fresh contracts are held up due to which the units are deprived of the stores of Individual Kit Items.

Involvement of Multiple Integrated Finance Advisor's: The GSL for procurement of additionalities is issued by Dy Chief of Army Staff (IS&I) with the concurrence of Principal Integrated Finance (Materials), where as the procurement is undertaken by the Master General Ordnance branch with the financial concurrence of Principal Integrated Finance (Ordnance). There are perceptual differences between both the Financial Advisor's, which causes delay in procurements within the laid down time lines.

Delay in Issue of Government Sanction Letter: GSL for Schedule-I items is issued separately for which there is no delay. However, GSL for schedule II and III items are issued together, which is dependent on receipt of survey board from the mission area. The survey board is received when the unit has about six weeks to depart for the mission area. Thus, the subsequent GSL also is received late and procurements are delayed since no pre procurement actions are carried out by the concerned directorates.

Poor Quality of Stores: The major problem/concern being faced by the procurement agencies is the aspect of quality of the stores procured as procurement is being carried out based on the Generic Specification's prepared by the users and SRD, or detailed specs for Individual Kit items, (IKI) which have been prepared by Footwear Design and Development Institute (FDDI). The tendering on Generic Specification's results in fly by night operators creeping in as their products conform to/meet with the generic specifications and are often rendered as Lowest (L1) during the tendering process, thereby affecting the overall quality of the product being issued to the troops.

Non Standard List of Items: The list of additionalities issued by SD Directorate is not standardised and varies with every unit/battalion/mission. Thus, new items are included in every induction which results in delay of pricing of stores and subsequent actions such as issue of GSL or procurement.

Closure of Canteen Stores Department (CSD) as a Source of Procurement: CSD was an established source for procurement. However, owing to the directions from MoD, this source is no longer available and procurement from CSDs has been curtailed severely affecting the availability.

Soft System / Human Issues: A streamlined system exists in the form of DPM-2009, where the timelines can be compressed and procurement affected if certain other actions such as pre procurement actions, obviating sequential approvals (Para 5.5.1 of DPM)²⁰ are carried out. Worldview of the stakeholders reveals that the system is severely constrained due to human issues such as is no System Owner. Staff Duties directorate's is the coordinating agency but has no say in procurements. The Staff Duties (SD) and Ordnance Services (OS) directorate function under different Principal Staff Officers (PSO's) and hence the accountability remains diluted further compounded by complicated procedures.

Competent Financial Authorities (CFAs) are not asserting themselves in hastening the procurement even on issues where clear precedence/

²⁰ *Defence Procurement Manual-2009*, para 3.7.1

instructions exist, e.g. procurement of branded items / procurement of Commercially of the Shelf (COTS) basis.

Perceptual differences due to multiple Integrated Financial Advisor (IFAs) delays procurements. IFAs insist on total procedural propriety in an environment where none exists. There is a communication gap existing between Competent Financial Authorities and Integrated Financial Advisors.

All of the above problems have made the existing system extremely complex, time consuming and impossible to achieve within the timelines laid down in the Defence Procurement Manual-2009 for equipping of the troops. In addition, in the absence of an un-structured policy, the Competent Financial Authorities, who are vested with the powers with effecting purchases, vary in taking decisions, as they feel no decision is the best course of action, thereby adversely effecting the overall procurement cycle.

PROCUREMENT SYSTEM FOLLOWED BY OTHER GOVERNMENT AGENCIES

General:

Towards studying the systemic aspects, the system being followed for procurement of stores for UN troops by the Central Police Organisations (CPO), the Para Military Forces (PMF), the IAF, the Indian Navy (IN) and the Railways were studied/looked into, to understand and compare the SOP in their procurement. While the CRPF, ITBP, Assam Rifles (AR) and IAF have contingents in the UN as Formed Police Units (FPU) /Aviation Contingents, the Railways and the IN per se do not have any UN troops deployed as of now. However, their systems were examined for extraordinary procurement procedures followed by them in special circumstances such as procurement of specialist stores for Marine Commando (MARCOS) and Naval Divers. All the organisations being government controlled broadly follow the General Financial Regulations (GFR) for procurement, while the Indian Army, IAF and Indian Navy follow the DPM-2009. Railways however, follow different procedures coupled with their internal purchase manuals.

THE IAF

The IAF deploys contingents on UN mission based on a formal offer from the UN and after approval of the MEA and the MoD. Since

2000, IAF has deployed approximately 9186 personnel on UN Missions to various countries. The requirement of the contingent in terms of strength, type of equipment required, whether dry or wet lease etc is given out in the initial offer and the same is finalised during the MoU negotiations

The IAF has been deploying its MI-17 and MI-35 along with the associated technical, logistics and administrative manpower. In order to match with the international standards in a multi-national environment, it is essential to list out the additionalities required in the terms of service stores and personal kitting over and above the list of items identified as “minimum operational requirement” for which the UN reimburses to the Government of India

Salient Points Pertaining to UN Additionalities: The salient features of the IAF procurement are as follows:-

Single Point –Controlling Authority: There is a single point controlling authority at Air HQs. The PD Ops (H) not only monitors the preparation of the contingent prior to departure, but also monitors the functioning of the contingent at the mission area. This has greatly helped in single point directions, faster communication and effective feedback.

Dedicated UN Cell: A dedicated UN Cell at Air HQ’s with two officers and staff has improved in the overall functioning, effective liaison and overall staff work.

Dedicated staff for UN related work at the procurement agencies: There is dedicated staff at all the procurement agencies dealing with UN procurement. This has generally helped to hasten the process and keep an effective liaison with Air HQ’s and IFA.

Effective liaison with PIFA: In addition to the condition of various activities related to the UN development, the UN cell at Air HQ’s has also been able to have regular interaction with the PIFA. This has helped in developing greater understanding of each others point of view.

Strict adherence to time plans: Receipt of the survey board/BOO from the contingent in the mission are at least three months prior to rotation. It is the start point for initiating the DGL. This period has

been emphasised by Air HQs and is being strictly adhered to by the contingents.

Inclusion of branded items at DGL stage: Air HQs has insisted that certain items need to be of a particular brand, justification of which is given at the DGL stage itself. It is therefore, advisable that the same be mentioned at the DGL stage itself, so that the same is included at the time of issue of GSL.

Single IFA for entire process of procurement: 412 AF Stn is the major procurement agency for additionalities. It was observed that there is a single IFA who not only approves the GSL, but also gives assent to the procurement from the AON angle and expenditure angle.

Expeditious payments: It was ensured by the procurement agencies that all payments to the suppliers are made within ten days of the receipt of the supply.

THE INDIAN NAVY

The Indian Navy does not send any mission to the UN. However, they carry out certain specialist procurements for their Marine Commandos (MARCOS) and Navy Divers.

The procurement is done only of “Branded Items” for uniform/personal kit and ration. Towards this, Indian Navy has short-listed a number of known brands and the tendering is done for only those brands. Entire procurements for personal kitting items for MARCOS and Navy Divers are brand based for which a MOD sanctions has been obtained.

CENTRAL POLICE ORGINATIONS/PARA MILITARY FORCES

General:

In the CPOs/PMF, as of now seven FPU's consisting of 125/160 troops of the Central Reserve Police Force (CRPF), Indo Tibetan Border Police (ITBP), Border Security Force (BSF), **Central Industrial Security Force (CISF)** and AR are deployed as contingents in UN as under:-

Liberia- 2 x CRPF FPU's including one all women contingent

Haiti- 2 x BSF and 1 x AR FPU

DRC- 1 x BSF and 1 x ITBP FPU

Comparative Analysis of Procurement: A comparative analysis of the procurement system and procedures between CPOs/PMF and Indian Army is tabulated below:

	Issue	CPO/PMF	Indian Army
(a)	Government Sanction	Procurement delinked from GSL. Purely based on Memoranda of Understanding (MoU)	Procurements linked to Government sanction letter issued unit/rotation wise
(b)	Procurement Agency	Single procurement agency	Multiple procurement agencies
(c)	Levels of procurement	Flexible and responsive to requirements of Comdt/Mission	Not the case
(d)	CFA/IFA	Single IFA/CFA	Multiple CFAs/IFAs
(e)	Powers of CO	Significant powers	Limited powers
(f)	Classification of equipment	Powers with the Comdt to modify list as per his appreciation	No powers to CO
(g)	Quality of items procured	Tendering carried out based on brands	Tendering based on generic specs due to which poor quality stores procured.
(h)	Quality of Kit and Equipment in Mission area	Better quality	Comparatively poor quality (letters written by Force Cdr, DRC refer)
(j)	Miscellaneous	Responsive procurement system ensures that a contingent is equipped within 3 - 4 months.	Cumbersome system leading to delays and hence units are getting inducted without proper kitting and equipment.

PROCUREMENT PROCEDURE FOLLOWED BY OTHER SOUTH ASIAN COUNTRIES

Pakistan

Pakistan contributes more than 8400 troops for the UN peacekeeping operations. There is a separate cell under a Maj Gen designated as ADG (UN) exclusively to handle all UN related issues. The cell is overall responsible for interaction with the MoD, the service HQs, the UN HQ and all other agencies. This cell acts as the single window interaction point for all units being deployed for UN missions. The broad organisation of the UN cell in Pakistan is as under:-

The UN cell has the A, G and the Q branches, which handle all Issues pertaining to their tasks for all UN missions.

Each of the branches has dedicated sections for each of the UN missions to deal with task of respective missions. The level and size of sections vary depending on the size of the missions. The Q branch is responsible for procurement, stocking and maintenance of additionalities and issue to the troops.

The above system has following advantages:-

The units being inducted do not get involved with procurement procedures and can concentrate on operational issues including training during pre-induction period. All units have standard uniform and equipment.

Since the Q branch does the procurement, their expertise is used to procure quality items at reasonable cost through appropriate laid down procedures in a timely manner.

Bangladesh

Bangladesh is contributing more than 8200 troops for the UN peacekeeping operations. They have a very streamlined procedure for equipping their troops. The UN peacekeeping operations are handled by the Overseas Operations Directorate under the GS Branch in Bangladesh Army HQ. It is headed by a Brig designated as DDG

(UN) and is a single point interaction for all agencies viz. UN HQ, MoD, Troops etc. The troops inducted for peacekeeping operations are issued with normal service stores by the Ordnance. However, some of the special additional items are procured by the unit under delegated financial powers of the Commanding Officers.

Sri Lanka

Sri Lanka contributes approx 1100 troops for the UN peace keeping operations. Therefore in Sri Lanka there is a section in the AHQ to handle UN operations. All funds provided by the UN go into the UN fund account being handled by the army. The government does not interfere in these funds. All Schedule II & III items are procured by the army through a simple tendering procedure out of these funds. The troops allowance given by the UN is passed on to the troops in totality without any rationalization. However, some of the essential special personal stores are procured centrally by the units and the amount is deducted from personal entitlement of the individual.

CHALLENGES AND OPPORTUNITIES

Having examined the existing system of UN procurements in the Indian Army as also that of Indian Navy, IAF and other Central Government agencies viz CRPF, ITBP, BSF, Assam Rifles etc and Select Foreign Armies, the best practices being followed by each of the above mentioned organisations was dwelled, which could be used by the Indian Army to improve upon its own systems/policies which as on date are considered archaic/fraught with delays.

The Indian Army however is, constrained by the fact that all its procurements are required to be within the ambit of the DPM-2009. No such constraints are felt by other Governmental agencies, which carry out their procurements as per General Financial Regulations (GFR), thereby reducing / telescoping timelines to a great extent. However, even while functioning within the realms of the DPM-2009, there still exists enough scope in our procurement system to learn from these agencies and implement changes in order to be more responsive/pro-active. Points, which merit immediate attention, are amplified in the following paragraphs:-

Separate Procurement Organisation for UN Procurements:

Currently the induction of Indian Army Units to their respective mission areas is being coordinated by the SD Directorate (SD-3) at Army HQ. However, the kitting of the contingent is being carried out by multiple agencies e.g. the Master General of Ordnance (MGO's) Branch / Ordnance Service (OS) Directorate, Director General Medical Services (DGAFMS), Engineering-in-Chief (E-in-C's) Branch etc. The other major contributing troop's countries, Bangladesh and Pakistan, have dedicated organisations that are responsible for all aspects, from kitting to training to pre-dispatch formalities, in respect of troops being inducted to the UN. Looking inwards, the IAF and certain CPOs are also being kitted with additionalities by their respective single point organisations. There is, therefore, a need to have a dedicated procurement organisation.

Dedicated IFA: A complicated system of approval by IFAs is currently being practiced in respect of procurement of additionalities by the Indian army. This leads to huge delays and this anomaly needs to be urgently corrected by appointing a single IFA who would be responsible for the complete UN procurement process starting from the issue of Government Sanction Letter (GSL) to the final procurement.

Procurement by Commanding Officers: As far as procurement by Commanding Officer's (COs) is concerned, there are varying practices being followed by different organisations. As far as the IAF is concerned, the procurements are being coordinated by the PD Operations (H) at Air Headquarters, with the Commanding Officer having no part whatsoever in the procurement process. On the other hand, as far as the CRPF/BSF/ITBP/CISF is concerned, apart from vehicles, weapons and major equipment of the contingents, the balance is procured by the CO/Commandant. This offers flexibility and efficiency along with responsibility and accountability to/of the CO/Commandant.

The army however is adopting a system that is somewhat a mix of the two above-mentioned systems. The CO has been delegated powers of procurement for items listed in Schedule II of additionalities, while the balance is being procured by multiple agencies, Army Ordnance Corps (AOC) being the major procurement agency. While it is desirable that the items be carried into the mission area be totally standardised

for all units and a singular agency be made responsible for procurement of the same, in our context the same may not be possible. This is due to the vast cultural diversity that exists from unit to unit leading to requirements that are peculiar to only one unit. This situation therefore warrants that the CO be empowered with greater financial powers wherein they are able to meet the Unit/Battalion specific requirements in the best possible manner.

Standardisation of Equipment: In the case of the Indian Army, the level of standardisation of equipment between two units serving in the same country leaves much to be desired. The same can be seen from Schedule II & III items projected by different units. The lack of standardisations is one of the major factors that contribute to delays in procurement. The list of items therefore, needs to be standardised across the board for all units, as far as possible.

Number of Items: A large number of items, forming a part of the PKI of a soldier, have been included in Schedule I. There is ample scope for revision of these items for a possible reduction. In addition to this there are a number of items that form a part of Schedule II & III which are not required. Units are in favour of pruning this list considerably and procuring only mission specific items; albeit if the best quality is made available.

Commencement of Procurement at MoU Stage and Treating GSL as Acceptance Of Necessity (AON): In the case of the Indian Army, no procurement action can be initiated till a GSL has been signed for the equipment part. This therefore delays the very start of the procurement process. This is not the case with other governmental agencies like CRPF/BSF/ITBP/CISF or even Assam Rifles. In their cases the procurement process is initiated the moment the MOU is signed by the Government of India with the United Nations. The system, therefore, need to be amended on the lines of that being followed by the CRPF/BSF/ITBP/CISF/Assam Rifles. Another way suggested by procurement agencies involved in the procurement process, is treating the GSL as the AON and going ahead with procurements. This will to an great extend ensure that the timelines as laid down in the DPM-2009 is followed, there-by ensuring time bound availability of the stores to the inducting unit.

Cash Purchase Powers / Enhanced Financial Powers. In the case of CRPF, a temporary Imprest account amounting to roughly US \$ 50,000 is made available to the Commandant, for procuring any other item that may be required in the mission area, within his established financial powers, which too are substantial. As far as the Railways are concerned, Store Officers are authorised to carry out cash purchases. The maximum limit of cash purchase is decided as per the requirement of that unit. If requirement increases, the limit of cash purchase is also revised. Both the above facilities make the respective systems extremely responsive. In the case of Indian Army, Cash Purchase powers have been vested with Commandant, SRD. However, the same are so limited that no significant procurement can be carried out within the same. These powers therefore need to be enhanced considerably. Further, the provision of a Cash Imprest to the CO in the mission area may also merit active consideration simply because of the cost effectiveness and convenience that it offers.

Procurement of Branded / COTS Items: All agencies that have been interacted with were procuring branded items across the board. This not only led to an extremely high level of user satisfaction, but also took care of quality concerns. The Army too needs to emulate the Navy and the Air Force and procure max branded items for its troops proceeding on UN Missions. Further, provisions do exist in the Defence Procurement Manual-2009 for procurement of COTS²¹ items on a single bid system.

Procurement of Stores in Advance / Stocking of United Nation Brick: In order to ensure that our troops do not induct into mission areas without being kitted properly, especially for Personnel Kit Items, our procurement process must also get completed well in time. In case the same could not be assured then stocking of a 'UN Brick' or a Reserve at all times could be considered. This would act as a buffer against procurement delays. The contingent could immediately be equipped from the brick that would be held centrally. The topping-up of these being automatically done as per existing police's in vogue.

²¹ *Defence Procurement Manual-2009*, Para 4.8.8

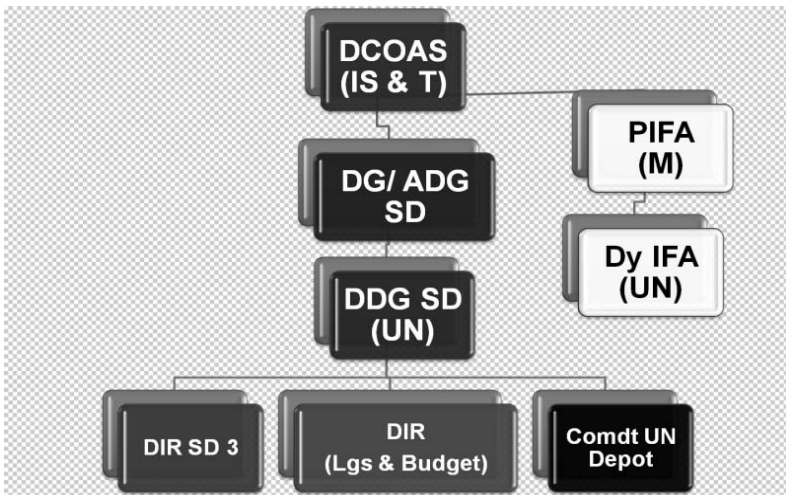
RECOMMENDATIONS

Policy Related Recommendations:

A UN Cell headed by Dy Director General (UN) under SD Directorate should be created, which will act as a single window agency to deal with all UN procurements activities as being followed by the IAF and other Central Police Organisations/ Para Military Force. This will also infuse accountability in to the system, which is considered a major obstacle in the existing system

A proposed organisation is as shown below. In the interim Director (Logistics) be made pot under command of Dy Director General Staff Duties (A) till Dy Director General Staff Duties (UN) is authorised:-

Figure No. 1



UN supply chain is required to be responsive to the needs of troops keeping in view the importance of showcasing the country in an international environment. A responsive supply chain dictates holding of safety stocks in each echelon of the chain. This necessitates stocking reserves / safety stocks to absorb the shocks of unpredictability in the supply chain. A separate **UN Depot** responsible to Staff Duties Directorate be raised, which will be a single point agency for procurement for additionalities both In-Service and Ex-Trade.

DE-LAYERING THE SYSTEM

There are two options available to ensure de-layering the existing system to ensure availability of stores not only in the laid down time-lines but also of the best possible quality/brand:-

Option 1- The GSL continues to be delegated to DCOAS (IS&T) as per the present system. However, Principal IFA (Material's) has a separate IFA for UN under her/him, who then becomes the IFA for processing all UN cases. The Competent Financial Authority for procurement shall be the Commandant UN Depot, while the higher CFA powers shall be vested with Dy Director General SD (UN) and Addl Director General (SD) in consultation with the proposed IFA (UN). Option 1 is the preferred option as it brings the total control of UN procurements under single system owner. The proposed organisation is as recommended at Figure No. 1.

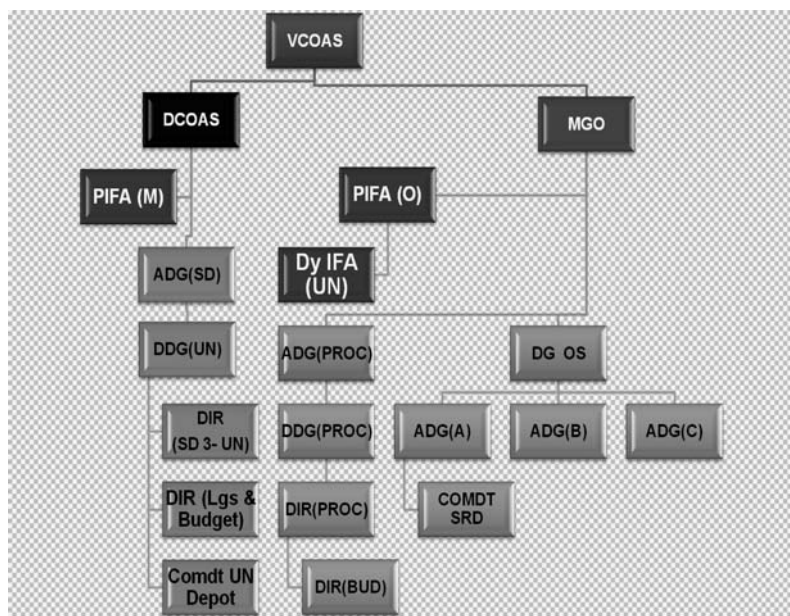
Option 2- The GSL, is recommended for bifurcation, with Master General Ordnance signing the Equipment GSL and the Dy Chief Army (IS&T) as hitherto signing the Manpower GSL. In this case, the GSL equipment shall be concurred by Principal Integrated Finance (Ordnance) who shall have a IFA of a suitable rank under him. The CFA powers shall be exercised by Comdt UN Depot and the higher CFAs shall be the Addl Director General (Proc) and MGO as per the existing structure where powers for procurement of UN additionalities are only held with the ADG (Proc) and MGO and not with the OS Directorate. The proposed organisation structure in this case shall be as in Figure No. 2.

Role of Operational Logistics (OL) Directorate: OL Directorate has a very imp role to play, as it is the single point agency for all operation logistics validations in the army. No change is proposed in the existent role of OL Directorate. However as far as vetting the lists by Operational Logistics Directorate is concerned, the same is recommended to be off loaded to SD Directorate to avoid duplicity and save time as the lists are already being vetted by the SD Directorate, OS Directorate, and Principal Integrated Finance (Material).

Sealing of Samples to achieve Good Quality Stores: Constitute an Empowered Committee under Addl Director General (SD) with

members from all Stake Holders to select acceptable range of branded items. The samples so selected be sealed and tendering carried out for those many samples only, as per authority contained in DPM-2009²² which entail's mentioning of brands in Request For Proposal (RFP), under which this tendering can be done. However, if so deemed, a separate sanction can also be obtained in this regard. This would ensure good quality within acceptable procurement norms.

Figure No. 2



Enhanced Financial/ Cash Purchase Powers: All UN Procurements should be undertaken under a separate UN budget head to ensure financial and procedural propriety. Efforts to enhance the existing financial powers against CFAs, including that of the Cos should be taken up with the MoD. Cash Imprest Advance must be made available to the COs as in the case of Central Police Force, which will allow them the flexibility to meet unforeseen requirements even in the mission

²² L. K. Behera, Gp Capt Vinay Kaushal, "Defence Acquisition International Best Practices", p. 76, Viney Handa, "Defence Acquisition: Indian Army's Perspective".

area rather than having these procured in India and then shipped to the mission area, an arrangement that is not only inefficient but also unresponsive.

Procurement of Branded Items/COTS Items: Almost all government agencies, except the Indian army, are procuring branded items across the board. These not only lead to an extremely high level of user satisfaction, but also take care of quality concerns. Even within the defence forces, both, the IN and the IAF are resorting to procurement of branded items. The Air Force has managed to convince the IFA and has included brand names in the GSL itself, citing the following:-

The IAF contingents are deployed for one year vis-à-vis six months in case of the army.

The quality therefore needs to be of the highest standard, modern, as well as durable to meet the peculiar multinational environment and harsh climate conditions.

PROCUREMENT OF STORES WELL IN ADVANCE / STOCKING OF UN BRICK

A substantial portion of our troops who have been inducted into UN Mission Areas in the recent past could not be equipped completely (including Personal Kit Items), owing to procurement delays. These delays can be attributable to delays in initiating the procurement process itself as well as procedural delays. This was certainly not the case as far as other government agencies were concerned. The CRPF had delinked the procurement process from the GSL and were initiating the procurement process as soon as the MoU was signed between the Government of India and the United Nations. Further, they were managing to complete the procurement of all items six months prior to induction of their troops into the mission area. The air force too was able to complete this process at least a month prior to induction.

While it is true that both these agencies were contributing a miniscule number of troops as compared to the Indian Army and consequently their requirement of stores/equipment were also limited, the army still needs to find a way out. At the moment procurements worth Rs 150

Crores a year were being carried out almost on 'just in time' basis which was not desirable. In order to ensure that our troops do not induct into mission areas without being kitted properly our procurement process must also be completed well in time. In case the same could not be assured then stocking of a 'brick' or a reserve at all times could be considered. This would act as a buffer against procurement delays. The contingent could immediately be equipped from the brick that would be held centrally. Action taken to recoup the brick could then be taken subsequently for equipping the next contingent as per requirement

RATE CONTRACTS FOR PROCUREMENT OF UN MISSION ADDITIONALITIES

Efforts to initiate fresh Rate Contracts only from the OEMs dealing in branded commodities should be explored, as this will ensure procurement of the best quality of stores at the most competitive rates. This would be a win-win situation for all the stakeholders involved in the procurement related activities of equipping the force being inducted into the Mission Area.

CONCLUSION

UN bound units are required to be equipped in a time bound manner with quality stores to enable them to highlight the country in an international environment. The present system leaves much unfulfilled both in terms of timeliness and quality, and the Indian troops find themselves severely constrained in an international environment. The problem in equipping the units is more human in nature due to multiplicity and because of the pluralistic nature of the stakeholders. The recommendations brought in this chapter are practical and fully implementable; post concurrence/approval of the MoD, and the IFA at all levels and all other stakeholders and Line Directorates. The thrust area however, can be addressed best by the de-layering of the system and by designating a system owner together with keeping the requirements of a responsive supply chain in mind, to ensure that the best equipment/stores is available to the troops inducted. There is a need to realise this benchmark, which can only be achieved if all the stakeholders starting from the CFA of the organisation apex viz the Dy Chief of Army Services (IS&T) and the MGO ensure that quality

procurement is carried out within the given timeline. The Integrated Finance being a major stakeholder too, will have to render enabling advice as opposed to the auditory functions being carried out by them presently. The org apex and the integrated finance will have to jointly evolve a procedure with minimum subjectivity on the lines of the one suggested in the paper, and obtain the necessary sanctions from MoD wherever so required.

CONCLUSION

“Our defence forces require timely and cost effective acquisition of defence equipment to enable them to meet any challenge to the country’s security. If they have to effectively meet these challenges, we must adopt a holistic approach towards defence acquisition right from the planning to final disposal of the weapon system without compromising transparency, fairness and probity at any level”.

Shri A K Antony, Raksha Mantri (October 26, 2009)²³

A management mechanism that yields efficient, quality, optimally priced, and time bound supplies and equipment in the maintenance as well as continued upgradation of the defence forces is the ideal defence procurement system that a nation looks forward to. The primary aim that is requisite of any defence procurement is the anticipation and provision of the entire spectrum of the required defence material and supplies within the stipulated period with the best use of indigenous resources. When we look for comparisons, we have to be content with the adage, ‘To each his own’. Every country when deciding on its policies is dictated by its individual conditions and environment such as its threat perceptions, resources available, budgetary allocations, geo political stability, trade and industry, indigenous production etc. In keeping with this thought, India too, has to evolve and strive to perfect its procurement procedure to obtain the best results.

To fulfil the above stated objectives, bona fide intent, radical reforms, firm decisions, and absolute professionalism have to be adopted. Diligent documentation, collation, and extraction of lessons in identifying previous or repeated errors and impediments should be the primary steps taken in this direction. The 15 year Long Term Integrated Perspective Plan (LTIPP) and all the corresponding plans based on it should be drawn out in a time bound and methodical manner. Value-for-money should be a criterion that must go hand in hand with long-

term perspective. High tech equipment with cutting edge technology may cost more but will in the end, only enhance the performance parameters. A transparent, well planned and fast track procurement procedure will provide the right propulsion to our armed forces.

The very purpose of a standing army is to be able to tackle its adversary successfully by honing up its fighting proficiency continuously. To achieve this, the forces must have enough resources, work force, facilities and support. Taking a pragmatic view of all non-core functions, their scope should be studied in depth, their effect and worth should be evaluated, and their cost effectiveness must be ascertained along with the configuration of the availability of competent service providers. The state of the regional strategic environment demands that the armed forces of the country should maintain a state of operational readiness. In this regard, keeping in mind the rapid expansion and hi-tech quality of modern warfare, the sophistication in weapons, the high maintenance instruments and equipment, and the advanced capabilities, India requires requisite integrated technologies and specific skills. The investment requirements to procure these technologies and to develop the skills to meet these new expectations are too huge, given India's limited means and restricted budgetary allocation. This study has exposed the need for the setting up of a dynamic system for a swift disposal of the trivial and the timely redressal of genuine complaints and DPM deviations. The establishment of a regulatory oversight authority or an ombudsman to supervise the entire process of defence procurement is a compulsive necessity. One can never under play the importance of team composition and size for a time bound evaluation as well as a supervisory system where the buyer and vendor should designate their respective team leaders with the complete responsibility for a successful culmination of a deal. There is an obvious requirement of reinforcing the existing work force by human resource possessing cognisance of cost analysis, financial analysis and the requisite skills.

To this effect, 3PL is a prudent and cost effective way of freeing the armed forces of the shackles of routine administrative functions. It is only sagacious that the forces engage better-equipped civilian service providers who are experts in their respective fields instead of indulging in wasteful expenditure, unnecessary duplication, and time and resource consuming exercises, which at the end of the day do not deliver the

desired results. Outsourcing has been accepted as a pillar of modern management and economic practice. Generally, 3PLs are relied upon for global expertise including regulatory compliance and documentation. However, the objective that most logistics managers have uppermost in their list is cost reduction. Before selecting the service providers, the preliminary steps necessary are in-depth assessment, performance rating and comparative studies of the suppliers in the concerned field. Reliability in terms of quality, their viability, co-coordinating capability and equally important, pricing, are some of the points to be covered during the assessment. A comprehensive contract prospective suppliers covering the supply chain performance, that increases the supply chain surplus, safeguards the legitimate interests of the vendor/supplier as well as the buyer, should be drawn up. Wherever possible, opportunities for cost cutting or minimising expenditure must be identified. It would be prudent to collaborate between the suppliers and the buyer with efficient co-ordination and communication right from the designing until the manufacturing of the final product because the cost of the product is affected right from the design stage. At this very stage, it would be beneficial to identify and prioritise the targets to be achieved as well as study the factors that influence the fulfillment of these targets.

To optimally amalgamate 3PL with the defence logistics structure, the procedural framework must take cognizance, at the very start, of the environment in which procurement for the armed forces takes place, the objectives that have to be fulfilled and the parameters within which these objectives are to be achieved. With regular monitoring, open communication, transparency and detailed feedback, outsourcing can help the Indian Armed forces increase their efficiency.

The DPSUs seem to have settled for the more opportune option of “licenced production” rather than charting out their own course of indigenous and original designs in an obvious bid to avoid risks and accountability. The MoD needs to address these concerns by outlining concrete demand projections and their completion within stipulated timeframes. Defence procurement has been undermined throughout by delays and high costs. Regular interaction, unstinted cooperation, sharing of technologies etc. with foreign vendors, Public and Private sector vendors and the DRDO can help the services gain enlightenment on optimal operational maintenance as well as cost and financial aspects

of various weapons systems. Routine dealings and an uninterrupted interface will go a long way in giving a filip to indigenisation.

The private sector has to be encouraged to play a bigger role in collaboration with the public sector. The coexistence of the private and the public sector is a very viable possibility. In the defence sector, there is also a lot of scope for the contribution of private players in various fields like logistics, training, simulation etc. Indian businesses and industries can get a tremendous boost in spheres such as infrastructural development and exports because of the defence support and become important constituents of the global defence supply chain. The Indian defence industry can strive for excellence in defence R&D, design, engineering and manufacturing as a result of such joint ventures and technical collaborations.

The case study in this monograph has tried to assay the issues and challenges that are commonly encountered when equipping the Indian troops' contingent embarking upon their missions. It analyses the immediate as well as long-term responses to these challenges. As part of the acquisition process, in order to meet with requisite performance parameters, there is a need to develop the ability to convert the shortfalls incapability. Equally important is the selection of the most suitable and cost effective option that can deliver the required systems and supplies in the given period. Acquisition, inducton and support for the selected system is as crucial. The case study believes that there is substantial evidence to suggest that because of the change in the attitude and the approach of the state, the conditions are not as extreme as is made out. The Indian army however, is constrained by the fact that all its procurements are required to be within the ambit of the DPM-2009. During research, it has been understood that no such constraints are felt by the other governmental agencies, which carry out their procurements as per General Financial Regulations (GFR), thereby reducing or telescoping timelines to a great extent. The case study opines that even while functioning within the realms of the DPM-2009, there still exists enough scope in our procurement system to learn from various agencies and implement changes in order to be more responsive or pro-active. The issues and recommendations highlighted in this case study do not lay claims to an exhaustive analysis of all the data that may be available with respect to defence/UN procurement worldwide.

Rather, it is based on the personal experience gained from practising in this section and on the studies conducted by the College of Defence Management (CDM), Secunderabad. It is appreciated that reforms cannot be effected or implemented overnight given the sensitivity of this issue and the various constraints under which the MoD functions. Credit is due for the MoD for acknowledging that the DPP is a 'work in progress' and for seeking recommendations from the various players in this sector in order to modify and improvise on the procurement process on a regular basis, trying a fine balancing act in reconciling often conflicting objectives.

For long, logistics have suffered the ignominy of being relegated to the backdrop while active service, operations, crises, battle and even the battlefield have been taken as the only factors of importance. Based on this, the above study has tried to question the stereotypes that the dominant discourses on procurement perpetrate. It pleads the case that questioning of these stereotypes creates a space that could be used by the various stakeholders to engage with one another more constructively. Today, aggressive, incessant enhancement and progress is the norm. The ultimate aim should be organising and establishing a renewed, rejuvenated, professional institution that would deal with the entire gamut of defence revenue procurement with a holistic approach.

APPENDIX A

Schedule - I: Incl Kit Items

SNo	Items	A/ u	Qty	Origin	Remarks
1.	Combat dress	Nos	4	S	
2.	Belt ICK pattern	Nos	1	S	
3.	High ankle boots disruptive	Pairs	1	T	
4.	Jacket combat disruptive	Nos	1	T	
5.	Jacket warm OG	Nos	1	T	
6.	Shirt full sleeve summer	Nos	1	T	
7.	Trousers formal for summer	Pairs	1	T	
8.	T shirt sports (white)	Nos	2	T	
9.	Shorts white sports	Nos	2	T	
10.	White sports trousers	Nos	1	T	
11.	Blazer	Nos	1	T	
12.	High ankle boots (bp)	Pairs	1	T	
13.	Sports shoes	Pairs	1	T	
14.	Shoes formal (black)	Pairs	1	T	
15.	Jungle shoes (green)	Pairs	1	T	
16.	Socks cotton (white)	Nos	2	T	
17.	Socks (black)	Nos	2	T	
18.	Combat t - shirt	Nos	2	T	
19.	Rain suit (blue)	Nos	1	T	
20.	Track suit (blue)	Nos	1	T	

21.	Ruck sack	Nos	1	T	
22.	Sleeping bag	Nos	1	T	
23.	Beret cap-UN with cap badge (sky blue)	Nos	1	T	
24.	Jap cap-UN (sky blue)	Nos	2	T	
25.	Tie with UN logo embroidered	Nos	1	T	
26.	Name tabs embroidered cotton	Nos	2	T	
27.	Shoulder title (India)	Prs	2	T	
28.	Country flag embroidered	Nos	2	T	
29.	Indian army tab for combat dress	Nos	2	T	
30.	Fmn sign UN	Nos	2	T	
31.	Turban cloth 7.25 x 2 (sky blue)	Nos	2	T	
32.	Patka for sikh person (sky blue)	Nos	4	T	
33.	Scarf with UN logo (sky blue)	Nos	2	T	
34.	Windcheater upper & lower	Nos	1	T	
35.	Pullover	Nos	1	T	
36.	Balcalava	Nos	1	T	
37.	Woolen socks	Pairs	2	T	
38.	Gloves leather (black)	Pairs	1	T	
39.	Passport pouch waterproof	Nos	1	T	
40.	Housewife kit	Nos	1	T	
41.	Belt leather (black)	Nos	1	T	
42.	Thermal inner wear	Nos	2	T	
43.	Mosquito repellent liquid with machine	Nos	1	T	Earlier through CSD
44.	Torch hand	Nos	1	T	-do-

45.	Towel large	Nos	1	T	Earlier through CSD
46.	Bed sheet single with pillow cover	Nos	2	T	-do-
47.	Hanger (set of six)	Nos	1	T	-do-
48.	Suitcase (hard)	Nos	1	T	-do-
49.	Duffel bag	Nos	1	T	-do-
50.	Anti glare sun glasses	Nos	1	T	-do-
51.	Mosquito net knitted nylon 4' x 6'	Nos	1	T	-do-
52.	Water bottle (01 ltr)	Nos	1	T	-do-
53.	Spoon steel (set of 6)	Nos	1	T	-do-
54.	Multi purpose tool kit	Nos	1	T	
55.	Mefloquine tablets (01 tab/ indl/week)	Nos	36	T	
56.	Individual medical kit	Nos	1	T	
57.	Safari suit summer half sleeves (beige)	Nos	2	T	
58.	Safari suit (beige) winter full sleeves & skeevies (black)	Nos	1	T	
59.	Shoes oxford pattern (black)	Pairs	1	T	
60.	Veil (beige)	Nos	2	T	
61.	Salwar suit with dupatta (white)	Nos	1	T	
62.	Mufti silk saree with blouse (cream)	Nos	1	T	
63.	Socks (beige)	Pairs	2	T	
64.	Maroon epaulettes	Nos	2	T	
65.	Rank badges steel	Nos	6	T	
66.	Steel badges MNS	Nos	2	T	

Legend S – In Service Item, T – Procured Ex Trade

APPENDIX B

Schedule - II: Items-commanding Officers Financial Powers.

	Nomenclature	A/u	Qty Authorised
1.	Garbage bin 100 ltr	Nos	10
2.	Garbage plastic bags 100 ltr	Nos	1500
3.	Match box	Pkt	600
4.	Steel urn for tea (05 ltrs)	Nos	15
5.	Tea thermos 20 ltrs (stainless steel)	Nos	12
6.	Garbage plastic bags (pkt of 30)(10 ltrs)	Pkt	200
7.	Dining table runner velvet cloth (2' x 7')	Nos	6
8.	Cloth napkin (white)	Nos	50
9.	Table cloth white 10'x8'	Nos	24
10.	Steel thermos 1ltr	Nos	25
11.	Diesel bhatti burner	Nos	0
12.	Glass whisky / rum	Nos	50
13.	Water jug	Nos	6
14.	Soup bowls unbreakable	Nos	50
15.	Ice bucket	Nos	6
16.	Serving tray (steel)	Nos	20
17.	Tongs steel (large)	Nos	6
18.	Peg measurers	Nos	6
19.	Tongs (sugar)	Nos	6
20.	Water glass (large)(set of 06)	Set	50

21.	Glasses medium (set of 06)	Set	50
22.	Beer mug	Nos	50
23.	Brandy goblets	Nos	24
24.	Champagne glass	Nos	24
25.	Refill glass	Nos	12
26.	Velvet cloth for serving tray	Nos	24
27.	Dry fruit bowls	Nos	12
28.	Juice glass	Nos	50
29.	Wine glass	Nos	50
30.	Decanter	Nos	6
31.	Menu card stand (white metal)	Nos	4
32.	Bowl for fruit	Nos	12
33.	Fruit fork	Nos	50
34.	Air pump for volley ball (foot pump)	Nos	12
35.	Badminton nets nylon 4 side tape	Nos	15
36.	Badminton racquet	Nos	50
37.	Badminton shuttle cork box (10 pcs)	Pkt	100
38.	Plastic shuttle cocks (10 pcs)	Nos	50
39.	Basket ball net	Nos	20
40.	Basket ball ring	Nos	20
41.	Carrom board	Nos	40
42.	Handball	Nos	24
43.	Handball net nylon single	Nos	24
44.	Hockey ball	Nos	50
45.	Hockey sticks wood	Nos	36
46.	Hockey shin pads	Nos	72
47.	Lawn tennis net	Nos	6
48.	Lawn tennis rackets with cover	Nos	25

49.	Playing cards plastic coated	Nos	200
50.	Knee pad/padded knee cap	Prs	100
51.	Football boot	Nos	24
52.	Stop watch digital electronic	Nos	12
53.	Table tennis ball	Nos	60
54.	Tambola set with 3000 tickets	Nos	12
55.	Volley ball net	Nos	18
56.	Whistle with nylon cord (for referee)	Nos	25
57.	Batting gloves	Nos	24
58.	Abdominal guard	Nos	24
59.	Sports jersey with indian army crest	Nos	40
60.	Sports shorts with indian army crest	Nos	40
61.	Wicket keeper gloves	Prs	12
62.	Table tennis rackets	Nos	24
63.	Table tennis nets	Nos	24
64.	Wicket set (set of six pcs) with bails	Nos	12
65.	Cricket ball	Nos	100
66.	Cricket bat	Nos	20
67.	Boxing head gear	Nos	100
68.	Gum shield	Nos	200
69.	Boxing punching bag	Nos	100
70.	Boxing gloves	Pairs	100
71.	Boxing puching pad	Pairs	100
72.	Foot ball (size 5 mil) synth hand sewn	Nos	24
73.	Volley ball (size 32) synth hand sewn	Nos	24
74.	Basket ball (size 32) synth hand sewn	Nos	24
75.	Laminated flag (India/UN) (2.5' x 1.5')	Nos	25
76.	National flag (car)	Nos	18

77.	National flag (3'x2') (tericot)	Nos	12
78.	National flag (6'x4') (terricot) (std)	Nos	12
79.	Netlon for fly proofing of tents	Sqm	400
80.	Photo album size (5"x7")	Nos	50
81.	Table cloth blazer (UN colour)	Nos	50
82.	Table cloth (sky blue 6' x 4')	Nos	100
83.	Table flag UN (zari and embroidered with brass stand)	Nos	24
84.	UN car flag (embroidered)	Nos	100
85.	UN flag (3'x2') (std)	Nos	12
86.	UN flag (6'x4')	Nos	12
87.	UN colour bed sheet	Nos	50
88.	Dvd rw	Nos	50
89.	Steel box size (3' x 2'x 2') (22 gauge)	Nos	60
90.	Mementoes & memoribillas	Amt	50
91.	Coaster (black) acrylic (set of 6)	Pkt	100
92.	Arm band	Nos	50
93.	Hand gloves (white)	Pairs	500
94.	Books for leisure reading (Hindi) CBPO	Nos	200
95.	Dvds (English)	Nos	200
96.	Dvd/vcds (Hindi)	Nos	400
97.	Dvd player	Nos	22
98.	T rod brass for UN flag	Nos	0
99.	Roll up black board (58"x68")	Nos	6
100.	White board duster	Nos	20
101.	Roll up black board (68"x100")	Nos	6
102.	Alkasign bds (4' x 3')	Nos	20
103.	Alkasign bds (6' x 4')	Nos	20
104.	Disposable wipe cloth (10 per pkt)	Pkt	200

105.	Brush for dish washing	Nos	200
106.	Bucket plastic 20 ltr	Nos	150
107.	Antiseptic liquid 1 ltrs	Nos	20
108.	Mug plastic	Nos	150
109.	Bathroom stool for bathing	Nos	100
110.	Toilet brush	Nos	75
111.	Floor duster (pocha)	Nos	150
112.	Polishing cloth	Nos	250
113.	Dust pan (big)	Nos	20
114.	Button (black, white, khakhi)	Pkt	75
115.	Chain trouser	Nos	200
116.	Stitch button (OG and white)	Nos	1000
117.	Elastic (1 inch)	Mtr	500
118.	Hook for trouser and shorts	Pkts	50
119.	Water sprayer	Nos	06
120.	Scissor teeth stainless steel	Nos	09
121.	Towel napkin	Nos	16
122.	Cloth terricot for barber	Mtrs	18
123.	Powder box with puff	Nos	06
124.	Gown terricot	Nos	12
125.	Electric machine hair clipper	Nos	6
126.	After shave (splash)	Bottle	12
127.	Antiseptic cream	Nos	12
128.	Talcum powder	Nos	24
129.	Brush for washermen	Nos	24
130.	Clip for hanging dresses (10 pcs pack)	Pkt	30
131.	Stitching thread (OG) polyester	Nos	25
132.	Stitching thread (khakhi) polyester	Nos	50

133.	Stitching thread (red) polyester	Nos	20
134.	Stitching thread (blue) polyester	Nos	20
135.	Stitching thread (yellow) polyester	Nos	20
136.	Velcro	Mtrs	200
137.	Oil jumper	Nos	8
138.	Black board (2'x3') with easel	Nos	30
139.	White board (2x1 m) with stand	Nos	25
140.	Blue cloth for banner	Mtr	200
141.	Chalk colour (pkt)	Pkt	50
142.	China graph pencil	Pkt	50
143.	Cutter blade large (pkts of 10 blades)	Pkts	50
144.	Cutter blade small (pkts of 10 blade)	Pkt	50
145.	Cutter knife large	Nos	25
146.	Cutter knife small	Nos	25
147.	Drawing pin scholar brass 13mm	Pkt	50
148.	Drawing roll 15y	Roll	25
149.	Drawing sheet all colour	Sheet	500
150.	Glue stick	Nos	50
151.	Gum paste (bottle 500ml)	Bottle	50
152.	Cellophane paper (all colours)	Nos	100
153.	Fluorescent paper (blue)	Pkt	100
154.	Fluorescent paper (green) (packet of 50 sheet)	Pkt	100
155.	Fluorescent paper (all colours)	Nos	100
156.	Gift packing paper (all colour)	Sheet	1000
157.	Golden paper sheet (50x25 cm)	Sheet	250
158.	Silver paper	Sheet	250
159.	Graph paper sheet (normal)	Nos	100
160.	Tracing paper (roll 12mtrs)	Roll	25

161.	Spiral binding paper sheet (A-4 size)	Sheet	1000
162.	Grip binder clip (1", 1 1/2" 1/2")	Pkt	50
163.	Gun tacker pin (23/17)	Pkt	25
164.	Gun tacker (ts - 13h)	Nos	6
165.	Highlighter pen set (all colours)	Nos	100
166.	Colour pen permanent	Nos	100
167.	Marker pen white board (100-1-3 mm)	Nos	100
168.	Ohp marker non-permanent (pkt of 06)	Pkt	25
169.	Lamination roll big	Roll	12
170.	Laser pointer plastic body	Nos	15
171.	Oil colour	Pkt	15
172.	Paper clip large	Pkt	50
173.	Paper clip medium	Pkt	50
174.	Paper clip small	Pkt	100
175.	Paper cutter large	Nos	15
176.	Paper cutter small	Nos	15
177.	Pencil sharpener desktop make	Nos	15
178.	Pointer telescopic (pen type)	Nos	15
179.	Poster colour 10 ml	Pkt	15
180.	Protractor circular	Nos	10
181.	Ribbon silicon (1") roll (all colour)	Roll	25
182.	Soluble marker	Pkt	50
183.	Spiral ring (12mm, 10mm, 08mm - 02 kg each)	Kgs	10
184.	Stapler big size	Nos	10
185.	Stapler big size pins	Pkt	50
186.	Stapler small size	Pkt	50
187.	Steel scale (3')	Nos	10
188.	Steel scale (2 ft) large	Nos	10

189.	Steel scale (30 cm) unbreakable	nos	20
190.	Card scale	Nos	20
191.	tape (2") coloured	Roll	200
192.	tape large transparent (1")	Roll	25
193.	Tape large transparent (1/2")	Roll	50
194.	Transparent tape (1")	Roll	50
195.	Transparent tape (2")	Roll	75
196.	Vip pen stand (leather)	Nos	6
197.	Vitto ink	Pkt	25
198.	Wax	Pkt	25
199.	Acr forms for JCOs	Nos	200
200.	Acr forms for NCOs	Nos	500
201.	Bar chit	Pad	30
202.	Bin card	Nos	1000
203.	Binder for file	Nos	250
204.	Binder clip size 32mm (12 in one box)	Nos	250
205.	Brochure/brief covers (nos)	Nos	200
206.	Calculator	Nos	12
207.	Clip board 13"x19" (plastic sky blue)	Nos	50
208.	Cmptr paper 10"x12"x 3 400 pages	Ream	75
209.	Cmptr paper 10"x12"x 1 400 pages	Ream	75
210.	Cmptr paper 10"x12"x 2 400 pages	Ream	75
211.	Cmptr paper 15"x12"x 1 400 pages	Ream	25
212.	Cmptr paper 15"x12"x 2 400 pages	Ream	75
213.	Cmptr paper 15"x12"x 3 400 pages	Ream	75
214.	Coloured photostat paper A-4 (50 sheet pkt)	Pkts	50
215.	A-4 photo copier paper 400 pgs ream	Ream	300
216.	Glossy photo paper A-4 size (pkt of 50 sheets)	Pkt	50

217.	Bond paper fs	Ream	150
218.	Photocopier paper fs	Ream	200
219.	Duplicating papers (ream)	Ream	100
220.	Executive bond paper A-4 size (400 pages)	Ream	50
221.	Kite paper all colour	Nos	200
222.	Carbon paper	Pkt	25
223.	CSD account ledger (300 pages)	Nos	6
224.	CSD account ledger (200 pages) with regt crest	Nos	6
225.	CSD bill book (100 pages)	Nos	50
226.	Dak folder printed	Nos	75
227.	DO envelopes	Nos	750
228.	DO pad (blank/by name)	Nos	15
229.	Engagement diary 2010	Pad	100
230.	Envelope 6"x4" (pkt of 10)	Pkts	75
231.	Envelope (brown) 10'x 4.5' (pkts of 25)	Pkts	75
232.	Envelope (brown) 16" x 21" with inner cloth	Nos	1000
233.	Envelope medium	Nos	1000
234.	Whiteners	Nos	25
235.	File cover with crest	Nos	500
236.	File cover without crest	Nos	300
237.	Plastic file cover	Nos	300
238.	Fluorescent paint	Ltr	50
239.	Greetings cards	Nos	500
240.	Iaf (eme) e- 04 insp report (pad)	Pad	10
241.	Iaf (eme) e-05 part ii (100 per pad)	Pad	10
242.	Iaf (eme) e-10 (3rd revision) (100 per pad)	Pad	10

243.	Iaf (eme) e-13 form (100 per pad)	Pad	10
244.	Iaf (eme) e-23 form (pad)(100 per pad)	Pad	10
245.	Iaf (eme) e-25 conditioning report form	Pad	10
246.	Iaf (eme) e-27	Pad	10
247.	Iaf (eme) e-875 form (pad) (100 per pad)	Pad	10
248.	Iafo -1444a pad (100 per pad)	Pad	10
249.	Index card ia fz-3015 (100 pages)	Nos	10
250.	International certificate of vaccination (booklet)	Nos	1000
251.	Cas evac/medical evac request (by air)	Nos	200
252.	Repair card iaf (eme) w-40 (100 pages)	Nos	10
253.	Passport application form	Nos	1000
254.	JCOs mess bill book (100 pages)	Pad	10
255.	Mess bill book (100 pages)	Nos	10
256.	Lamination roll small	Nos	10
257.	Leave cert pad (100 pages)	Nos	10
258.	Ledger cover (ia fz-2286)	Nos	500
259.	Ledger sheet printed (ia fz-2286)	Nos	500
260.	Letro gun machine	Nos	6
261.	Magnetic alphabet duty bd with 4'x4'	Nos	6
262.	Map board soft 4' x3'	Nos	20
263.	Map measurer	Nos	10
264.	Menu card	Nos	250
265.	Mess invitation card	Nos	1000
266.	Mileage card (ia fz-2212)	Nos	250
267.	Note pad printed with appt as per sample	Nos	150
268.	Dictionary big size English to English	Nos	6
269.	Paper pin (pkt)	Pkts	75
270.	Paper weight	Nos	25

271.	Pencil soft (doz) bonded lead	Pkts	75
272.	Pin holder with magnet	Nos	50
273.	Post-it flag coloured	Nos	30
274.	Post-it pad medium	Nos	30
275.	Post-it pad small	Nos	30
276.	Printastick 0.5"	Pkts	75
277.	Printastick 1'	Pkt	75
278.	Printastick 1.5"	nos	75
279.	Printastick 2"	nos	75
280.	Receipt, issue and expense voucher (Iafz-2096) (100 pages)	Pad	50
281.	Register digest of service (400 pages)	nos	6
282.	Cash account book printed with regt crest (200 pages)	Nos	10
283.	Kote in/out register printed with regt crest 200 pages	Nos	12
284.	Unit vehicle register (400 pages)	Nos	5
285.	Veh in/out register (400 pages)	Nos	5
286.	Daily ration issue register printed with regt crest	Nos	15
287.	Daily sale & stock position register (150 pages)	Pad	10
288.	FOL issue register 400 pages	Nos	10
289.	Visitor book/comments (200 pages)	Nos	10
290.	Offrs mess bill book register 100 pages	Nos	5
291.	Mess bill summary register (100 pages)	Nos	5
292.	Car diary (Iafz-2209)	Nos	250
293.	Telephone log book	Nos	75
294.	Rubber (eraser) non dust	Nos	200
295.	Rubber eraser non dust big	Nos	50
296.	Service protractor	nos	15

297.	Silk ribbon 1" width (all colour)	Roll	50
298.	Silk ribbon 1/2" width (all colour)	Roll	50
299.	Slip pads spiral no. 6, 86 sheets	Nos	50
300.	Stamp pad ink (bottle) 500 ml	Nos	5
301.	Stamp pad medium	Nos	15
302.	Stapler wall pushing with 10 pkts of pin each	Nos	5
303.	Stapler wall pushing pins	Nos	15
304.	Sticker indbatt	Nos	500
305.	Tags (bdls) (small)	Bdls	75
306.	Tags large	Nos	1000
307.	Tape cutter stand	Nos	10
308.	Thermocol 1" x 3' x 2'	Nos	50
309.	Thermocol 1/2" x 3' x 2'	Nos	50
310.	Thread tick reel for sand model	Nos	25
311.	Un peace keeper instructions	Nos	900
312.	Visit programme card type	Nos	75
313.	Cheque book (yellow) (100 sheets)	Pad	15
314.	Cheque book (black) 100 sheets	Pad	15
315.	Cheque book (red) 100 sheets	Pad	15
316.	Sketch pen ink (box of 12 bottles)	Pkt	10
317.	Correction pen	Nos	50
318.	Note pad printed with appt & name as per sample (03 per offr and appt JCO)	Nos	150
319.	Rubber stamp as per sample	Nos	25
320.	Photograph of COAS (12" x 10")	Nos	10
321.	Photograph of president (12" x 10")	Nos	10
322.	Duty NCO sash	Nos	12
323.	Stainless steel whistle (01 per inf sec)	Nos	50
324.	Chuna	Kgs	300

325.	Geru	Kgs	200
326.	Ice cream cup disposable (6 piece set)	Nos	250
327.	Glass disposable large (100 pcs)	Pkt	200
328.	Disposable plate with fork & spoon	Nos	5000
329.	Tooth pick box	Nos	108
330.	Padlock 50mm	Nos	10
331.	Mosquito repellent machine	Nos	120
332.	Mosquito repellent refill	Nos	480
333.	Consumable s/ gen purpose stores	Nos	-
334.	Bibcock brass 3/4"	Nos	25
335.	Binding wire 10 swg	Kg	25
336.	Binding wire 14 swg	Kg	25
337.	Binding wire 18 swg	Kg	25
338.	Adhesive	Kg	100
339.	Jerrican plastic (hdpe) capacity 30 ltr	Nos	75
340.	Jerrican plastic (hdpe) capacity 10 ltr	Nos	50
341.	Jerrican plastic (hdpe) capacity 100 ltr	Nos	25
342.	Star plate blue (4 pieces)	Nos	6
343.	Star box blue (4 pieces)	Nos	6
344.	Commander light revolving	Nos	6
345.	Car perfume (vip car)	Nos	15
346.	CD cleaning kit	Nos	10
347.	8 port switch 100 mbps (d link)	Nos	15
348.	Bluetooth dongle	Nos	10
349.	Cat 6 patch 1 mtr (d link)	Nos	15
350.	Cat 6 patch 2 mtr (d link)	Nos	15
351.	Cmos bty	Nos	50
352.	Data interface cable cmpr to printer	Nos	10

353.	Desktop speaker	Nos	10
354.	Fuze 2a, 2.5a 3a, 5a,10a each	Nos	50
355.	Hdd pata cable	Nos	25
356.	Hdd sata cable	Nos	25
357.	Headphone set with mic	Nos	10
358.	Remote/cordless keyboard	Nos	10
359.	Lan cable tester	Nos	6
360.	Lan card 10/100 mbps	Nos	10
361.	Modem	Nos	6
362.	Mouse pad	Nos	50
363.	Pen drive 8 gb	Nos	15
364.	Power cable for computer (3 pin 1)	Nos	25
365.	Rj 11 connector	Nos	100
366.	Rj 45 connector	Nos	150
367.	Smps (i ball)	Nos	25
368.	Power extn	Nos	25
369.	Ups bty 12 v	Nos	25
370.	Usb cable (1.5 mtr)	Nos	25
371.	Usb splitter	Nos	25
372.	Vga cable for proj sys 10 mtr long	Nos	20
373.	Vga splitter with gain control -1 to 8 monitors	Nos	15
374.	Cd pouches 40 cds	Nos	20
375.	Cd r 700 mb with cover (100 cd per pkt)	Pkt	10
376.	Cd rw with cover	Nos	100
377.	Dmp cartridge ribbon	Nos	50
378.	Dvd r with cover	Nos	500
379.	Dvd rw with cover	Nos	25
380.	ink black (500ml)	Bottles	10

381.	Toner powder for laser carts 160 ml black	Bottles	10
382.	Toner powder for laser carts 160 ml colour	Bottles	10
383.	External1 tb hdd	Nos	6
384.	Web camera 1076 x 768 resolution	Nos	6
385.	Crimping tool for rj 45 & rj 11	Nos	6
386.	Cd pouches 80 cds	Nos	10
387.	Chair plastic moulded	Nos	50
388.	Arm chair plastic with cushion	Nos	40
389.	Table plastic moulded	Nos	20
390.	Chair easy folding	Nos	100
391.	Bty 9 v ni cd rechargeable for multimeter	Nos	100
392.	Cable for dish antenna rg 11	Mtr	1000
393.	Cable for dish rg 6	Mtr	1000
394.	Calling bell cordless	Nos	25
395.	Changeover switch 32 amp 3 phase	Nos	25
396.	Changeover switch 32 amp single phase	Nos	25
397.	Choke tube 40w and 20 w (copper wound)	Nos	200
398.	Decoration lights (ladi)	Nos	100
399.	Flexible cable 1.5 sq mm copper 2 core	Mtr	1000
400.	Flexible cable 2.5 sq mm copper 2 core	Mtr	750
401.	Halogen lamp 1000w	Nos	50
402.	Holder brass	Nos	100
403.	Holder halogen 1000 w	Nos	50
404.	Lamp halogen 500 w complete set	Nos	50
405.	Main cut off switch 32 amp	Nos	15
406.	Main cut off switch 63 amp	Nos	15
407.	Signaling light baton	Nos	10
408.	Switch 15 amp piano type	Nos	100

409.	Switch 5 amp piano type	Nos	100
410.	Tube rod for emergency light 9w	Nos	25
411.	Tube starter 240v 20/40 w	Nos	100
412.	Tv socket plastic	Nos	30
413.	Tv socket threaded	Nos	30
414.	Audio/video cable	Nos	20
415.	Bed switch 2 way	Nos	50
416.	Bty for laser pointer	Nos	50
417.	Cfl tube 15/18 w	Nos	60
418.	Cfl 20w	Nos	60
419.	Cfl 25w	Nos	60
420.	Cfl 15 watt with inbuilt adopter	Nos	60
421.	25 watt lamp	Nos	60
422.	Tubelight complete	Nos	20
423.	Tubelight rod(40 w)	Nos	40
424.	Extn cord cable reel 6 amp	Nos	10
425.	Cfl 11w	Nos	60
426.	Pliers side cutting 205mm	Prs	5
427.	Screw driver elect 300 mm	Nos	5
428.	Screw driver electrician 200mm insulated	Nos	5
429.	Toothpaste 200gm	Nos	30
430.	Talcum powder 300-400gm	Nos	20
431.	Soap toilet	Nos	55
432.	Ready shave gillette presto razor	Nos	65
433.	Shaving gel 60 gm	Nos	20
434.	Tooth brush oral b	Nos	25
435.	Shaving brush	Nos	15
436.	Rin detergent soap 250 gm	Nos	100

437.	Vim bar 400gm/ nip bar 350 gm	Nos	50
438.	Foil aluminum roll	Nos	10
439.	Torch cell geep (large)	Nos	50
440.	Torch cell geep (medium)	Nos	20
441.	Geep pencil cell	Nos	50
442.	Vim ultra 1 kg refill	Nos	15
443.	Ujjala supreme	Nos	20
444.	Agarbatti	Pkt	50
445.	Detergent liquid (pril)	Bottles	30
446.	Odonil	Nos	50
447.	Drainex	Nos	10
448.	Pearl pet bottle	Nos	24
449.	Bread box	Nos	30
450.	Shampoo clinic plus 200 gms	Nos	40

APPENDIX C

Schedule - III: General Items (Trade)

S no	Items	A/u	Qty Authorised
Riot control equipment			
1	Body protection (incl jacket to cover torso & one arm)(one per indl)	Nos	900
2	Frp helmet (one per indl)	Nos	900
3	Shield (poly carbonate) (one per indl)	Nos	900
4	Baton (poly carbonate)(one per indl)	Nos	900
Tentage and accommodation			
1	Vinyl flooring (sq mtrs)	Mtrs	2000
2	Shamiana 30' x 30' with poles and jhaller	Nos	15
3	Cloth for screens	Mtrs	250
4	Cot foldable with 10mm ply wood (godrej/usha/durian)	Nos	30
5	Curtain rods 1" dia aluminium 12" each	Nos	180
6	Curtain cloth (Bombay Dyeing)	Mtrs	200
7	Curtain velvet stitched 2.55 mtr length (blue)	Mtrs	500
8	Curtain cloth (navy blue)	Pkts	50
9	Curtain ring (pkts of 50)	Nos	180
10	Curtain rods 1" dia aluminium 12" each	Kgs	500
11	Floor matting 8' x 10' (blue)	Sqft	480
12	Floor matting 8'x10' (fawn)	Sqft	480
13	Floor matting 8'x10' (grey)	Kgs	350
14	UN colour kanat screen (10 m x 1.8m)	Nos	25
15	Plastic sheets for tent 24' x 18'	Nos	15

16	Rubber nozzle for flexible pipe 1/2", 3/4", 1"	Nos	07
17	Shamiana with frame & standing pole metallic (03 mtr) pole x 6.5 mtr pole x 4.5 mtr three way x 2, four way x 2 big size and standing	Mtrs	200
18	Runner jute (red)	Mtrs	300
Fire fighting eqpt			
1	Smoke detector	Nos	Tbd
2	Cease fire 1 kg	Nos	2160
3	Cease fire 2 kg	Nos	3900
4	Cease fire 5 kg	Nos	4200
Cook house items / unit eqpt			
1	Tray white metal (approx 2'x1')	Nos	05
2	Ultra grinder stone for dosa	Nos	01
3	Jharni medium steel	Nos	18
4	Menu stand (silver)	Nos	06
5	White metal jug (approx 2 ltrs)	Nos	06
6	Salt pepper set all type	Nos	18
7	Pickle jar bone china	Nos	36
8	Cup and saucer bonechina	Nos	120
9	Soup bowl bonechina with spoon	Nos	120
10	Donga bonechina 8"	Nos	48
11	Donga (glass) with lid 8"	Nos	24
12	Full plate bonechina (crested) (Indian army/un)	Nos	264
13	Quarter plate bonechina (crested) (Indian army/un)	Nos	264
14	Rice plate bonechina(crested) (Indian army/un)	Nos	30
15	Knife set all size (chopping)	Nos	18 sets
16	Knife dining stainless steel	Nos	120
17	Knife butter stainless steel	Nos	18

18	Candle stand	Nos	18
19	Peg measure stainless steel	Nos	16
20	Ice bucket with tongs crystal	Nos	04
21	Bottle holder white metal	Nos	18
22	Diesel bhatti/cooking gas stove	Nos	10
23	Salt pepper set steel	Nos	30
24	Napkin holder white metal	Nos	48
25	Gas tandoor	Nos	14
26	Soda making machine	Nos	16
27	Tin cutter	Nos	18
28	Cocktail maker steel	Nos	06
29	Katori steel	Nos	840
30	Glass steel 5"	Nos	1000
31	Egg beater	Nos	18
32	Cylinder for soda making machine	Nos	100
33	Tooth pick superior	Box	108
34	Stove burner no 1	Nos	25
35	Stove burner no 2	Nos	25
36	Stove burner no 4	Nos	10
37	Stove pump no 1, 2 and 4	Nos	30
38	Stove washer	Nos	50
39	Stove nipple	Nos	50
40	Katori for stove no 1, 2 and 4	Nos	30
41	Kerosene stove 2 ltrs	Nos	10
42	Safety valve (for 6 ltrs, 10 ltrs, 12 ltrs, 22 ltrs pressure cooker)	Nos	06 per type
43	Tandoor normal	Nos	14
44	Microwave 30 ltr with convection	Nos	16
45	Water filter 20 ltrs stainless steel	Nos	36

46	Dust bin with cover	Nos	102
47	Sandwich maker electric	Nos	16
48	Coffee vending machine (coffee maker)	Nos	16
49	Fry pan non stick	Nos	20
50	Vision glass cut work (glass water)	Nos	60
51	Candle for water filter 20 ltr	Nos	01
52	Gas cooking range large (commercial)	Sets	14
53	Tablemat plastic	Nos	20
54	Food warmer (stainless steel)	Mtrs	14
55	Momo bartan (aluminium)	Nos	2
56	Kaddu kash (steel)	Nos	06
57	Rice palta medium	Nos	03
58	Palta ss	Nos	12
59	Belan (wooden)	Nos	44
Offrs mess items			
1	Footmat plastic duratuff	Nos	10
2	Ration container capacity 20 kg (al/steel)	Nos	75
Eqpt repairer tools			
1	Tool set rivetting	Nos	01
Rap items			
1	Patients uniform summer (in pairs) (green cotton)	Nos	29
2	Patients uniform winter (in pairs) (green blazer)	Nos	30
3	Gown for patient (UN colour)	Nos	27
4	Drug index cims	Nos	04
Furniture/living			
1	Sofa set for offr's mess and ops room (five seats)	Nos	12
2	Chair folding velvet	Nos	48
3	Chair easy tumbler with velvet seat and back	Nos	120

4	Mirror large with frame 1.5' x 3.5' and base	Nos	36
5	Field bar for offr's mess	Nos	02
6	Carpet synthetic	Nos	05
7	Carpet synthetic	Nos	10
8	Almirah steel small 18 gauge steel	Nos	02
9	Lecture stand fibre glass	Nos	02
10	Office chair revolving (gsf-6019)	Nos	04
11	Chair computer gsf-8008	Nos	12
Ebr tools			
1	Ebr thread for shoe stitching	Nos	80
2	Shoe stitching solution	Kgs	08
3	Needle for stitching 4'	Nos	15
4	Scissor 10"	Nos	02
5	Nipe shoe maker	Nos	03
Washerman items			
1	Cotton cloth (white)	Mtrs	30
2	Three pin plug 16 amp	Nos	10
3	Three pin socket 16 amp	Nos	10
Welfare eqpt			
1	Decoration flag india	Nos	20
2	Rope cotton for national flag (mtr)	Mtrs	500
3	Stove with accessories	Nos	40
4	Burner for stove no 2	Nos	20
5	National tee flag	Nos	160
6	UN tee flag	Nos	160
7	Souvenir	Nos	150
8	Flag pole 20'	Nos	32
9	Flag pole 8'	Nos	20
10	Lances	Sets	12

11	Brass stand for table flag	Nos 08
12	Table flag UN (zari & embroidered)	Nos 90
13	Metal sheet 3x2" for sign board	Nos 90
14	Durrie 12'x18'	Nos 90
15	UN colour jhalar	Mtrs 200
16	Kerosene stove (2 ltr) brass	Nos 78
17	Coffee table book on India/Africa/Indian army	Nos 39
18	Photo president of India	Nos 27
19	T stand for decoration flag	Nos 80
20	Books for leisure reading (Hindi)	Nos 300
21	Dvds (English)	Nos 200
22	Dvd/vcds (Hindi)	Nos 400
23	Dvd player	Nos 22
24	Washing machine 7 ltr automatic	Nos 16
25	Handicam video cd type	Nos 10
26	Blank handicam cds	Nos 75
27	Deep freezer with stabilizer 380 ltrs	Nos 30
28	Music system with cd player	Nos 16
29	Digital camera 10 mp	Nos 10
30	Tv 29"	Nos 08
31	Tv 21"	Nos 38
32	Colour tv lcd 42"	Nos 02
33	Vaccum cleaner medium duty (not hand field)	Nos 02
34	Plastic drum buckets (50 ltr)	Nos 60
35	Car stereo with speakers	Nos 20
36	Mixer grinder	Nos 16
37	Insect catcher	Nos 34
38	Digital handy cam	Nos 04

39	Ahuja speaker 200w vs-200	Nos	02
40	Line amplifier ub-30	Nos	04
41	Low band amplifier	Nos	02
42	Mobile phone (3g facility)	Nos	06
43	Solar lamp 9 or 11 w 3 cfl, 12v, 40 ah bty cfl brand	Nos	04
44	Ice making machine	Nos	01
45	Insect catcher 3 rod	Nos	15
46	Umbrella	Nos	15
Dish antenna			
1	Digital receiver for ctv	Nos	02
Office eqpt			
1	Table calendars for year 2008	Nos	100
2	Velvet board	Nos	44
3	Paper shredder	Nos	22
4	Scissor 6"	Nos	15
5	Pokers steel	Nos	15
6	In/out trays plastic	Nos	25
7	Roget's Thesaurus	Nos	05
8	Lector gun machine	Nos	03
9	Table lamp	Nos	60
10	Spiral binding machine & spares	Nos	03
11	Lamination machine	Nos	02
12	Dust bin with cover	Nos	60
13	Table top	Nos	14
14	Comb binding machine	Nos	02
Stationery (incl int stationery)			
1	Leather diary small (offrs, JCOs and clks)	Nos	150
2	Leather pad with pen (printed regtl crest) large	Nos	150

3	Vip folder (printed)	Nos	20
4	Work order (iafo-1370)	Pads	100
5	Demand form (iafo-2710)(100 per pad)	Pads	25
6	Defect report form iaf (eme) e-01 (pad)	Pads	10
7	Annual insp report of amn/expls (pad)	Pads	10
8	Iafo-2710a	Pads	20
9	Opd chits 100 page each pad	Pads	80
10	Bin card	Nos	1000
11	Do's and don'ts (msn specific)	Nos	2400
12	For batched amn (afo 2714)	Pads	10
13	Trip ticket (veh & gen set)	Nos	200
14	Road worthy cert for veh	Nos	1000
15	Vehicle log book	Nos	25
16	Ledger of stock fol (iafz-2109)	Nos	05
17	Coy parade state book (400 pages) large size)	Nos	05
18	W:31 summary of unit field work return	Nos	05
19	Explosive and amn register (iafo-2713)	Nos	02
20	Postage account register iafz-2016	Nos	03
21	Vip stationary folders	Nos	10
22	Tracing cloth roll with 90 cms width	Nos	05
23	Embossing tape reel (all colours)	Nos	40
24	Poster colour set (camel/camlin/fabre castle)	Nos	10
25	Fluorescent graph paper	Nos	50
26	Rexine (black) (mtr)	Mtrs	50
27	Chalk powder (white and all colour) (pkts)	Pkts	25
28	Pointer stick all sizes steel	Nos	06
29	Fabric colour (box)	Nos	05
30	Push pin pkts	Pkts	50

31	Radium tape	Nos	05
32	Automatic numerator	Nos	10
33	Rubber stamp numbering	Nos	08
34	Round stamp	Nos	03
Sports eqpt			
1	Base ball gloves	Pairs	05
2	Volley ball pole	Pairs	40
3	cricket pads	Pairs	70
4	Cricket helmet	Nos	70
5	Wicket keeper pads	Pairs	24
6	Sports shirts for bn team	Nos	60
7	Sports stockings for bn team	Nos	60
8	Exercise cycle	Nos	18
9	Exercise mat	Nos	50
10	Skipping ropes	Nos	150
11	Rubberised weight	Sets	30
12	Basket ball board fibre	Sets	01
It eqpt			
1	Photocopier	Nos	04
2	Scanner g 2410	Nos	16
3	Fax machine	Nos	02
4	Vps with screen and tripod (4'x6')	Nos	02
5	Combo rom drive (dvd 8x)	Nos	02
6	Ddr-i ram 1 gb	Nos	10
7	Ddr-ii ram 2 gb	Nos	02
8	Usb/ps2 mouse optical	Nos	10
9	Web cam	Nos	16
10	Microphone	Nos	16
11	Personal computer	Nos	50

12	Lap top i330, 4gb, 500gb hd, 512 mb graphic card, 14"	Nos	16
13	Colour monitor tft 17"	Nos	50
14	Seagate external hard disk 250 gb with usb	Nos	16
15	Deskjet printer hp 10 ppm	Nos	32
16	Dot matrix printer 24 pin	Nos	16
17	Laser jet printer 30 ppm	Nos	16
18	Ups 800 va	Nos	50
19	Hdd 500 gb	Nos	06
20	Hdd 160 gb	Nos	07
21	Svga cable 25 mtr (pc to video projector system)	Nos	12
22	Sd ram 256 mb	Nos	20
23	Sd ram 512 mb	Nos	20
24	Usb extension cable	Nos	32
25	8 port hub 10/100 mbps	Nos	32
26	Smps tx	Nos	16
27	Smps atx	Nos	10
28	Optical scroll mouse with pad	Nos	16
29	Key board	Nos	16
30	Spike/power extension	Nos	20
31	Projector lamp of infocus model lp (400 s/no 3gw)	Nos	05
32	Power cable for computer (3 pin)	Nos	50
33	Data cable for svga colour monitor	Nos	50
34	Dvd rewritable drive (internal)	Nos	16
35	Data interface cable computer to printer	Nos	16
36	Hdd data interface bus	Nos	16
37	Com port display cable 15 pin	Nos	16
38	Smps fan 12v dc	Nos	16

39	Piv cpu fan	Nos	16
40	External modem	Nos	16
41	Lan card	Nos	16
42	P iii mother board (810e) (intel/compaq)	Nos	10
43	Pc speaker set (i ball/philips/sony)	Nos	50
44	Head for tvse msp 245	Nos	10
45	15 amp extension board with indicator	Nos	50
46	Cordless mouse with pointer	Nos	15
47	Fuser roller	Nos	12
Software			
1	Anti virus software single / multi user	Nos	06
2	Exchange server software	Nos	01
3	Windows server software	Nos	01
4	Ms office (2007/2010)	Nos	04
5	Cd/dvd writing software	Nos	02
6	Os ms windows (vista/window 7)	Nos	04
Expendable (it)			
1	Cartridge for deskjet printer (colour)	Nos	100
2	Cartridge for deskjet printer (balck)	Nos	100
3	Toner for laser jet printer	Nos	20
4	Cartridge for laserjet printer (black)	Nos	45
5	Cartridge for laserjet (colour)	Nos	20
6	Toner for photocopier machine (colour)	Nos	20
7	Toner for photocopier machine (black)	Nos	20
8	Dmp ribbon for printer	Nos	85
9	Paper l/j printer 1100	Nos	02
10	Paper feeding roller l/j printer	Nos	02
11	Fuze 2.5a, & 15a	Nos	35
12	Paper separation kit l/j printer	Nos	04

Expendable stores			
1	WC european type with accessories (cera/hindware/jaguar)	Nos	20
2	Portable plastic WC Indian	Nos	70
3	Mosquito repellent machine for mats	Nos	30
4	Mosquito repellent mats (pkts)	Pkts	200
Expendable stores (mt)			
1	Wheel cover cap m&m	Nos	10
2	Valve tyre wheel dozer	Nos	10
3	Un sticker for vehs	Nos	10
4	Paint spray gun	Nos	10
Def store			
1	Timber ballis 10' x 4" dia	Nos	35
2	Timber ballis 10' x 6" dia	Nos	35
3	M seal	Kgs	30
4	Cement bag grade 53 (50 kg)	Nos	400
5	Cgi sheet 8' long x 3' wide(24 gauge)	Nos	25
6	Cgi sheet 10'x3' long, 22 gauge	Nos	25
Misc items			
1	Dress for rt JCO	Nos	04
2	Flower pot (small, medium & large)	Nos	50
3	Flags for t flag	Nos	200
4	Bomb disposal suit	Prs	06
5	Water distilation plant capacity 10 ltr	Nos	02
6	Bleaching powder for water treatment plant	Kgs	5000

Schedule - III: Tech Stores (Wet and Dry Lease)

S no	Main eqpt / accessories /spares
Generator sets	
1	Genr set 5.6 kva 220v greaves 2 ywa
2	Genr set 5.6 kva kirloskar
3	Genr set 2.4 /2.5 kva shri ram honda ebk 2800 single cyl air cooled engine
4	Genr set 30kva greaves 4 yda mk ii air cooled diesel engine
5	Genr set 30kva ruston 4 yda mk ii air cooled diesel engine
6	Genr set 30kva greaves 3 yda mk ii
7	Genr set 30kva kirloskar 3 cyl
8	Genr set 40kva kirloskar 4r 1040 4 cyl diesel engine 41.4/56.3 kw/hp
9	Genr set 50kva greaves ydax mk iii 4 cyl air cooled diesel engine
10	Genr set 62.5kva kirloskar rb 66 sr- ii 6 cyl water cooled
11	Genr set 160kva kirloskar 6 sl - 9099 ta 145/98 grkw/hp 6 cyl water cooled diesel engine
12	Genr set 250kva kirloskar 6 cyl 6 sl - 8800
13	Gen set 30kva tlr mtd cl i
14	Greaves 3 ydk mk ii phase 440 0.8 of 50 hz diesel genr set
15	Gen set 5.6 kw tlr 2 whld chg set 5.6 kw ch
16	Gen set 250 kva kirloskar
17	Gen set 160 kva kirloskar
18	Gen set self starter 63 kva kirloskar
19	Gen set self starter 40 kva kirloskar
20	Gen set self starter 100 kva kirloskar
21	Gen set 5.5 kva 220v greaves 2ywa mk iii air cooled
22	Gen set 50 kva greaves
23	Tlr 1 ton with ch set 5.6 kw
24	Genr set 7.5 kva kirloskar

25	Genr set 5.6 kva 112v kirloskar rda 2
Air conditioners	
26	Air conditioner 1.5 ton with remote,cvt and mcb
27	Air conditioner 2 ton with remote,cvt and mcb
Radio sets and sig eqpt	
28	Motorola vhf hand held
29	Kenwood vhf
30	Ulsb exchange
31	Rs stars v 25w/5w
32	Public address set 3a (ahuja)
33	Radio prc rs hx 20w
34	Tele field mortar
35	Rwi c/stn
36	Receiver hs 412a
37	Terminal interface unit
38	Tele set 5b
39	Cable jwd-1
40	Radio set hb
41	Amu (trf manpack)
42	Trf (veh)
43	Invertor power static
44	Ground plane antenna (gpa) -30-76 mhz
45	Radio wire integration
Refrigeration eqpt	
46	Deep freezer
47	Refrigerator
48	Room sized freezers (8'x8'x8')
Veh	
49	Motor cycle hero honda 100 cc

50	Motor cycle 350cc enfield
51	Maruti gypsy 413 w
52	Maruti gypsy 413 w hard top
53	Jeep m&m diesel
54	Lt amb tata sumo with ac
55	Truck 2.5 ton amb with ac
56	Truck 2.5 ton
57	Lorry 5/7.5 ton als
58	Bus 12 seater tata 407
59	Bus 42 seater tata 1516
60	Kitchen ly 709 tata
61	Water bowser 4000 ltrs
62	Water bowser 10000 ltrs and above
63	Fuel bowser 4000 ltrs
64	Ly model wksp (mech ly)
65	Ly telecom repair
66	Ly 5/5.7 ton als (lrv)
67	Hdrv av 15 tatra-815
68	Jcb
69	Wheeled dozer
70	Lt amb jeep m&m
71	Scorpio m&m
72	Engineer light tractor mahindra
73	Ly 3 ton s/man 4000 ltrs water bowser/fuel bowser/model wksp (mech ly)/4x4 telecom repair
74	Ly 3 ton s/man (hino)
Wpns	
75	Pistol auto 9mm 1a
76	Rif 5.56mm insas

77	Gun machine 7.62mm 1b with second barrel
78	Gun machine 7.62mm mag 2a1
79	Eqpt 81mm mor ei
80	Carbine machine 9mm
81	Lmg 5.56mm insas
82	Ags 30
83	84mm rl mk iii
84	9mm sub caliber adaptor
85	Atgm with ti sight
86	Projector miniflare
87	Ak 47/5.56mm rif for ubgl
88	Amr with ti sight
89	Mgl
90	Ubgl
91	51mm mor
92	Sniper rif svdn
Instrument	
93	Sight night vision passive cased 101a cased for rif insas
94	Sight unit 102b for mmg
95	Sight 102/101a for 51mm mor
96	Sight unit 102b for 81mm mor
97	Passive night vision binocular 101a
98	Passive night vision goggles 101a/102a
99	Mine detector an/19/2 (schiebel)
100	Drill rock pinjor brh-50
101	Prodder mine mk 1
102	Projector pyrotechnic hand 13mm 1a
103	Binocular prismatic 103 with case
104	Binocular prismatic no 2 mk ii

105	Compass prismatic liquid
106	Compass proportional 1150mm (150mm)
107	Hh gps garmin-12
108	Hh gps garmin - 80
109	Multimetre 8a
110	Telescopic sighting 5.56mm rif insas cased 101a
111	Telescopic sighting 5.56mm lmg insas cased 101a
112	Exploder dynamo capacitor 850v dc nominal
113	Field cipher eqpt (coral)
114	Sensor unattended ground system (ugs)
115	Stabiliser voltage single phase out put 230 v
116	Multimeter 10a
117	Passive night vision crew serve weapon 101a
118	Sight night vision passive 84mm carl gastav gun cased 101a
119	Range finder laser hand held cased lh-30
120	Imager Thermal Hand Held (hhti)
121	Spotter scope with digital camera
122	Hh search light dragon
123	Metal detector
124	Holographic aiming sight
125	Light weight high resolution binoculars
126	Digital compass
127	Hand held direction finder
128	Interceptor receiver
129	Ied detection eqpt
130	Pnvd with lrf for mfcs
131	Bfsr
Brdm-ii (auth : vw/r 635 ms no 2 issue 1, mar 88)	
132	Spares to be of company of which eqpt held in mission area.

Water treatment / purification eqpt	
133	Water treatment plant capacity 3 cum per hour
134	Monoblock pump 1 hp single phases
135	Monoblock pump 2 hp three phases
136	Ro plant 250 lph

Schedule - III: Essential Spares (Wet and Dry Lease)

SNo	Cos sec	Cat/part/ mfr pt no	Nomenclature	Per veh for 6 months
Icv bmp-ii				
1.	1900	Lv2/icv-765-05-sb-291	Filter coarse	12
2.	981	Lv2/icvs-765-12-sb-165	Valve drain	6
3.	982	Lv2/icvs-2590-001613	Filter	6
4.	994	Lv2/icvs-765-14-73	Booster left hand	6
5.	782 & 1139	Lv2/icvs-12- 611-150-65-k	Reducing valve/ air pressure regulator	6
6.	1138	Lv2/icvs-700-77-sb-136	Valve non return	24
7.	4296	Lv2/icvs-765-03-sb-161	Oil cooler	6
8.	1121 & 950	Lv2/icvs-765-78-sb-398	Filter air	6
9.	932	Lv2/icvs-669-300m-14k	Air pressure reducer	6
10.	1072	765-31-72	Labyrinth packing	6
11.	930 & 882	Lv3/icvs-20-01-71-5	Gasket	12
12.	1073	2540-001410	Hydraulic shock absorber	1
13.	9124	Sb-2027-004	Fuel injection pump	1
14.	1233	Sb-20-10-004	Air distributor assy	12

15.	1193	6210-000954	Marker light gst 64 zhp	12
16.	1197, 918 & 995	Lv2/icvs-tu- 16-526-015-73	Automatic circuit braker azs-30	6
17.	914	Lv2/icvs-tu-16- 526-015-73	Automatic circuit braker azs 15	6
18.		Lv2/icvs-675-05- sb-155	Fine fuel filter	12
19.		Lv2/icv-765-05-79	Fine fuel filter gasket	12
20.		Kb-05-100	Course filter seal	12
21.		02-4710-002908 (765-10-1579)	Branch pipe assy	12
22.	945	Rpm-328-002-sb	Volt metre7	6
23.	4274	Sb-20-11-01-9	Water pump	6
24.	4329	Lv2/icvs-765-14sb- 122 or 2530-0048115	Booster lh (cylinder left)	6
25.	4330 & 850	Lv2/icvs-2530-004816 or 765-14sb-123	Booster rh (cylinder right)	6
26.	5060	765-78-sb-780	Electro pneumatic valve ek-48	12
27.	5072	765-03sb-161	Oil cooler	6
28.	5089	4820-004225	Valve vacuum and pressure	6
29.	7, 671, 141	Aduz-016-sb	Automatic pressure regulator	6
Bmp spares (arnt)				
30.	610	N1-675-51-cd-160cd	Selector switch	6
31.	642	N1-2a42-01-038	Locking pin	6
32.	656	N1-2a42-02-014	Ring	6
33.	657	N1-2a42-02-017	Returning pin	6
34.	659	N1-2a42-02-018	Stop (barrel group)	6
35.	661	N1-2a42-02-038	Stop (barrel group)	6

36.	667	N1-2a42-05-04	Pin	6
37.	675	N1-2a42-05-030cd	Feed lever assy	6
38.	676	N1-2a42-05-044	Detent	6
39.	681	N1-2a42-05-041	Upper pin	6
40.	680	N1-2a42-05-039	Pawl pin	6
41.	631	Lv2/rcv-765-51-64	Ring	6
42.	709	Z21/ged-675-42-sb-7	Control system	6
43.	722	Z21/ged-765-73-176z-21	Strainer	6
44.	726	Z21/ged-765-73-2-3z-21	Gasket	6
45.	725	Z21/ged-765-73-202z-21	Gasket	6
Bmp spares (radio)				
46.	758	Z1-misc-675-86-sb-127	Cable-08	6
47.	4157	Z1-44850-709-00	Rf cable	6
48.	4158	Z1-44-850-693-00	Rf cable	6
49.	4159	Z1-44-850-45-00	Rf cable	6
50.	4162	Z1-44-853-774-00	Af cable	6
51.	4164	Z1-44-853-620-00	1.2 mtr lg lead with switch	6
52.	4165	Z1-44-853-622-00	Af cable for amplifire	6
53.	1259	Z1-misc-240.067-422.240.60	Unit 9 (tunable filter unit)	6
54.	1268 & 1834	X2-5920-002290	Fuse link open element hook type 2.12 dia 68.70 o/	6
Bmp tools and assy				
55.	1839	Lv1/rcv-700-76sb-661	Air compressor ak-150cb	6
56.	-	Lv3/rcv-sb-20-10-004	Air distributor	6
57.	-	Lv3/rcv-770-09-sb-107	Air filter	6

58.	1157/1201	Lv2/icv-il-611-150-65k	Air pressure regulator	6
59.	-	Lv2/icv-2930-000534 (765-03sb-162)	Cooler oil vehcular (water cooler)	
60.	1893	Lv3/rcv-765-17-sb-308	Eng shut down mech	6
61.	782/1849	Lv1/r72-2-b2-830- 646-sb-01	Engine oil pressure gauge	6
62.	1950	Lv2/icv-765-22-sb-112	Sarvo booster cyl	12
63.	730/1894	Lv2/icv-4330-00192 (675-05-sb-154)	Strainer assy (filter)	12
64.	1859&825	Lv1/pl-d45-38-102-2w	Water and oil separator	6
65.	-	Lv2/icvs-765-22sb-180 or 765-22sb-1	Pump oil	6
66.	857	Lv3/icvs-sb20-17-00-1	Injector with filter	36
Jeep m&m and scorio				
67.	-	942000074	Oil filter cartridge (m-20 thread)	12
			1012-fuel filter	
68.		7902000094	Fuel cartridge/ 1103, catch linkages	24
69.		89140	Assy clutch cable	12
70.		76875	Hose fuel tk to filter neck	6
71.		87971	Hose air cleaner outlet	12
72.	-	84248	Hose air cleaner inlet	6
73.	-	36031	Clamp hose	6
			1203 accelerator linkages	
74.	-	70576	Assy accelerator cable	12
			1204 idler cable	
75.	-	90291	Assy cable idle adjusting	6
			1301-padiator and hoses	

76.	-	82515	Pressure cap assy	6
77.	-	84466	Hose radiator inlet	12
78.	-	62141	Clamp hose	6
			1501-alternator with vacuum pump	
79.	-	9420000335	Bulb	12
			1503-head light	
80.	-	70399	Bulb double filament 12, 45/40w	24
			1504-parking, turn signal and side marker lamp	
81.	-	12293	Bulb 12v-2w	24
			1505-tail stop, turn signal and reverse light	
82.	-	11680	Bulb 12v, 21/5w (stop/tail)	24
83.	-	91425	Assy wiper arms	04 set
84.	-	91426	Assy wiper blade	4 set
85.	-	19263	Bulb rear lamp 12v, 5w	4 set
86.	-	19279	Bulb 12v, 21w	4 set
87.	-	66245	Fuse 10 amp	10
88.	-	60381	Electronic flasher	2
89.	-	34258	Switch stop light	1
90.	-	59267	Rear view mirror assy	1
91.	-		View mirror outside right	1
Truck 2.5 ton tata.				
92.	Lv7/tmb-5330-004073	3520180380	Gasket	6
93.	Lv&/tata	3928832	Gasket push rod cover	6
94.	-do-	3931904	Sealant liquid gasket	12
95.	-	252501170129	Assy dipstick (oil)	6
96.	5330-002163	3120150580	Gasket	6
97.	-	69975446	Seal (for sealing crack shaft)	6

98.	-	3282113	Gasket oil drain	6
99.	5330-002164	3120150080	Gasket (for top cover)	12
100.	-	252501145301	Gasket	6
101.	-	206099700102	Gasket kit oil sump	6
102.	-	252301155307	Gasket cyl hd cover/ gasket (cyl hd cover)	3
103.		252501155314		
104.	-	252501175805	Hose (to assy oil separator)	3
105.	-	255301176937	Tube	4
106.	5330-002941	11411073000	Gasket for feed pump	4
107.	4730-000417	9411033000	Dipstick	2
108.	5330-002936	1411015055	Gasket for inspection cover	2
109.	-	9440030028	Fuel feed pump	2
110.	-	2443462014	Glow plug	04 per veh
111.	2910-000323	2443203001	Valve	4
112.	Lv7/tmb-5360 -000630	2444615006	Spring	4
113.	-	2440210009	'o' ring in housing	4
114.	-	9441037202	Hand priming pump	4
115.	2910-000324	1450410011	Prefilter sieve	2
116.	5310-004014	2453345000	Clamping nut	6
117.	5307-001011	2453405001	Stud	4
118.	5340-002639	2459999000	Clip	4
119.	-	2440109005	Sealing washer	4
120.	2910-001028	252007140111	Leakage oil line	4
121.	-	2911232700	Hollow screw	2
122.	5330-002945	9431031300	Seal ring	1
123.	4720-000244	0005420083j	Fuel hose (for connection of leakage oil line with fuel return line)	4

124.	-	252309120126	Fuel line (fuel filter to fip)	3
125.	-	1450109101	Sealing ring	4
126.	-	2916710603	Sealing ring	4
127.	-	2916710609	Sealing washer	4
128.	-	1457431003	Filter insert (stage-i)	3
129.	-	9451037409	Paper filter insert (stage-ii)	3
130.	-	2916710602	Felt washer (sludge d/screw)	2
131.	-	1413453025	Sludge screw	2
132.	-	3903640	Filter fuel	3
133.	-	3903546	Seal 'o' ring (big)	3
134.	-	3903846	Seal 'o' ring (small)	3
135.	-	3890063	Separator fuel water (cartridge)	3
136.	-	3935283	Hose flexible	4
137.	-	252309135807	Rubber bellow (air filter to assy pipe)	4
138.	-	252309135822	Hose air intake (assy-pipe to air inlet elbow)	4
139.	-	3159972182	Rubber hose (assy pipe elbow to assy pipe)	4
140.	Lv7/tata	278609139910	Filter element primary	2
141.	-do-	278609139911	Filter element safety	2
142.	-	252514115308	Gasket	2
143.	-	0001510009j	Pinion with bearing (steel) p83/7	2
144.	5977-000031	0001510114j	Brush set (4)	2
145.	5360-001015	0001510493j	Brush spring	2
146.	-	257415110103	Brush assy	2
147.	-	257415118702	Bush, spring	2
148.	-	257415110111	Drive assy	2
149.	-	257415116504	Lock nut	2

150.	-	263615400102	Brush box assy	2
151.	-	255018137701	Sealing ring	2
152.	-	3935335	Belt 'v' ribbed	2
153.	-	16220710240	Sealing washer 16x20 is-3175	2
154.	5330-002976	252018137702	Oil seal	2
155.	-	252318130127	Cartridge	2
156.	-	252318135301	Gasket	2
157.	-	3908615	Cartridge lub oil filter	2
158.	5330-002897	3121881479	Gasket	1
159.	-	3521880780	Gasket	1
160.	-	0005420035j	Assy hose	1
161.	-	252520100117	Water pump assy	1
162.	-	3522000205	Pulley (3 grooved)	1
163.	-	252520120118	Water pump kit (minor) consisting of:-	02 set
164.		2010197	Sealing member -01	
165.		2010463	Slide ring -01	
166.		2013719	Seal, sealing ring -01	
167.		1809970147	Sealing ring (rubber)-01	
168.		14550505802	Circlip a28x2 -01	
169.		39975146	Oil seal -01	
170.		3522010480	Gasket -01	
171.		252520125301	Gasket -01	
172.		252520125302	Gasket -01	
173.	-	252520120119	Water pump kit (major) consisting of :-	01 set
174.		2010197	Seal sealing member-01	
175.		2010463	Slide ring -01	
176.		2013719	Seal, sealing ring -01	

177.		1809970147	Sealing ring (rubber) -01	01 set	
178.		252520103101	Ball bearing -01		
179.		252520107903	Shaft -01		
180.		39975146	Oil seal -01		
181.		3522010480	Gasket -01		
182.		252520105301	Gasket -01		
183.		252520103702	Impeller -01		
184.		14550502802	Circlip a28x2 -01		
185.		252520105302	Gasket -01		
186.		3522010039	Hub -01		
187.		252520108302	Shim 0.5mm thick -01		
188.		252520108303	Shim 0.1mm thick -01		
189.		252520108304	Shim 0.15mm thick -01		
190.		252520108305	Shim 0.2mm thick -01		
191.		252520108306	Shim 0.5mm thick -01		
192.	-	252520156305	V. Belt 1280mm long		1
193.	-	22033175	Thermostat insert		2
194.	-	3522030780	Gasket (cover to thermostat housing)		1
195.	-	3522030080	Gasket (cooling water line to thermostat hsg with flange)		1
196.	-	257450005806	Rubber below (thermostat to cooling water line)	2	
197.	-	14280500501	Hose clip	1	
198.	-	257525600110	Clutch sleeve with brg	1	
199.	3110-003169	2540020	Clutch release brg (81.6x50x25)	1	
200.	-	206026706301	Rubber below	1	
201.	-	265121900132	Repair kit (minor)	2	

202.	-	3122671096	Cap rubber protective (on gear box top)	1
203.	-	250526700109	Knob gear shift lever	1
204.	-	3222850082	Rubber bush (for suspension of auxiliary gear box)	1
205.	-	261026407502	Rubber bellow	1
206.	-	3202925082	Rubber cover	1
207.	-	257454509954	Stop light switch	1
208.	-	261430120104	Assy link rod	1
209.	-	261430100108	Lever assy	1
210.	-	260430140103	Accelerator lever assy	1
211.	-	261430107701	Rubber pad (link rod passage through toe panel)	1
212.	-	257332100110	Main leaf with bush	1
213.	-	257332100111	Main leaf with bush (lh)	1
214.	-	206032023401	Bush	2
215.	-	206032107139	Leaf 2 nd (rh)	2
216.	-	206032107128	Leaf 2 nd (lh)	2
217.	-	206032107140	Leaf 3 rd (rh)	2
218.	-	206032107129	Leaf 3 rd (lh)	2
219.	-	261432107105	Leaf 4 th (rh)	2
220.	-	261432107103	Leaf 4 th (lh)	2
221.	-	261432107106	Leaf 5 th (rh)	2
222.	-	261432107104	Leaf 5 th (lh)	2
223.	-	206032107143	Leaf 6 th (rh)	2
224.	-	206032107132	Leaf 6 th (lh)	2
225.	-	206032147133	Leaf 7 th (lh)	2
226.	-	206032107145	Leaf 8 th (rh)	2
227.	-	206032107134	Leaf 8 th (lh)	2
228.	-	206032107146	Leaf 9 th (rh)	2

229.	-	206032107135	Leaf 9 th (lh)	2
230.	-	206032107147	Leaf 10 th (rh)	2
231.	-	206032110713	Leaf 10 th (lh)	2
232.	-	1084112897	Centre bolt m12x200 is 9484	2
233.	2510-000375	3523200063	Front spring shackle with bush	2
234.	-	3523220050	Bush	2
235.	5315-002217	3523220530	Spring pin (front spring to spring shackle)	2
236.	-	257532106701	Spring pin (front spring to front spring bracket)	2
237.	-	261433154205	U clamp (rh)	2
238.	-	261433154204	U clamp (lh)	2
239.	-	257432350107	Shock absorber front	2
240.	Lv7/tmb	3523250150	Bush	2
241.	-do-	257332407102	Leaf 2 nd	2
242.	-do-	257332407103	Leaf 3 rd	2
243.	-do-	257332407104	Leaf 4 th	2
244.	-do-	257332407105	Leaf 5 th	2
245.	-do-	257343240710	Leaf 6 th	2
246.	-do-	257332407107	Leaf 7 th	2
247.	-do-	257332407108	Leaf 8 th	2
248.	-do-	2573-32407109	Leaf 9 th	2
249.	-do-	257332407110	Leaf 10 th	2
250.	-do-	257332407111	Leaf 11 th	2
251.	-do-	261432403203	Centre pin	1
252.	-do-	3523200163	Assy spring shackle rear	1
253.	-do-	3523250530	Spring pin	1
254.	-do-	261435104202	U clamp (between spacer block and spring saddle)	1

255.	-do-	257332600152	Shock absorber (escorts)	1
256.	-do-	257332607502	Joint rubber	2
257.	-do-	257332403402	Joint bushing	2
258.	-do-	3123511080	Gasket	1
259.	-do-	3223310080	Rubber seal	1
260.	-do-	3129970581	Rubber grommet	1
261.	-do-	0003383629	Ball socket head assy	1
262.	Lv7/tmb	3380027	Ball socket lower part	1
263.	-do-	17272030201	Ball pivot	1
264.	-do-	0003380026	Ball socket upper part	1
265.	-do-	0003380331	Cap	1
266.	-do-	00033821638	Seal cap	1
267.	-do-	00042802351	Brake hose (bi) breather on assy front axle)	1
268.	-do-	0004283375	Brake hose (a.p>i)	2
269.	-do-	3223560179	Gasket (in between cover to hub)	1
270.	-do-	257635905301	Gasket (shift cylinder)	1
271.	-do-	257335307705	Oil seal (to pinion)	1
272.	-do-	257335115302	Gasket (for carrier)	1
273.	-do-	257335105303	Gasket (rear axle housing cover)	1
274.	-do-	17050503267	O ring 326 ts-16220	1
275.	-do-	00042802353j	Brake hose (ei)	2
276.	-do-	0009900150j	Wheel nut (m20 x 2.5)	4
277.	-do-	3284110097	Protective cap	1
278.	-do-	257542120103	Pressure spring	1
279.	-do-	257542126602	Piston	1
280.	-do-	257542424301	Circlip	2
281.	-do-	0004300289	Pressure spring	1

282.	-do-	0004230186j	Piston cup	1
283.	-do-	0004230387j	Boot	1
284.	-do-	14270201700	Hose clip 17ts-17669 (brake fluid container to m/cyl outer for ft & rr)	1
285.	-do-	00042800351	Brake hose (bi) (brake hose near rear wheel rh and lh and on rear axle)	1
286.	-do-	0004280035j	Brake hose (bi) (brake hose near front wheel rh and lh and on front axle)	1
287.	-do-	257643730102	Assy air filter	2
288.	-do-	257347100109	Screen filter assy	2
289.	-do-	3124760026	Rubber hose	1
290.	-do-	0005420083j	Hose	1
291.	-do-	3124760026	Rubber hose	1
292.	-do-	3275045807	Rubber buffer (radiator frame to cab bracket)	4
293.	-do-	257450006301	Rubber buffer (radiator frame mounting)	4
294.	-do-	257450005806	Rubber bellow (cooling water to thermostat)	3
295.	-do-	257350005806	Rubber hose (cooling water line to thermostat)	3
296.	Lv7/tmb	252950105802	Rubber hose (radiator to water pump)	3
297.	-do-	62123008001	Fuse link 8	6
298.	-do-	62120400121	Lamp rl-21w-12v	1
299.	-do-	62120300097	Lamp cr 10w-12v	1
300.	-do-	62120400121	Bulb 21w ts29201	2
301.	-do-	6212-0300127	Bulb h12v2w	5
302.	-do-	62120400156	Bulb f15w ts29201	5

303.	-do-	621203000127	Bulbh12v2wts29201	5
304.	-do-	210154509904	Starter push button (pec)	1
305.	-do-	261082400104	Wiper arm	2
306.	-do-	261082400102	Wiper blade	02 set
307.	-do-	0005440990j	Blinker glass lh	1
308.	-do-	0005441090j	Blinker glass rh	1
Lorry 5/7.5 ton (als)				
309.	Lv7/ld	F-0834510	Jubilee clip	2
310.	-do-	F-1932450	Rubber hose 3.1/2" dia 8" long	2
311.	-do-	F-1936750	Hose rubber 4" long	2
312.	-do-	F-1936760	Pvc flex hose	2
313.	-do-	X-0464310	Aip support bkt on clutch hsg	2
314.	-do-	X-1907550	Hose 3.1/2" id 4" long	2
315.	-do-	F-1331442	Aluminum elbow	1
316.	-do-	F-0331250	Fan belt (cogged v belt 325mm long)	2
317.	-do-	B-5412588	S/a of wiper arm and blade	02 sets
318.	-do-	F-2330300	Bulb for fdi 24v 21w ba 15s	10
319.	-do-	F-2347400	Bulb for parking lights 24v/4w/ interior	5
320.	-do-	F-2350300	R marker bulb 24v/52/ su 8.5 cap	5
321.	-do-	F-8038000	Helogen bulb h4, 24v	2
322.	-do-	F-2330700	Bulb for axle flood lamp 24v/2w	1
323.	-do-	F-2348300	Bulb for fog lamp	2
324.	-do-	F-1133960	Cap oil filter	1

325.	-do-	F-1760900	Gasket cylinder head	1
326.	-do-	P-1300640	Pre filter insert	3
327.	-do-	B-4495917	S/a of hose from filter to pump	1
328.	-do-	B-4495918	S/a of hose return hose from fuel pump	1
329.	-do-	F-3579715	U bolt	1
330.	-do-	B-5412222	Switch assy ignition	1
331.	-do-	F-0835810/ F-0834510	Clip for hose 100mm dia	2
332.	-do-	F-1762700	Gasket oil cooler element	1
333.	-do-	F-4034200/ P-3101540	Element oil filter	2
334.	-do-	F-4922000	Washer soft for oil drain plug	1
335.	-do-	F-1761400	Gasket thermostat	1

This monograph examines some aspects of the Indian Army's revenue procurement practices. It discusses the peculiarities of these practices in the Indian defence and security setup, relating it to the contemporary risk scenario. Keeping in mind the latest advances in the logistics management of other defence forces, this study draws attention to the corresponding trends in the private or commercial sector. Due consideration has been given to the feasibility of competitive outsourcing for qualitative assurance, cost-effectiveness and operational excellence. A case study of the equipping of the UN-bound Indian troops throws light on the requirement and expectations of the Indian soldier within international boundaries. This study assures of the best support from the material managers of the Indian Army, provided a focused approach, the latest technology, a calibrated system and modernisation are incorporated in the extant procurement procedures.



Brigadier Venu Gopal was commissioned in the Army Ordnance Corps (AOC) in December 1986, and has specialised in the field of Supply Chain and Material Management, and Strategic Management. He has held varied appointments including the Command of an Infantry Divisional Ordnance Unit (DOU), and as Director, Ordnance Services in the Service Headquarters (IHQ) dealing with Provisioning and Procurement of Ordnance Stores, which paved the way for researching the complexities and problems of revenue procurement procedures being faced during central procurement, and suggesting ways and means to overcome these to provide effective and efficient logistic support to the Indian Army against requirements of General Stores and Clothing Items. He was a Research Fellow at IDSA from June 2011 to June 2013.



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