



Vivekananda International Foundation

Youth Development through National Cadet Corps

*Expansion, Contribution to Build National Cyber Capacities,
Skill Acquisition and Social Service Orientation*

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Published by Vivekananda International Foundation.

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I - The National Cadet Corps (NCC) in Nation Building

NCC Footprint

The National Cadet Corps (NCC), the largest uniformed volunteer organisation in the world, is committed to the business of youth empowerment and is ideally suited to help the nation realise its demographic dividend, thereby making a significant contribution to nation-building. The military orientation of its training curriculum also ensures handsome dividends in the security domain.

From its modest beginnings on 15th July 1948 by an Act of Parliament, and with an initial subscriber base of 20,000 cadets, the NCC today boasts of authorised strength of 14 lakh cadets. It has a pan-India presence that includes 16,288 institutions in 703 out of 716 districts of the country. The 8000-plus institutions which are wait-listed bear testimony to its popularity. The only untouched districts lie in extreme remote and threatened areas, or in recently carved out districts of Manipur and Telangana. What is heartening is that most of the NCC's subscription is from government institutions and economically modest households (i.e. nearly 80 percent of the cadet population). The NCC takes pride in helping these disadvantaged sections of society realise their aspirations, thereby contributing towards both equity and development.

One may argue that the expected 15 lakh sanctioned cadet strength (by 2020) of the NCC will only benefit a miniscule proportion of the eligible and targeted population. Be that as it may, each cadet must be seen as an agent or catalyst in his sphere of influence, i.e. his family, friends and neighbourhood, and hence, the overall impact of the NCC is much larger. Going by the yardstick that each cadet touches ten others, the target population influenced by the NCC exceeds one crore. By simple rotation, within a decade, the numbers touched are expected to swell.

Harnessing Youth Power

Perception Profile of Young India. An informal survey reveals many facets. The younger generation is certainly more tech savvy. It is materialistic in its outlook; given to following an easy laid-back lifestyle. Many lack focus and commitment, and are not inclined towards scholarly pursuit, research or innovation. Most are indifferent towards social or community causes and issues. They are risk adverse, lack a sense of discipline and are also afflicted by moral and ethical chasms that exist in society at large. Motivating youth to be engines of change is a challenge. Ask any parent, teacher or elder, most would support the youth being put through compulsory military training. The credibility of the Armed Forces also perhaps has a major role in influencing their mindset. Dr A.P.J. Abdul Kalam, in his address to cadets on 4 November 2004, in New Delhi, had famously stated, "...in my view, NCC training must be made compulsory for all eligible students....at the school or college level"¹. Not many would know that for a brief spell in 1963, NCC training was made compulsory for college students. Owing to budgetary and establishment constraints, the scheme was withdrawn in 1968.

The Future Citizenry. The whole essence of the NCC lies in investment in the future citizenry of our nation. It harnesses youthful energy through its aims and by stringently implementing its wide range of activities. Over 70 percent of its effort is dedicated to leadership training. The objective is to develop character, comradeship, discipline, a secular outlook, spirit of adventure and an ideal of selfless service in each cadet.

The Strategic Perspective. Strategic contours of the National Cadet Corps are evident on many counts. Few are listed here. At the outset, although cadet strength today is in the range of 14 to 15 lakh, as stated earlier, each cadet touches the lives of ten more. Thus, we can expect tens of millions lives being impacted. The NCC, is thus a Silent Revolution. Secondly, a Parliamentary Committee undertakes a performance and establishment audit on an annual basis, wherein, achievements, activities, mapping (coverage) and budget aspects are discussed. Thirdly, all three Service Chiefs are Colonel, Captain and Commodore of the NCC for the Army, Navy and Air Force respectively.

The Conceptual Dimension. It is well established that related to our youth, the demographic dividend must not become a liability. The NCC plays a pivotal role here. However, numbers do remain a limitation, making expansion highly desirable. Service rendered by the NCC towards social causes is well known. Environment, public health and cyber domains remain areas of key concern in social service and security-related fields.

Saliency of NCC

There are several areas in terms of geographical space which assume prime importance in terms of an enhanced role for the NCC. Take the example of Bastar District, where the battle with left-wing extremism will be won or lost, or Kashmir, at least North Kashmir, or areas comprising Dhanis and small hamlets in the desert region or Rann of Kutch, or in some areas of the North East where the young can be lured into traps highly detrimental to national interest. Here, the NCC can play a pivotal role in moulding youth and in ensuring increased subscription to the armed forces or the Central Armed Police Forces (CAPFs). The security situation in all of these areas, including the generation of intelligence, will improve. The NCC footprint in these areas must see enhancement.

It is only imperative that the NCC be expanded in application and aligned to meet the aspiration of the youth with regard to acquiring skills leading to employment beyond the armed forces. This motivated force also needs to be harnessed to serve security-related (cyber warrior domain) and social causes of national importance.

In pursuit of the above stated issues, an Approach Paper has been attempted to examine four main aspect, namely, expansion of the NCC – the way forward, a role for the National Cadet Corps in the nation's mission to develop Cyber Security capacities for the future, empowerment of NCC cadets through skill acquisition and enhancement social and community service orientation of the NCC. Highlights and recommendations for all four facets examined are appended in contents that follow.

II - Approach to Expansion

Incremental Expansion - 15 to 25 Lakh

Presently, a cadet expansion plan is underway for increasing the strength from 13 to 15 lakh. The same is likely to materialise by 2020. In the past, it has also been considered that in addition to completing the ongoing expansion plan (2 lakh), the NCC cadet strength be increased further by 10 lakh, absorbing the additional cadet strength by exercising the various options. Some of these are, raising additional new units, where required, increasing the capacity of existing units to seven companies (senior division / wing) and 24 troops (juniors) where possible, concurrently, implying all units to be of standard strength and upgrading minor units to regular units selectively. All available options need to be considered to bridge the gap between demand and availability, in a sustainable and economically viable manner.

Present Coverage. As on date, the NCC has a pan-India presence with 16,288 institutions in which cadet strength is over 13 lakh. Waitlisted institutions are 8,627. However, the coverage is less than one percent of the student population (14, 64,153 Schools/25 crore Students as per Ministry of Human Resources Development (MHRD) data).² There has always been a growing demand for NCC. There also exist spatial gaps in the presence of NCC.

Two Lakh Expansion Plan

Overview. The last increase of NCC cadet strength was undertaken from 2010, wherein cadet strength was to be enhanced by two lakh from 13 to 15 lakh. The increase envisaged the raising of five group headquarters and 61 units in five phases by absorbing 40,000 cadets annually. This involved provisioning of service manpower (140 Officers, 465 Junior Commissioned Officers (JCOs) and 1025 Non-Commissioned Officers (NCOs) as also commensurate central and state government civilian manpower/ transport.

Progress. Phase I and II (raising of two group headquarters and 26 units) were completed between 2011 and 2013. In 2014, a review was undertaken. Post the review, priorities were realigned with a focus on the coastal, border, Left Wing Extremism (LWE) and insurgency affected areas. By early 2018, authorised cadet strength was 14.2 lakh. Phase IV and V are expected to conclude by 2020, with cadet strength touching 15 lakh. This approved expansion involves a financial outlay of well over Rs. 300 crore. Figures, however, need validation.

Ten Lakh Expansion Plan

Expansion Overview. Keeping in view the requirement of a large quantum of service and civilian manpower, and the funds to be provided by central and state governments, the proposed expansion of the NCC by 10 lakh cadets can be achieved only in phases. Expansion is envisaged from 15 lakh to 25 lakh. 12 phases spread over 12 years would be a pragmatic proposition. The additional cadet strength can be absorbed by upgrading 561 units (432 existing battalions and 129 minor units) and 87 new raisings. This

is based on a pragmatic implementable review carried out by HQ Director General, NCC, in the light of past experience. The same is, however, subject to timely sanctions and release of funds.

Salient Features. No new raisings are proposed for the first three years. An average increase of 90,000 cadets is envisaged for the first eight years, and thereafter, it will be an average increase of 70,000 cadets per year. The manpower accretion and transport requirement involved in the proposal of 12 years will be substantial. Share of the Services, centre and state government manpower, Associate NCC Officers (ANO, teaching staff fully trained by a course to perform duties in NCC) and lady NCC officers, and instructional staff, would be required in numbers. Financial outlay would be substantial. Extrapolation of experience of present expansion would be a rough guide.

This option is 'Establishment Heavy' (establishment for even the current strength is difficult to support) and yet does not meet the desired target in terms of numbers. NCC-Like Training is an option that merits consideration as an alternative. This is discussed later. For relatively volatile security areas, as highlighted earlier, some expansion must be catered for despite realignment and completion of sanctioned strength.

Employment of Ex-Servicemen. In view of the intricacies related to discharge of duties and acquiring experience in other fields, the re-employment of ex-servicemen (ESM) to serve in the NCC-like training outfits is the preferred option on a contractual basis. In case of them being employed in the regular NCC, the Defence Security Corp (DSC) model/re-employment model should only be considered. ESMs need to be drawn from combat arms to include Infantry, Mech Infantry, Armour, Artillery, Engineers and Army Air Defence. In the NCC, contractual employment should be considered only as a last resort. Legal provisions for discharge of duties must be stringent.

Expansion through NCC-Like Training

Essential Facts Revisited

As stated earlier, pan-India, there are more than 14.5 lakh schools and a large number of colleges as well. The student population is in the range of 25 crore. The NCC coverage is presently confined to nearly 14 lakh cadets, 16000 institutions, with over 8000 wait-listed. 703 of 716 districts of the country have an NCC footprint. Remote areas, insurgency-affected areas or newly carved out district have voids. The existing establishment, if it was to cover all institutions of the country, would imply allocation of nearly 1800 institutions per unit. This obviously is impractical, hence, the need for alternatives. NCC-Like Training is a viable option.

Mission. The aim behind undertaking NCC-like training would be to inculcate discipline, character, comradeship, leadership qualities and intrinsic values of nationalism among school children.

Approach and Provisions. The scheme must be on volunteer basis for both institutions as well as students. It is recommended to be a one-year programme - Class 8,

due to consideration of formative age and academic curriculum. Methodology of conduct should be on similar lines as in NCC by ESM (combat arms) and nominated teachers (mini-ANOs, those ANOs who have attended only orientation training locally under the aegis of Directorate or Group) with prior orientation training. Funding is recommended by one agency – the Centre. Implementation in phases i.e. pilot project followed by further expansion and monitoring should be by the NCC for the pilot project and for the newly created organisation for the expanded scheme based on ESM. For the pilot project, strength of 6.5-7 lakh cadets is proposed based on the rationale of monitoring by major units of the NCC. Approximately 2300 ESM and 6500- plus ANO teachers (already on roll) would be necessary. In addition, coordinating officers (ESM) at Group Headquarters (90) would be necessary. Financial outlay is likely to be Rs. 100 crore plus. Corporate Social Responsibility (CSR) for uniforms can be considered. Part of the pilot project must include vulnerable areas as mentioned earlier. Activities like drill, firing and a brief camp must not be compromised. This is based on inputs post elaborate interaction. Uniforms and essential requisite equipment needs to be provisioned prior to commencement as a must. Syllabi can be drawn from Junior Division for boys (JD) and Junior Division for girls (JW) streams and should comprise of discipline and leadership capsules with an allocation of 110 periods – Drill (40), Weapon Training (30), Personality Development (25), and National Integration (15). Camp of three days duration needs to be added. Existing deficiencies for establishment of NCC need to be made up to monitor the pilot project being an additional charter. Cadets need to be incentivised in terms of refreshment, certification, priority for induction in NCC, credits and wearing of uniform. ESM during employment should be less than 44 years of age, vide strictly drawn criteria – arms service, special qualifications and medical fitness. Remuneration of Rs. 25,000/- per month for the present can be considered. Teachers (Mini ANOs) need to be given suitable honorarium as well, a shade lower than ANOs. All trainers must undergo four weeks of orientation. Issues such as storage of weapons, firing ranges, safety of girl cadets and administrative support for conduct of activities (water, medical support, electricity, hygiene considerations etc.) are considered critical for resolution. A separate organisation need to be created on roll out larger strength at headquarters and state directorates based on ESM.

III - A Role for the NCC in the Nation's Mission to Develop Cyber Security Capacities for the Future

Overview

The world is going digital for the better, not to forget our own flagship 'Digital India' campaign. This has led to IT-isation and networking of systems like never before within the country and around the world - with consequent risks. Proliferation of smart phones, lure of the internet and social media are adding to the problem. In the absence of the indigenisation of IT systems (hardware, operating systems etc.), trans-national linkages and location of servers beyond the frontiers of the country, the risk increase is manifold. Threats to critical information systems, banking and finance networks, transportation networks, energy grids, law and order networks, and so on and so forth, are real. Security strategists see cyber space as a new dimension in the spectrum of conflicts which is being exploited by

rivals on a day- to-day basis. Its ‘deniability’ factor makes it extremely lucrative for inimical forces and the threat is only going to grow exponentially with the proliferation of Information & Communication Technology (ICT) systems and Internet of Things (IOT). As per Symantec’s 2013 Norton Report, by July 2013, cyber-attacks had cost Indians and Indian companies US \$ 4 billion. In 2016, the frequency of cyber threats and attacks on Indian government installations registered a 136 percent increase, while in the case of financial service organisations, there was a 126 percent rise. In 2016, reportedly an estimated 3.2 million debit cards were compromised in the infamous Indian banks data breach. Indian defence establishments have also been targeted as a natural outcome. Reportedly, the National Informatics Centre (NIC) email server has also been affected. A strike on multiple sectors can cripple the economy and pose a threat to national security and sovereignty. Globally, strategic cyber espionage campaigns like Moonlight Maze and Titan Rain, and destructive military applications such as the cyber-attack on Georgia and Iran, amplify the urgency for giving this threat due attention. The corporate world is not spared either (e.g. Sony Entertainment case). Human security is getting increasingly vulnerable. This new battle space requires a new breed of warriors, even if they are not employed in the security domain. Each member of the work force must be aware of the vulnerabilities and the getaways.

There is growing realisation of the enormity of this threat and an appreciation for the urgent requirement of building capacities for a robust response to dominate cyber space towards its favourable unhindered exploitation. Policy frameworks exist at the national and state level, and within some departments, institutions and organisations. Structures have also been put in place to synergise capability development and orchestration of response, but these pale into insignificance when we see how our adversary China developing potent capabilities in this field. Services too are struggling to put in place a Cyber Command. Our own National Technical Research Organisation (NTRO) is spearheading this response. Some baby steps have been taken, but populating (and equipping) organisations entails enormous costs, suggesting the desirability of exploring alternative models instead of a large cyber security force. It is anticipated that the requirement of cyber warriors would go up manifold around ‘zero-day’. US network security company Fire Eye had revealed that about 24 per cent of Indian organisations are exposed to advanced threats as compared to 15 per cent globally. This could also be because the typical Indian mindset of cutting corners when it comes to making investments in security overlays for their ICT systems. Research also reveals that almost three quarters of attacks are on end-point devices. Not surprisingly, more than 50 per cent of the respondents in a survey of decision makers found cyber security regulations and mandates as restrictive and viewed untrained employees as posing the biggest security risk. This brings us to the desirability of developing a bottom-line cyber security consciousness among the population at large. India is considered by the world to be an IT giant, and hence, developing cyber security capacities should be relatively easy, but for that, there must exist the necessary will and or resolve.

The NCC Advantage

The NCC, with its organisational strength, work ethos, pan-Indian presence and motivated cadets is uniquely placed to make a significant contribution in this field. As stated, the NCC is the largest uniformed youth organisation in the world. In its noble mission of youth empowerment, it directly touches the lives of over 13 lakh boys and girls. This figure will rise in the future. Approximately a-third of its subscription base comprises of senior or college-going cadets, who undergo NCC training for a period ranging from three to five years. Approximately 30,000 of these students are from technical educational institutions spread in all Directorates in varying numbers. The NCC has, over the years, been largely successful in infusing in its cadre with a sense of yearning for voluntary national service. It is only in the fitness of things that this motivated youth cadre plays a more active role in solving challenges confronting the nation to ensure dignity for its citizens and India's rightful place in the comity of nations. The Digital Force must be a disciplined force - herein lies the distinct advantage.

Our Prime Minister, Shri Narendra Modi, had recommended to the National Association of Software and Services Companies (NASSCOM) during its silver jubilee event in 2015, to create a Cyber Security Task Force (CSTF). The CSTF aims to create a force of a million cyber security professionals by 2025. This probably should highlight the importance being attached to capacity building in this vital field.

A Role for the NCC – What can be Done

At the macro level, it appears that the NCC, during the subscription period of cadets, can produce a large high grade Cyber Force. It also appears that the structure of the NCC and its curriculum can be realigned by way of opening of Cyber Wings. Here some aspects merit attention and consideration. Firstly, a cyber-warrior is like a member of the Special Forces in terms of specialisation, professionalism, discipline and ethics. A cadet, during his or her assignment in the NCC, can acquire basic or semi-advanced skills since he or she is primarily a student of some course in pursuit of a graduation degree with a university. Higher specialisation will need incentives and guaranteed employment in the field subject to suitability. Secondly, the NCC subscription base is largely rural with a modest background (80 percent or more). Technical orientation of these cadets is restricted by virtue of courses pursued by them. Excellence is an exception, but highly feasible. Here there is a point to note that each cadet, with a small change in his or her training schedule, can be trained to be a responsible digital space user and be further trained to be an end-device operator. Thirdly, the students from technical institutes that subscribe to the NCC are limited to approximately 30,000 cadets only. These cadets are largely averse to disturbing their semester curriculum. Enthusiasm to attend cyber training with a certification in lieu of an outdoor camp is observed to be abundant. Therefore, talent hunt and employment on hand while training, is highly viable. Fourthly, there are no technical units in the NCC on ground. Eleven Air Wing units and even a lesser number in Navy are designated technical and affiliated to institutes like IITs and NITs. The curriculum of these units is standard, akin to other units. Some technical training is imparted with regard to designing and functioning of

ships and aircrafts. Cadets, due to the stringent academic curriculum, generally do not survive the complete training period and schedule. Therefore, the NCC can focus on building national capacities at two fundamental levels, viz, basic and advanced level, targeting its approximately 4.5 lakh strong senior division/wing cadets, with an average training period of three years. Basic Awareness Orientation can be executed through Commandments and reiterated during the institutional training and camps itself. This will not necessitate any external expertise.

Universal Basic Cyber Security Training. At the basic level, all senior volunteer cadets can be made to undergo a Universal Cyber Security Knowledge Capsule during the NCC Camps. The details of this 12-hour long capsule are given below. The camp curriculum could be altered to create room for this or the camp duration can be extended by one to two days. Alternatively, special short duration camps (two to three days) in a decentralised mode could be conducted exclusively for this purpose by a roving guest faculty for eligible cadets. This training is anticipated to cost Rs. 1000/- per cadet, to be imparted in batches of 30 cadets @ Rs. 30,000/- per batch. Approximately a third of senior cadets attend camps annually. Hence, 1.5 lakh youth would be trained on basic cyber security issues annually under this scheme. These cadets in-turn would serve as catalysts to influence their households and immediate neighborhoods to increase the number of beneficiaries five-fold (i.e. to 7.5 lakh). Suggested syllabi is as below.³

Universal Basic Cyber Security Course for Senior NCC Cadets

Course Name	: Universal Basic Cyber Security Course
Eligibility	: Min 10 th student / Cadets
Hours	: 12

Capsule I - 4 Hours

Computer Security: Physical security of a computer: What do we mean by physical security of a computer? Why is physical security of a computer so important? Physical security for computer peripherals, Guidelines for keeping your computer physically secure - safe login and logout and guidelines for safe usage of computer peripherals in school labs.

Application Security: Introduction to software applications, types of software applications. Accepting a license and an agreement while installing software applications and security features of MS Word.

Internet Ethics: Ethical rules to be followed while accessing the Internet

Capsule II - 4 Hours

Computer Ethics: What is meant by ethics? What are computer ethics, Difference between ethical and unethical behaviour of a computer, unethical behaviour in computer usage, improper use of computer resources and ten rules of computer ethics?

Introduction to Security for Word Processor, Presentation Tool, Spreadsheets (Application Security): What is word processor software and word processor software risks, introduction to Macros, how Macros spreads the word processor; presentation tool - what is presentation software? types of presentation software, presentation software risks; browsers - what is a browser? types of web browsers, do's and don'ts while downloading (pictures) in or from a computer.

Capsule III - 4 Hours

Computer Security: What are physical and non-physical threats of a computer? Need of security in a computer and why do we learn about computer security? Computer Virus - introduction to computer virus, types of virus, possible ways to get virus into computers and installation of anti-virus.

Introduction to Office Application Security: How to install software into computer? The importance of copyright while installing software. Word Processor Tool - reviewing the concept of Macro virus and safe security settings for MS.

Internet Ethics: What is cyber security, what is cyber safety, difference between cyber safety and cyber security, acceptable behavior - acceptance, sensitivity to national and local cultures. Cyber bullying - what is bullying? difference between normal bullying and cyber bullying and what are the manifestations of cyber bullying?

Advanced Cyber Security Professional Course

Cadets hailing from degree / diploma technical institutions (approximately 29,000 cadets) with some grounding in IT, in their second year of C Certificate training would be subjected to advanced instructions in cyber security through a 60-hour-long training programme by guest faculty spread over a period of ten days in special NCC Cyber Security Camps. The details of this programme are given below. This would translate to training approximately 10,000 cadets at an estimated cost of Rs 5000/- per cadet. Non-technical cadets with identified talent can be included as well.

Advanced Cyber Security Course – Syllabus and Curriculum

Course Name	: Advanced Cyber Security Course
Eligibility	: Graduates Engineering Degree / Diploma Students / Cadets
Duration	: Six months of weekend classes (@ 2.5 hours per week)/ Camp
Hours	: 60

Capsule I

Network Security: Wi-Fi Security: What is wireless communication? Importance of wi-fi Security; types of wireless environment attacks – denial of Service (DOS) attack, man-

in-middle attack, war driving; how attacks occur in a wi-fi environment; and guidelines for wireless communications.

Operating System Level Security: Introduction to Linux operating system (OS), Linux operating system guidelines; Android security guidelines - introduction to the Android operating system, risks involved in Android OS; protection of Android devices – screen lock, keeping OS and apps up to date, tracking and wiping, downloading apps, managing app permissions, backup, secure wi-fi, encrypt android; guidelines – do's and don'ts of mobile phone security.

E-mail Security: Phishing technique – tab napping, how does it work, tips to counter tab napping; malware - what is malware, types of malware, damage through malware, how to detect malware and protecting gadgets from it.

Cyber Laws: Cyber laws of India, advantage of cyber laws, IT Act 2000/2008, amendment, case studies.

Capsule II

Database Security MS Access: What is word processor software, risks in access; database - macros and scripts, active x-control threats, how to access database, how to delete Macros manually while accessing database, how to encrypt document with a password, how to open/scan documents with the help of anti-virus.

Guidelines for Desktop Application Software: Do's and Don'ts

Open Source Structured Query Language (MySQL): Introduction to MySQL/ managing database, installation and confirmation of the database with an application.

Network Security: What is a network, introduction to network security, types of network, why network security is required? what are internet working devices - hub, active hub, passive hub, ethernet hubs, switches, bridges, types of bridges, routers, gateways, network card, network protocols, ISDN (Integrated Services Digital Network), modems.

Introduction to Web Application and Security: - Top OWASP Web Security Vulnerabilities

Capsule III

Secure Programming Concepts: General security principles useful for secure software development, software vulnerabilities, buffer overflow and integer overflow in C++, vulnerabilities exploited by Morris worm, input validation and data sanitisation, secure manipulation of arrays and strings – Safe Application Program Interfaces (API) , secure memory and file handling software vulnerabilities, format string and race condition vulnerabilities in Python, Structured Query Language (SQL) injection and login bypass, error detection and error handling, risks associated with specific Python library functions like evaluation and exec, use of crypto library for securing communication.

Web Application Security: Web application architecture, Basics on client side and server side programming, Basic web programming concepts – HTTP and HTTPS protocols, HTTP methods, cookies, authentication mechanisms and sessions and improper input validation.

Database Security: Secure configuration of database, improper configurations and mitigations.

Cyber Laws: National Cyber Security Policy –objectives and case studies.

Network Security Firewalls: Introduction to firewall, use of firewall, Intrusion Detection System (IDS) and Intrusion Prevention System (IPS) and application gateway; broadband internet security - introduction, broadband security threats, types of broadband and guidelines for securing broadband internet access.

Employment of Cyber Security Professional Cadets. Cadets can be trained by a nucleus NCC State Cyber Security Cell to be instituted in each state (comprising of three to five empowered cyber security professionals), or under the aegis of the respective State Cyber Security Task Force. This training would enhance employment prospects of trained cadets. Deserving ones could be employed on a permanent basis by various organisations and agencies. They could also be given priority while staffing cyber security Territorial Army (TA) units, or war time cyber security units. As a test case, the Armed Forces may consider raising the first Cyber Security TA Unit at Mhow. Certification and incentives for all cadets are a must.

Infrastructure for Cyber Security Training. Each NCC group can consider acquiring two sets of 30 node IT equipment for cyber security training which can be deployed at Cyber Security NCC camps. Each set is expected to cost approximately Rs. 20 lakh. It needs to be ensured that a team of minimum of two dedicated persons in charge of hardware is available. They will also perform coordinating, monitoring and record keeping functions for training imparted. For advanced training, a quality lab will need substantial financial and expertise (establishment) costs. This training is therefore recommended by regional cyber task forces.

IV - Empowerment of NCC Cadets- Curriculum Aligned to Skill Development, Including NCC Finishing School

Existing System for Empowerment of NCC Cadets

Training Syllabus. The curriculum broadly includes military training, adventure training and personality development to produce an aware and effective citizen. Military training encompasses drill, weapons training, map reading, obstacle training and field craft/ battle craft, military history and the art of communication. Adventure training encompasses organisation and participation in various activities such as trekking, mountaineering and desert safaris. Civic training encompasses conduct of awareness rallies in hygiene and sanitation, participation in *Swachh Bharat Abhiyan*, digital payment methods, environment, the *Indradhanush* programme, adoption of villages etc. The syllabus

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is covered in 240 periods spread over two years for the Junior Division and in 302 periods for the Senior Division. Details are as below.

NCC Training Syllabus

Ser	Common Subjects	Periods	Periods	Periods
		A Cert	B Cert	C Cert
a	Drill	40	35	8
b	Weapons Training	30	22	10
c	The NCC	4	3	
d	National Integration & Awareness	15	12	6
e	Personality Development & Leadership	24	25	20
f	Civil Affairs	8		
g	Social Awareness	15	10	6
h	Health & Hygiene	13	9	7
i	Environment awareness & conservation	5	4	2
j	Obstacle training	4	4	2
k	Adventure training	12	8	7
l	Disaster Management		6	4
	Total	170	138	72

Ser	Specialized Subjects (Army)	Periods	Periods	Periods
		A Cert	B Cert	C Cert
a	Armed Forces	9	8	2
b	Map Reading	24	15	9
c	Field Craft & Battle Craft	20	12	9
d	Introduction to infantry weapons & equipment	0	6	5
e	Military History	11	9	4
f	Communication	6	7	4
	Total	70	57	33

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Ser	Specialized Subjects (Navy)	Periods	Periods	Periods
		A Cert	B Cert	C Cert
a	Naval Orientation & Service Subjects	23	14	3
b	Seamanship	24	14	1
c	Naval Communication	8	7	1
d	Navigation	5	6	3
e	Ship & Boat Modelling	10	5	14
f	Naval Warfare		4	3
g	NBCD		2	2
h	Search & Rescue		1	1
i	Swimming		4	5
	Total	70	57	33

Ser	Specialized Subjects (Air Force)	Periods	Periods	Periods
		A Cert	B Cert	C Cert
a	Principle of Flight	3	7	3
b	General Service Subject	5	4	2
c	Aircraft Recognition	3	4	
d	Aero modelling	3	3	
e	Parts of an Aircraft	2		
f	Aircraft Particulars	1	2	
g	Airfield Layout	1		
h	RT Procedure	2		
i	Atmosphere	1		
j	Air Campaigns		4	2
k	Airframe		4	2
l	Airmanship		8	2
m	Aero engines		5	1
n	Instruments		5	2
o	Navigation		3	2
p	Meteorology		1	4
q	Modern Trends			2
	Total	26	48	22

Note: In flying, practical marks to be awarded by the unit considering performance throughout the year.

Ser	Specialized Subjects (Remount & Veterinary Corps)	Periods	Periods
		B Cert	C Cert
(a)	Organisation and functioning of RVC	2	0
(b)	Animal management and equitation	29	65
(c)	Shoeing	14	20
(d)	Saddle fitting	12	20
	Total	57	33

Incentives

The primary form of incentive is in the form of certification given by the Director General of the NCC which opens up avenues for admission to professional colleges and some bonus marks for enrolment in the armed forces. The incentives are to a large extent dependent on the involvement of respective state governments. Southern states are more proactive in this regard.

Army. 64 vacancies per year at the Indian Military Academy (IMA) Dehradun are reserved through UPSC and Service Selection Board (SSB) for NCC C Certificate holders. Similarly, 100 vacancies per year for boys, eight vacancies per year for girls are reserved at the Officers Training Academy (OTA) in Chennai for Short Service Commission (Non-Tech). The number for girls is proposed to be enhanced. Some incentives are given for recruitment as soldiers as well. A and C Certificate holder is exempted from the written examination. No concessions are extended on physical fitness and medical requirements.

Navy. For the Navy, six vacancies per course are earmarked for NCC C certificate holders. Cadets are exempted from the UPSC examination and have to appear for Services Selection Board interview and medical examination.

Air Force. 10 percent vacancies are reserved in all courses, including flying training courses for NCC cadets who are C Certificate holders. Cadets are exempted from the UPSC examination and have to appear for only SSB interview and medical exam.

Participation in Mountaineering Courses at the Himalayan Mountaineering Institute (HMI). This opens up avenues in adventure tourism. However, a very miniscule percentage benefit.

Shortcomings in the Existing System. There is no direct linkage with employment in sectors other than the armed forces. Certificate-based incentive system results in bulk of cadets not benefitting explicitly apart from implicit personality grooming and development that presumably equips them to face a competitive world. Further, the incentives are not common across all states due to lack of a central policy on the issue. There are no incentives for entry into the CAPF, Mahila Police and High Availability

Disaster Recovery (HADR) resources besides preference without quantification. Thus there is a need to explore linkages with other youth empowerment schemes in the nation.

V - Skill Based Empowerment Models

Basic Terms

National Skills Qualification Framework (NSQF). The NSQF is a competency-based framework that organises all qualifications according to levels of knowledge, skills and aptitude. These levels, graded from one to ten, are defined by learning outcomes which a learner must possess regardless of whether obtained through formal, non-formal or informal learning. Each level of the NSQF is associated with a set of descriptors made up of five outcome assessments in domains such as process, professional knowledge, professional skill, core skill and responsibility.

National Vocational Education Qualifications Framework (NVEQF). The NVEQF is a descriptive framework that organises qualifications according to levels of knowledge and skills. These levels are defined by learning outcomes i.e., the competencies which learners must possess regardless of whether acquired through formal, non-formal or informal education and training. Qualifications are made up of occupational standards for specific areas of learning units. This would provide stakeholders such as learners, education and skill training providers and employers with information on broad equivalence of qualifications across specific skill sectors. It is, therefore, a nationally integrated education and competency-based skill framework that will provide multiple pathways within vocational education and between general and vocational education to link one level of learning to another higher level and enable learners to progress to higher levels from any starting point in the education and/or skill system.

Qualification Packs (QPs) and National Occupational Standards (NOSs). National Occupational Standards (NOSs) specify the standard of performance, knowledge and understanding when carrying out a particular activity in the work place. Each NOS defines one key function in a job role. Example: For a sales associate, one of the NOS would be to 'To help customers choose right products'. A set of NOSs, aligned to a job role, called Qualification Packs (QPs), would be available for every job role in each industry sector. These drive both the creation of curriculum, and assessments. These job roles would be at various proficiency levels, and aligned to the NSQF. Example would be Qualification Pack of a Sales Associate. As on date, there are 1846 QPs in 35 sectors.

Conceptual Perspective

It is imperative that complete synergy be attained among all stakeholders before commencement of any scheme for empowerment of NCC cadets. At this level, a synergised approach needs to be followed.

Engagement with Stakeholders. There is an urgent need to proactively engage with all stakeholders, including the Ministry of Skill Development and Empowerment, the Ministry of Human Resource Management, various Skill Development Missions at the state

level, district officials etc. with the primary aim of aligning the existing NCC curriculum towards NSQF norms.

Women Empowerment. In line with various schemes launched by the government to empower women such as *Beti Bachao Beti Padhao*, it is imperative that a special focus is given to empowerment of **girl** NCC cadets whose job requirements are unlike those of boy cadets who may be suitable for jobs in the security sector. Therefore, suitable avenues for girl NCC cadets must be explored in alternative sectors such as healthcare and IT.

Recognition of Prior Learning (RPL). Adequate weightage must be given to training of NCC cadets before subscribing for a skill development scheme. Accordingly, training costs and duration must be modified for NCC cadets as a special measure.

Pilot Projects. Based on suitability and availability of cadets, appropriate pilot projects for empowerment of cadets must be started at the earliest and coordinated by various NCC Directorates in conjunction with State Skill Missions that will serve as guiding beacons for further implementation of schemes. Feedback from these pilot projects will be used for fine tuning the empowerment model.

Keeping all stakeholders (government agencies, private sector institutions, cadets, ANOs, NCC units and headquarters) in mind, three empowerment models have been formulated. These models are NOT exclusive to each other and may run concurrently with varying degrees of participation and convergence in different states/directorates. Three models may be considered:

- a. **Model A** - Government Schemes for Skill Development and Entrepreneurship.
- b. **Model B** - Assistance by Services through Regimental Centres/ equivalent in Air Force and Navy.
- c. **Model C** - Public Private Partnership Model.

Implementation of Model A: All schemes will be coordinated by various officials at Central and State Government levels. Incorporation of NCC cadets into these schemes would be feasible through interaction between State Directorates and Coordinating Officers in their respective states to ensure qualified cadets are gainfully employed by reducing training curriculum by RPL and indication of preferences whenever placement is done. For schemes such as the Pradhan Mantri Kaushal Vikas Yojna, a dispensation for NCC cadets will be necessary since the scheme deals with youth who are largely drop outs from schools and colleges. Alternately, the Ministry of Rural Development and the National Skill Development Agency can centrally pass instructions for giving preference to NCC cadets. Suggested roles for cadets that can be leveraged for empowerment are given below.

Recommended Job Roles for NCC Cadets for Gainful Employment

Ser	QP ID	Job Title	Train- ing hours	Experience/ training outcome
1	HSS/ Q 5102	Home Health Aide	NA	Provide routine individualised healthcare to elderly, convalescents, or persons with disabilities at patient's homes. Monitor or report changes in medical status and provide personal care such as bathing, dressing and grooming of patient.
2	SSS/Q0601	Security Officer	250	
3	AGR/Q6601	Community Mobiliser		2 years' experience in a watershed development project
4	SSS/Q0401	Personal Security Officer		Training for subjects stipulated in Private Security Agencies (Regulation) Act – 2005 and other applicable skills and abilities. Covers risk of surveillance by inimical elements and assault-- physical, verbal, direct and indirect. Mobbing stalking, trailing and kidnapping. Assassination.
5	SSS/Q0801	Physical Security Trainer	115	5 hours training in unarmed combat, 4 hours in screening and search
6	SSS/Q0901	Certified Training Assessor	115	5 hours training in unarmed combat, 4 hours in screening and search
7	SSS/Q0501	CCTV Supervisor		Training for subjects stipulated in Private Security Agencies (Regulation) Act – 2005 and applicable technical skills and abilities.
8	THC/Q4201	Transport Coordinator		Experience: Minimum two years preferable as Tour Vehicle Driver or Meet and Greet Officer
9	THC/Q0102	Front Office Associate		Experience: Minimum one year preferable as Front Office Trainee
10	THC/Q4402	Tour Escort		
11	SSS/Q1401	Investigator		
12	AGR/Q7802	Community Service Provider		Preferable experience in services distribution, rural markets
13	SGJ/Q0103	Wastewater Treatment Plant Technician		Performance Criteria includes Start the wastewater treatment plant by switching on the pumps, mixers, controllers and other equipment, operate different valves in a waste rotary vacuum filter, charge the line slurry tanks, operate oil skimmer and fill drums as required and perform the addition of chemicals and microbes to treat water as required

(It needs to be noted that HADR Resource and Community Health Workers merit consideration for inclusion).

Model B: Assistance by Services through Regimental Centres/ Equivalent in Air Force and Navy

There are 45 Regimental Centres of the Army with a pan India presence that carry out Unit Headquarter Quota (UHQ) enrolment. Due to the pioneering efforts of the Adjutant General's Branch of the Army, an initiative was taken to link soldiers and tradesmen with the Skill India Initiative under the Government of India. As a result, selected Qualification Packs (QPs) have been accredited with the Indian Army and certain job titles have been made available for certification for serving soldiers.

Implementation. The training of NCC cadets, who are wards of serving soldiers/ ESMs, can be carried out at respective regimental centres in these Quantification Packs (QPs). A similar priority for training can be assigned as done for UHQ enrolment. Similar methodology can be worked out for the Air Force and Navy.

Model C: Public Private Partnership

At present, in our country, public education is both inadequate and inefficient, leaving a gap that is filled up by private institutions. In such a backdrop, 29 percent of children are enrolled in private schools. In the higher education sector, private institutions, colleges and universities are playing a pivotal role in the education landscape. Private sector institutions have the requisite infrastructure, expertise and resources in various domains and have now started various skilling initiatives.

Partnership Methodology. Coordination can be carried out with selected private institutions having adequate infrastructure and a sizeable population of cadets to establish a training, monitoring and certification mechanism with the collective participation of the NCC unit and the affiliated institution. For example, in order to get a cadet certified as a Security Supervisor (QP ID SSS/Q0301, NSQF level 5, entry requirement 12th), the parades on Small Arms firing and Weapons Training can be taken up by Permanent Instructor (PI) staff, while other subjects can be taken up by the ANO of the institution. This would involve the institution going through the process of registration, providing some training for trainers and organising assessment by Sector Skill Councils. Private institutions are more suited to conduct courses on skills relating to health and ITES.

Recommended Methodology for Implementation

Convergence Model

Responsibility and Timing Fixation. At the outset, skill acquisition cannot be the prime responsibility of the NCC for two reasons. First is the aspect of establishment capacities versus commitment charter of the NCC. Equally important is the aspect of core competencies. Less security, all other training and certification can be better assigned to government-run skill development agencies. For security also, some additional training of trainers (of NCC) will be necessary. The next question that arises is when does training

beyond RPL take place? It will have to be over and above the NCC curriculum, during week holidays, or during periods of activities of low intensity. Facilitation for this could be done by the NCC authorities. NCC infrastructure can be utilised for the purpose, including educational institutions.

It is recommended that for true empowerment to occur, all models must run concurrently and converge towards a common aim, which would enable cadets to find gainful employment. This would entail an ‘ABCDE’ approach which is explained in the succeeding paragraphs.

Awareness. Awareness about all models must be imparted in simple ways. The cadets must be exposed to various skill development schemes during institutional training and camps. For ANOs, relevant skill development schemes can be included in PRCN (pre-commission) courses and refresher cadres. Similarly, for the PI Staff, relevant skill development schemes must be included in Permanent Instructor Orientation Courses (PIOC).

Building Capacity and Capability

At Institutional Level: The NCC should be raised in only those institutions having specified minimum infrastructure in place. It must be made mandatory for an ANO to be a qualified trainer for certain QPs (earlier table refers) at stipulated NSQF levels. No deviation from these standards should be permitted. Violations should invite financial penalties on the institution and withdrawal of NCC.

At Unit Level: Basic training infrastructure e.g. obstacle training course, firing range, lecture halls, etc. must be built on priority. The existing system of carrying out liaison with field formations must cease and the NCC should have its own training infrastructure in place at the earliest, in concert with the state governments.

Training Academies. Training academies in those states that have them are ideally placed to become training partners.

Certification Process. This can be done by carrying out a close liaison and coordination with respective government agencies/ departments responsible for implementation of various skill development schemes. Certification of certain NCC training activities e.g. participation in Republic Day Camp (RDC)/Thal Sainik Camp (TSC)/National Integration Camp (NIC) as entry level requirements for specified QPs will go a long way in achieving this objective.

Database Based Feedback. A dedicated database must be maintained and updated at Unit/ Institutional Level. These must maintain details of cadets empowered with various skills, the jobs obtained by them within five years of completion of NCC training, the type of jobs in demand in that particular state and details of ANOs/ PI staff involved in skill development schemes.

Evolution. Based on the above inputs, the NCC training curriculum must be periodically reviewed and updated to be in sync with skill development schemes. Certain irrelevant subjects/ topics may be deleted; others may be added, or given greater emphasis.

Pilot Projects

Three projects with a nominated State Directorate are recommended in conjunction with Government and Private Agencies.

Government Agencies. Two pilot projects can be undertaken:

- a. **Pilot Project 1** - With twin aims of ‘Aligning existing NCC curriculum with NSQF Norms’ and ‘Facilitating Enrolment of cadets – Qualitative Requirement (QR) compliant or otherwise with exception - under PMKVY’. NCC units and State Skill Development Mission (SSDM) need to collaborate. Sharing NCC curriculum for alignment with NSQF norms be the next step. Sharing of updated details of cadets who are dropouts be undertaken as well. Responsibility should rest with the SSDM and with the NCC as the facilitator.
- b. **Pilot Project 2** –This should be aimed at facilitating enrolment and training of eligible cadets under DDUGKY (Rural Youth) and their subsequent employment. NCC units and State Rural Livelihood Mission need to collaborate with the NCC as a facilitator. First step ought to be sharing updated database of cadets, including father’s name, address, Aadhar Card number, bank account number, etc. for identification of cadets to be enrolled under DDUGKY. Providing a database of eligible and employable cadets, which will be shared with prospective skill training institutions should come next. Thereafter comes the need to work out modalities for absorption of NCC cadets in existing schemes under the SRLM/ initiate new pilot schemes for the benefit of cadets in the state.

Private Partnership. A Pilot Project can be undertaken in conjunction with a private or volunteer university/institution. Such a project should aim at utilising infrastructure of the institution in imparting skill development training to NCC cadets. Security, hospitality, health and ITES are suitable domains. The University, NCC Units, Sector Skill Councils, State Skill Development Mission (SSDM) need to collaborate. For this, certification of infrastructure and trainers of the institution by the SSDM is a prerequisite. Next step would be aligning institution courses and curriculum with NSQF norms by the SSDM. Accreditation of selected courses (ITES and hospitality) by respective Sector Skill Councils should follow. Other fields can be considered as well.

VII - Establishment of a National NCC Finishing School and Skill Development Centre for Ex NCC Cadets

As stated, the NCC has a sizeable subscription base (approximately 14 lakh) which is a vital constituent of the youth dividend which the nation aspires to tap. The merits of

NCC training in today's environment are well known and it is imperative that the gains of NCC training are carried forward. This can be done by empowering senior NCC cadets through structured integrated courses in finishing and select contemporary skills in demand, or for which NCC cadets are particularly suitable. Imparting training in traditional vocational skills for which structures/institutions already exist is not considered desirable. Thus, the select emerging disciplines found appropriate for skilling of NCC cadets are in the field of security, ITES, hospitality and retail. Going beyond skilling, one should endeavour to ensure placement of this skilled work force in suitable job assignments at the supervisory or executive level.

The training could also be imparted in a structured manner in exclusive National NCC Finishing Schools set up across the country. The first of these schools could be set up as a pilot project in Bhopal, Madhya Pradesh, for an experimental period of two to three years before progressively expanding the experiment to other states and Union Territories. The proposed facility would be a centrally administered co-educational residential facility for 500 former senior NCC cadets set up over an area of seven acres at an estimated capital outlay (present estimates) of Rs. 42 crore (less land costs, defence land recommended) and an annual revenue outlay of Rs. 4 crore. The institution would need to attract high grade faculty through good remuneration packages and have a vibrant and responsive placement cell. The institution would also tap on the commitment, experience and expertise of ex-servicemen in administration as subject matter experts. The institution could be run under the aegis of the Director General, NCC, with an imprint of service ethos and corporate deliverance.

Selection to the institution would be based on merit, through an entrance test. The students would be provided free boarding and lodging, uniforms, course material, and a monthly stipend. All students would be put through training on life and finishing skills, generic employment skills (linguistic, IT, reasoning and logical ability, general knowledge and awareness), and one core skill of their choice/aptitude (security, Information Technology Enabled Services (ITES) – Business Process Outsourcing (BPO) or Knowledge Process Outsourcing (KPO), hospitality, retail) in a structured course of 24 weeks, which shall also include industrial / work experience attachment or on the job training. The institution would also have facilities for non-scholastic activities for overall development of the students. Two courses would be run during a year to benefit 1000 cadets annually.

Based on the experience of a post pilot project in Central India, a minimum of four additional regional centres are recommended pan- India.

A Role for NCC towards Acquisition of Skills by Non-NCC Youth

Youth is our nation's demographic dividend. Equally true, is the likelihood of this dividend turning to disaster and the reason is well known. To keep all youth in the mainstream, it is prudent to deliver skills to young people, particularly those who do not pursue higher studies, and what is more, is that they are lured by easy exploitation towards activities inimical to the society at large. Inculcation of qualities of character, discipline, camaraderie, self-less sacrifice and spirit of adventure should form the basis of grooming of

these young people. These are also the stipulated core values of any NCC cadet. Development of skill(s) should accompany this alignment.

In case such a venture is undertaken, NCC -Like Training as highlighted earlier can be undertaken. While the contours of syllabi may be akin to NCC-Like Training, the duration can well be three months or so (110 periods). Conduct of this training is beyond the capacity of the NCC as it exists. Services of ESM and mini-ANOs with stringent QRs as stipulated in preceding discussion are also recommended. Since these youth are not on the rolls of the NCC, infrastructure and financial provisions will be necessary. A pilot project can, however, be conducted by the existing NCC establishment. On expansion, the monitoring of training can be undertaken by groups of the NCC or the state directorates and training conducted by the additionalities as proposed. Certification like the 'A' Certificate of NCC can be awarded to the participants subject to qualification as per laid down standards. Broad contours with modifications are highlighted again.

Mission. The scheme should aim to inculcate discipline, character and comradeship qualities with intrinsic values of nationalism in children.

Approach and Provisions. It should be a volunteer scheme, linked to skill acquisition post successful qualification. The syllabus should comprise minimum of 110 periods akin to Junior Cadets syllabus (Drill (40), WT (30), Personality Development (25), National Integration (15), Camp of three days in addition), conducted over three months in nominated schools or colleges. Institutions should be nominated by the Department of Education. Conduct should be on similar lines as in NCC by ESM (combat arms) and nominated teachers (mini-ANOs) with prior orientation training. Pilot Project can be conducted by the NCC. Multiple projects can be undertaken in different states in locations where at least group headquarters of the NCC are co- located. On stabilisation the entire training be undertaken by the ESM with monitoring by State NCC heads where an ESM officer would be responsible for conduct of training. Support in terms of ranges and camp facilities of the NCC can be made available. Funding for the project is recommended by one agency – the Centre. Activities like drill, firing and brief camp should not be compromised. Provision of uniform is considered a must. Due to brevity of period, uniforms can be rotated. Students should be incentivised in terms of refreshment and certification besides skill generation, and the ESM (instructors and supervisors) should be of less than 44 years of age, vide strictly drawn QRs – arms, special qualifications and medical fitness. Recommended remuneration is Rs. 25000/- per month (present rates). Teachers are recommended to be provided an honorarium of Rs. 2500/- per month. All trainers need to undergo four weeks of orientation training.

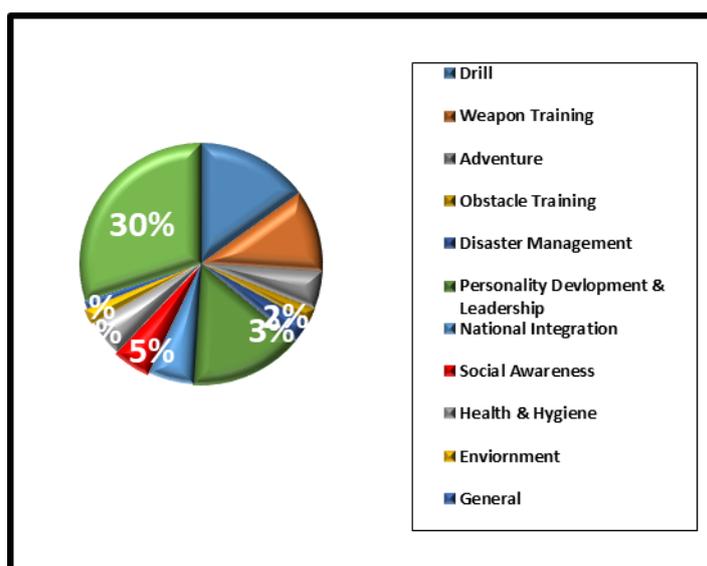
Issues such as weapons, uniform, firing ranges, safety of students and administrative support for conduct of activities (water, medical support, electricity, hygiene considerations etc.) are considered critical for resolution. Vulnerable areas of the country must form part of the experiment with higher priority. Skill development should be executed only by central or state government agencies. Lastly, NCC-Like Training should not be conducted by any organisation other than NCC or NCC-Like. Dilution of standards will defeat the purpose.

VIII - Social Service and Community Development Charter

The NCC's contribution in social and community services is particularly laudable. The organisation is one of the mainstays in popularising yoga, promoting *swachhta* (cleanliness) and spreading digital awareness across the country, a fact acknowledged by the Prime Minister's Office. The NCC forges partnerships with lead ministries and agencies to support 'processes' related to themes of contemporary relevance in the field of environment, health and social issues. Annually, the NCC is credited with planting over one lakh saplings and donating more than 50,000 units of blood. NCC institutions and units adopt villages, bastis, old age homes, orphanages, parks and public places, which become focal points for their social work. Social service and community development activities conducted by the NCC take the form of proactive action through rallies, awareness drives, marathons, *nukkad nataks* (street plays) etc.

These activities encourage cadets to take on voluntary work within their communities and neighbourhoods to make a humble but no less significant contribution towards nation building. On chosen days in a calendar year, specific activities are conducted pan- India simultaneously.

NCC Syllabi. The basic syllabus for Junior and Senior cadets is nearly the same. Contours of depth and detail, however, vary. Overall profile is as depicted. It will seem that subjects such as social awareness, disaster management, health and hygiene, and national integration are inherent in training. At the same time, per se, the quantum of allocated formal periods does not suffice to meet ends. To address this, reorientation of some specialised subjects e.g. navigation, movement, map reading and military history can be reallocated for this purpose. The focus on drill, firing, camp and adventure should not be diluted.



NCC cadets work on a diktat of 'Commandments' put in place in April 2017. It must be noted here that all cadets pledge to undertake 100 hours or more for voluntary *shramdan*

(labour). This time span is utilised for participation in Social Service programmes. Commandments of cadets read as follows:

- I will ensure construction of a toilet in my house and motivate at least ten persons for the same;
- I will be an 'Aadhar' Indian and motivate ten more persons to also be one;
- I will donate blood at least once a year;
- I will make only digital transactions wherever possible and motivate others for the same;
- I will exercise caution while using social media and display exemplary responsibility on cyber security;
- I will plant a minimum of two tree saplings a year and care for the same;
- I will obtain my voter and PAN cards once I turn 18;
- I will ensure garbage segregation in my house and within 100 metres of my neighbourhood;
- I will undertake a minimum of 100 hours of shramdaan for Social Service;
- I will help physically challenged persons to live their dreams;
- I will be role model for gender sensitivity, secular outlook and spirit of nationalism without regional bias;
- I will rush to help an accident victim;
- I will always uphold the motto of the NCC – "Unity & Discipline". I will be equally disciplined when not under observation.

Prime Focus. Prime focus in these programs ought to be National Programmes like Swachhta Abhiyaan, Indradhanush, digital payments, environment, water and blood donation.

The NCC, during the year 2017, evolved a programme to be conducted on select landmark days. On each day, a common activity was conducted pan- India. Pictorially, the same is depicted. Replication with modification(s) is recommended. Academic curriculum has been factored in this schedule in terms of timing.

In addition to the chosen days, activities organised at the local level – traffic management, conduct of major sports activities etc., can be attempted with ease.



IX - Synergy with Other Youth Organisations

There are several youth organisations working in tandem at the centre and state level. NSS and NYKS form the mainstay.

National Service Scheme (NSS). This scheme aims at personality development through community service. It is prevalent in schools and colleges. Participation levels are in the range of 36 lakh. The curriculum involves 240 hours of service and a week-long camp. It is controlled by the Directorate of NSS through 15 regional directorates.

Nehru Yuvak Kendra Sansathan (NYKS). It functions through over three lakh youth clubs located in nearly 630 districts under the aegis of the Ministry of Youth Affairs. Focus areas are youth and community development, promotion of sports, folk and culture, observance of important days, environmental activities, social awareness programmes etc. The subscription base is nearly 50 lakh. Control is synergised at the district level.

All youth organisations - NSS, NYKS and NCC in particular - must synergise efforts to each chosen cause. Implementation should be coordinated on ground at the district level under state and central authorities with accountability. Silo existence must cease. A system of coordination that synergises efforts of all organisations under one agency (Ministry of Youth Affairs) can be attempted. However, success would accrue only in case synergy is effected at the deliverance level i.e. districts with a nodal agency that synchronises NCC, NSS, NYKS and local NGO like bodies with governmental agencies. The chain should then move upward.

X - Recommendations

Expansion of NCC

Incremental Expansion. Focus must be maintained on ongoing Two Lakh Expansion Plan till completion by 2020. For vulnerable areas (potential flash points) as highlighted in the paper, some expansion of NCC in conventional form must be sanctioned beyond two lakh, funded by the Centre entirely, if need be. The interim period is recommended to be utilised for addressing three critical aspects. Firstly, there is an urgent need to address current Service and State Government manpower shortages through essential review of establishment (PE) of the NCC. Secondly, we need to focus on improving infrastructure and logistics for maximum benefit from the proposed expansion of the NCC. Thirdly, we must make up deficiency of women staff (Girl Cadet Instructor (GIC) and Woman Training Lady Officers (WTLO), especially in light of increasing girl cadet strength and converting all NCC units into mixed battalions, with at least one third cadets being girls. Gradually the strength can be enhanced to 25 lakh in phases by consolidation, up gradation and raising new units while retaining the manning norms.

Employment of Ex-Servicemen (ESM). Employment of ESM in the existing NCC set up is not recommended. For further expansion beyond enrolled cadet strength of 25 lakh, employment of ESM may be considered only after assessing success of a pilot project of adequate duration. Selection must be based on stringent criteria with regard to quality control. Qualifying standards mentioned earlier in the paper must be adhered to. In the existing setup, in case, employment of ESM is considered inescapable, the DSC Model may be considered. Their number however must be restricted. Larger share of incumbency must continue with regular soldiers. DSC personnel for the purpose must be drawn from combat arms. Nature of duties demands compliance to most stringent disciplinary norms coming out of the Army Act and its equivalent.

NCC-Like Training. This may be introduced for Class VIII in schools for one year to attain the objective of imparting NCC orientation to students en masse, akin to NCC being compulsory. Further, it is recommended for implementation with approach and provisions listed earlier in detail. A prior pan-India pilot project is highly recommended. This can be based on ESM selected on stringent criteria with responsibility of monitoring retained with NCC authorities. Focus on vulnerable areas should not be lost.

Most importantly, the NCC, in the given form of establishment with authorised strength, present or future, is recommended to continue in the same form delinking it from NCC-Like Training. It is reiterated that any dilution in profile of manning of the establishment will exponentially affect the organisational efficacy.

Developing National Cyber Security Capacities

The NCC can focus on helping to build national capacities at two fundamental levels, viz, basic and advanced, targeting its approximate 4.5 lakh strong senior division/wing cadets with an average training period of three years. Basic cyber awareness

orientation can well be imparted during institutional training and camps as also reiterated through commandments as discussed earlier.

Methodology for Fundamental and Advanced Training. All NCC senior cadets should be made to undergo a basic cyber security course (12 hours of instruction), while those from technical institutions should be put through an advanced course (60 hours of instruction). Thus 1.5 lakh NCC cadets would be trained at the basic level and 10,000 cadets at the advanced level annually at approximately Rs. 1000/- and Rs. 5000/- per cadet respectively. Promising cadets from non- technical institutions can also be put through advanced training.

Certain investments in IT equipment to facilitate the conduct of this training at Rs. 20 - 25 lakh per NCC Group would also be required. Besides hardware, dedicated team (minimum two) in charge of establishment and for monitoring and record keeping needs to be provided. For advanced training, laboratories of reasonable quality and superior technology are necessary. So would be the requirement of manpower. This should thus be undertaken in conjunction with state cyber missions. NCC directorates can act as coordinators for cadets.

NCC cadets who have received advanced training can be given priority for absorption in suitable jobs based on acumen displayed, including Cyber Territorial Army Units, the first of which may be raised at Mhow.

Empowerment by Skill Acquisition

Skill development among NCC cadets beyond the military training is highly desirable in view of low subscription on ground due to calibre and capacities when viewed against stringent QRs of services. Recognition of past learning (RPL) is desirable and highly recommended. At least 13 fields exist where NCC curriculum can be aligned to realise stipulated certification norms. More can be identified. NCC certification should be quantified for entry into CAPF, including Mahila Police; mere 'preference' clause is considered inadequate. In addition, the scope needs to be enhanced to make NCC cadets a part of ongoing skill development schemes of the government. Details have already been highlighted. Three pilot projects should be conducted in a nominated state directorate(s) to run central and state skill development schemes -Pradhan Mantri Kaushal Vikas Yojana (PMKVY) and Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) - and Public Private Partnership basis in health, hospitality and ITES fields.

NCC Finishing Schools for ex-NCC Cadets are recommended on regional basis, aimed at empowerment for assignments beyond entry level in select fields. The first such school is recommended to be established in Bhopal vide modalities as discussed.

The NCC can play a role in conducting capsules on NCC-Like Training in a modified form for drop out students coinciding with skill development among these target groups. This is considered feasible through ESM. Skill development must however remain the responsibility of government agencies being out of existing capacity of NCC. Here too, focus on volatile areas must not be lost.

Contribution towards Social Service and Community Development

Contribution towards social service must be formally added to the NCC charter to generate greater clarity. The NCC syllabi must be modified (minor changes from special subjects) towards social service orientation. Cadet commandments must be the focus of training in the curriculum. *Shramdan* (minimum 100 hours in a year) must be used to render sustained service. Certification and contribution to skill quantification must be incorporated. This will serve as a viable motivator.

On chosen days of national importance similar social or community service activity be carried out pan-India. Therein, synergy of all youth organisations, NSS and NYKS in particular, must be mandatory. Coordination needs to be affected by one agency beginning at the grass root (district level) upwards with due accountability.

Conclusion

The NCC, in many ways, as stated, is a ‘silent revolution’ committed to the empowerment of youth and is making invaluable contributions towards nation building and to security in substantial measure. However, there is scope for linking youth to careers beyond the armed forces due to lower conversion rates. Therein, the NCC can play a role with some modifications to its curriculum and provision of some additionalities. The need to touch young minds in greater numbers is undisputed. The approach we adopt must be pragmatic and implementable. The NCC can render a greater helping hand towards social service and causes of national importance.

While the NCC curriculum is wholesome and well-structured, and is reviewed periodically to keep it contemporary, there may be issues of deliverance which are largely dependent on the competence and motivation of the faculty or trainers, and the presence of requisite enablers (budgetary support, infrastructure, establishment, incentives etc). For the NCC to succeed in its noble mission, it needs the unwavering support of all stakeholders, the central and state governments, the armed forces, educational institutions, parents, guardians and cadets.

The motto of NCC ‘*Unity & Discipline*’ could not have been more apt. It flags two vital issues of contemporary concern. A united and disciplined citizenry would be central to the realisation of India’s dreams of emerging as a secure and prosperous nation.

End Notes

1. Chhettri RS, (2006), “Grooming Tomorrows Leaders: The National Cadet Corps 1917-2006”, New Delhi: Lancer Publishers, pp 149
2. MHRD Census 2014
3. References for cyber capacity building - Security Program and Policies 2nd, by Sari Greene, Secure Programming Cookbook for C and C++ 1st Edition by John Viega, Matt Messier, Writing Secure Code Book by David Le Blanc and Michael Howard

Note. Other details in the paper have been indicated based on feedback while on assignment in NCC as also in formal interaction with others who are familiar with the establishment. Data indicated is approximate.

Views expressed are based on assignment experience, but personal.

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