Chapter 8 – Findings, Suggestions and Conclusion

The data collected from the twenty DTE libraries managed by the Ministry of Defence was analyzed critically in chapter five isolated. The analysis of the study is reported as observations and presented in the form of findings in this chapter. The major findings from the study are reported below.

8.1 Findings:

1. The Ministry of Defence has established research, education and training institutes all over India for the purpose of protection safety and security of nation. The research laboratories are engaged in research and development activities related to defence and undertake innovative preparations of ammunition and equipments pertaining to warfare and their testing. On the other hand, defence training and education institutes are established to train and groom the cadets through these institutes for different activities required for defence i.e. for all the wings army, navy and air force. Twenty major defence training and education institutes have been established by the Defence ministry (India) to train and groom the cadets all over India, to prepare commissioned officers and also to provide facilities for advanced training for senior officers in respective areas. These DTE institutes are dedicated to the improvement of defence education and therefore have well managed library facilities associated with these institutes. The libraries attached to these institutes act as academic and special libraries also. The purpose behind establishment of the libraries and information centers in defence education and training institutes is to support the activity of education in the field and provide advanced training to defence personnel.

2. It is seen that DTE institutes were established before independence, since then its growth was steady till 1980 (11 Institutes)and later the establishment and development in this sector was slow and only few organizations were established (9 Institutes).

3. It is observed that out of 20 DTE institute 6 (30%) are located in Pune alone in Maharashtra State, 4 (20%) are in Madhya Pradesh, 3 (15%) are in Tamilnadu
State, 2 (10%) each located in Kerala and Andhra Pradesh and only 1 (5%) each is in the states of Uttarakhand, Karnataka and New Delhi.

4. It is noticed that there is always a floating population of 17,000 (approx) cadets at the campus in all 20 institutes, including regular annual intake of approximate 9000 cadets per year. Among these CME, IMA, NIAT, NDA, MCTE, INFS, AFMC, INA, AFA and AWC, have more than strength of 1000 cadets at the campus.

5. A total number of 1276 faculty members are available in these institutes and that the proportion of cadets to teachers is 100: 7.

6. These institutes manages 76 different graduation courses like BA, B Sc, B lib, BE, B Tech., MBBS, MD for defence officers. It is found that only one institute among 20 i.e. AFMC Pune is accredited as per the UGC norms and all the rest are controlled by the Ministry of Defence, India. The institutes are affiliated to different universities which award the degrees. Six institutes, however, do not award any degrees to the cadets on completion of courses because they give only specialized field training to suit the rank officers for future career growth.

7. There is no National University established for defence training and education in India till recent past (2010), where as developed countries had established NDU’s and through this conducting different education and training facilities to new entrants in defence.

8. Maximum defence education and training institute have a library facility with qualified librarians to manage the functions and activities. But the scales of their pay is almost same i.e. 9300 to 34800 with GP 4600 and 15600 to 39100 with GP 6600. The professional experience of library staff members are 10 to 28 years. Librarians in this area are not empowered with administrative and financial powers, but they have to get the approval of the Commandant of the institute for all financial transactions. Librarians are designated differently, this varies from institute to institute. Some are designated as JCO, others as Library and Information Officer, Assistant Library and Information Officer , Library and Information Assistant, etc. Inrespective of qualifications, 09 institutes have only librarians of an officer cadre, where as with
same or professionals with higher qualifications are treated as library and
Information Assistant only. Different categories of staff are appointed in the library
but professionally trained staff are less, as compared to the non-technical and
administrative staff who are more in number.

9. The Ministry of Defence gives about Rs 42 cores per annum for the collection
development and to provide services by libraries in all these 20 institutes.

10. Nearly 75% libraries are having separate library buildings and the area
covered is between 2500 to 22000 sq ft. Rest of them are housed in the main
building. Few libraries are named in the memory of personalities like Tagore library
(M I S), Vyas library (NDA), Radhakrishnan library (OTA), Takshashila library
(MCTI) etc.

11. Libraries are kept open for users (42-72 hours), during working hours, but do
not provide the facility of any extra reading hours to users. Only 2-3 libraries, like
AFMC, are kept open after office hours.

12. The Library is used by all members of institutes which include cadets,
teaching faculty and staff members. However IMA, NDA, and AEC have
more members than other institute libraries. (Others have less than 800). These
libraries are treated as academic as well as special libraries because they not only
cater to the academic needs of trainees but also contain defence related books and
therefore can be called special libraries. From the analysis of data it is found that the
following three libraries are used more by the users.

   a) IMA    1983
   b) NDA    1763
   c) AEC    1281

13. The collection of these libraries is specific to the activities of defence and
training courses conducted. The annual intake of the libraries varies from 500 to
4000 books per annum.

14. The collection in the library is based on print media, but few libraries have
now developed e-resources, though not extensively.
15. The modernization status is not in comfortable stage, though few libraries like NDA, AFMC are well managed. But resource sharing activity among these libraries is not up to the mark. Only 15 libraries use automated software or locally developed software. But its proper usage is not reflected in the survey. House keeping operations are performed using library software. Digital library initiative status: Digital information resources is available only in five libraries out of 20. It is observed that the automation stage has not been accomplished completely, hence future growth is suspended and efforts are being taken to automate libraries. Though internet usage is seen in a few libraries, this does not include information seeking. Libraries have not yet developed Web pages. Subscription to digital resources in term of e-journals, e-books and databases etc is very poor. The digitization of library information sources are poor due to want of additional funds and equipments.

16. Computerization has been partially achieved and OPAC, Web OPAC, internet, intranet etc are not being extensively used. Since computerization is not powerful, further tech development, like digital library initiatives, maximum use of internet resources and networking of defense education libraries, is slow.

17. DELNET facility is used only by 5 libraries. But networking of these 20 libraries has not yet been carried out. OPAC has been developed only by 6 libraries out of 2.

18. Information product / marketing / revenue generation aspects are very poorly developed and has less importance.

19. Safety precautions for the library material are not extensive. There is very scarce use of smoke detectors, relative humidity maintenance, CCTV, fire alarm system, automatic door control, smart card facility etc. However traditional practices are being maintained like user register.

20. There are no fixed written policies in the library to manage various activities properly e.g. collection development and related policies.

21. Library committees have been established in 16 libraries and this advisory committee looks after the development of libraries. Some general rules regarding use of library are laid down but there is no standard practice developed in its norms.
22. Though librarians have stated that they have different practices framed for collection development, weeding, physical verification, GOC committee norms, internet usage policy, book selection policy etc., they are not in systematic and in written form.

23. Use of ICT is not up to the mark as well as management techniques are not being applied to economise the library activities like consortia, library networking among the institutes of defence education and training.

8.2 Suggestions:

From the analysis and observation a few suitable and useful suggestions has been to improve the status of these libraries keeping in view the future of libraries and trends in using technology and management.

(a) From the pre-independence period till 2011 (1932-2011) only about 20 defence training and education institutes have been established in India at different places to educate and train new entrants as well as existing officers from defence sector. India is one of the largest Asian nations that competes with major countries like US, UK, France, Russia, China and Korea in terms of progress in defence development. Good education and training is given through the 20 DTE institutes which have the requisite manpower to train cadets in managing advanced tools, techniques and skills, but there is a need to establish an umbrella body which can support advanced education and training. This may be called Defence National University like ones already established by other countries (recently some moves towards in this direction have been taken). Through defence national university different specialized courses could be introduced to support emerging trends in defence. At present a few defence institutes are affiliated to formal universities for awarding degrees. If a National Defence University (NDU) is established will definitely be beneficial to the DETs as it could be focused on the defence sector, solely and propound new courses and monitor all academics and training. It is also noticed there is a concerted effort towards the formation of a NDU which could take shape in the near future.
New courses based on emerging technologies in defence security needs to be developed along with traditional courses and training. These courses and training could cover all the wings of the armed forces, that are the army, navy and air force. Newer techniques and practices are being introduced and similarly developed nations are now using more and more ICT based techniques in warfare and these are to be taken care of by the defence education system.

The number of cadets joining the defence forces is increasing by the day. However, the existing infrastructural facilities are not sufficient to meet this challenge. It is therefore imperative that a few more institutes are established to accommodate more cadets.

The ratio of the cadets to teaching faculty is 100:7, but there is a need to recruit specialized teaching faculty for giving advanced education to cadets in specialized areas. Such advanced and specialized training courses are scarcely conducted in these institutes and hence there is a need for both specialized courses and teaching faculty to manage the currency in education.

The teaching faculty also needs to upgrade their teaching base and use more ICT based techniques to make their classroom presentations more illustrative. There is a scope to enhance the teaching facilities in defence education. The use of web tools is another aspect that can be used for classroom teaching. eg Google map, Google library.

There is a need to have an accreditation policy for all institutes to maintain standards at par with other educational institutes. This is also to be monitored by the Ministry of Defence.

Due to use of advanced technology in defence sector, more specialized areas are developing and there is a need to establish short term and long term courses to develop expertise in technology handling and management. India has a Military Intelligence Training School which cater to this aspect, but in USA, there is a National Defence Intelligence College of high standard, which operates in this area. In Indian context, the institutions need to be re-engineered to develop latest trends and practices. BBA and MBA (Defence) Diploma in Defence Management etc may
be implemented. Specialized and updated training programs are only conducted at AEC. There is a need to initiate training courses to update the knowledge. Similarly ICT based training courses also need to be implemented.

(h) Every DTE has a well developed library system with qualified staff. The Library serves the need of the users of DTE at its level. Libraries associated with these institutes are providing proper support to fulfill the objectives and vision of the defence training and education. But these are operated more or less at the traditional level. A few institutes have taken the lead in modernizing libraries and yet there is great scope to re-engineer them for the optimal use of information resources. Libraries are the key element in the development of personnel in this field, but the maximum use of collection is required.

(i) Some libraries from this group have highly qualified library staff who also have adequate work experience. The only drawback is that they are scaled in same pay scales irrespective of qualification and experience with only three levels of GP i.e. 4200, 4600 and 6600. It is suggested that based on qualifications and experience, additional grades need to be amended in this profession to motivate them. The motivation in terms of payment is required while restructuring. Time scale promotion scheme is also to be included like other institutes of DRDO and those of similar status. Qualifications may be one of the criteria fixed for higher position. The library staff scale may be at par with UGC as both are academic in nature.

(j) For new trend awareness in the profession, library professionals have to be given a chance to attend at least one seminar in two years, to update their knowledge with the latest trends in their profession. They also need the opportunity to meet library professionals of other institutes and develop informal association by way of discussing new applications in library useful for providing services and adding techniques in the library. Similarly, staff is also to be deputed for higher education in the profession. Library professionals are motivated by awarding incentive like upgrading to higher pay scales and learning modern skill and serving libraries well.

(k) It is strongly suggested that there is a need for creation of library committee with suitable members from every department. This helps in covering the total representation for the organisation. Further it is observed that very few libraries have
proper policies for different functions to be carried out in libraries. This is not up to the mark and not also in written form, hence there is a need to establish standard policies for selection, development and management of resources in the library.

Library and Information Centers for defence education and training needs to be modernized and the following practical and useful suggestions are made in this respect to improve the status and support the advanced requirements of a library. Library facilities need to be delivered at the doorsteps of the users. The modernization of libraries has already been discussed in chapter four and this helps library professionals to modernize the libraries. Action plans, its importance, functions and contents are discussed in chapter seven. While planning modernization of the DTE libraries these discussions might be useful to professionals. Some useful suggestions from the researcher in addition are:

1. Preparing an action plan for the DTE libraries in consultation or by the committee formed for the said purpose. Specific goals and action taken on the plan should follow this.

2. Library professionals have to review and regularly analyze the teaching programs, syllabus, suggested publications, goals and objectives of the institute and user expectations from the library to support their needs. For this purpose librarians have to conduct users’ surveys at regular intervals.

3. Library professionals based on the user demands and expectations develop the collection in library. For this purpose collection development policies are to be framed. The researcher made an effort to record the importance of the collection development policies and other related policies to support proper collection development in libraries (Dhawle and Sudge 2011). Qualitative information resources are to be acquired in the libraries. The collection of the library needs to encompass digital collection, in addition to print.

4. There is an acute need for development of resource sharing plans and practices in this group of twenty libraries by developing networks among them.
and entering into a consortium based practices for economical purchase, enhancing collection with the same budget and providing more service.

5. Though maximum institutes are provided with library facilities and separate buildings to support the education program of the institute, the practices followed in these libraries are traditional. Hence they need to be re-engineered to support an advanced level management, using ICT.

6. In the initial stage, it is necessary to keep the library reading hall open beyond normal working hours to have leisure reading facilities for cadets with 24/7 facilities and computer terminals for searching information over the intranet and internet. Reading hall should be made comfortable for long and relaxed reading as well as browsing facilities. There is a need to have a discussion room for the cadets to present their ideas among fellow cadets. This hall need all type of ICT backup. The reading hall facility should serve to support the prescribed text by providing auxiliary reading material both in print and digital form.

7. It is observed that many DTE libraries are not properly automated, there is a need to procure standardized library management software for all the institutes as per the opinion of librarians and automation is to be completed in all the institutes properly. Unless automation is completed modernization of the libraries is not possible using ICT. Separate funds for the automation process are required for each institute. A centralized committee of the librarians from major institutes is to be formed to prepare an action plan for the modernization of libraries. Priority for creation of OPAC (and Web OPAC) of libraries is an essential factor while automating library housekeeping operations.

8. There is a need to acquire digital information resources in the libraries like e-books and e-journals etc. The Use of internet from libraries provides additional facilities to gather information to users instantly after reading literature from libraries.
9. The annual budget for 18 institutes out of the 20 is comparatively less. It may be enhanced so as to permit different activities like collection of information resources and infrastructure development.

10. There is a need to delegate powers to Librarian /Library Officer and authorize him to manage administrative control and financial powers to spend the budget with approval of Library Committee. Library Committee approves the purchase for library at regular intervals and librarians takes decisions as per decisions made by the committee. Such practices help in minimizing the efforts and time at all places and if required Library Committee decisions may be approved by the Commandant/head of the institution, at one go and not from time to time.

11. There is need to organize regular training programs to introduce library activities and procedures to users. Such programs may help in proper utilization of library services and resources by users. For new entrants this program is an essential activity to know the facilities of libraries. Whenever new packages and databases are introduced in library, they must be brought to the notice of users through a half-day orientation cum training session programs. Occasionally training programs for internet searching, information resources, finding recent information on projects needs to be organized for users.

12. Creating departmental library system is good for some major libraries to reduce the number of users coming to main library for borrowing of text books only. This will minimize the load of the main library and help in providing additional services to users from the main library. But the disadvantages of requiring additional manpower in such operations are not feasible, unless staff of the particular department is monitoring this.

13. For qualitative collection development of information resources, different techniques like SWOT analyses, information audit, cost effective and cost benefit methods are to be followed along with resource sharing. Similarly staff performance measure system is to be introduced.
14. Library and information services are to be enhanced using newer
techniques and facilities based on ICT. Feedback is one of the
methods. Similarly, many methods are available to assess the quality of service
like interview, discussion with experts, etc. are to be considered. Impact factor,
circulation statistics based collections are a good procedure for effective
collection development.

15. In-house database development, digitisation of resources for
preservations, preparing directories for internet sites and resources becomes
an asset for providing library services.

16. Enhanced library services like alert, topical bibliographies, paper
cuttings, online searching, are to be considered.

Ryynannen (1999) suggested following few aspects to improve the library services to
support the modern information society and may be useful for DTE libraries.

- Librarians must be a member of the budget allocation committee, as libraries
need more resources for acquiring expensive books and subject related
literature.

- Support is required from the management to develop networking, drafting
different policies and standards for the different activities.

- Initiative for the digital library for digitising cultural heritage for future use.

- Provide all types modern equipment, particularly with internet connections to
libraries.

- Library professionals need to be up-dated by education and training for using
modern technology and performing modern functions using ICT.

In addition to these, the researcher is also of the strong opinion that the library
budget must be re-considered in the light of modern practices and its applications for
the better usage of the information, additional funds may be give for the new
activities like computerization, digitization, digital information resource
procurement, networking, etc., different policies are to be framed for their proper
functioning. A library manual for DTE institute libraries based on DESIDOC Library manual is to be developed covering standard procedures and practices to be followed in each DTE library. This will help library professionals to manage library activities as per standard practices and procedures.

8.3 Conclusion:

The present research study is very useful for DTE libraries for initiating modernization. The objectives set for these studies are fulfilled properly and discussed thoroughly in the present work in different chapters. The data analysis (Chapter 5) covers the presence status of DTE libraries, collection development practices, organization and processing of information sources in it. Similarly highlights practices used and correct library services provided by DTE libraries. The status of ICT and use of internet is also reflected in this chapter.

The chapters 4, 6 and 7 covers the modernization, best practices and model action plan for modernization of DTE libraries respectively. In these chapters implementing ICT, best practices to be followed and services to be provided in DTE libraries are discussed in detail. An action plan is presented which may act as a guideline for implementing modernization process.

The suggestion (Chapter 7) highlights mainly the economic and proper collection development for DTE libraries and new services to be implemented. Need of Automation, Database creation, Modern study areas, Scanners, OPAC, Rest Rooms, Discussion Rooms, Computer and A/V labs, Internet labs etc required in advanced libraries to provide proper and better services to users.

Overall technology is one of the major factors necessary to meet the capability requirements of future education in defence. Trends in technology indicate that constant changes in technological fields in future will become tremendously fertile and highly affordable with advanced utilities and it is even predicted that a desktop computer may have maximum facilities. In 2020, the computers may have about 16,000 times the power of today's computers and have billions of times more power because of prognosticated revolutionary replacements of the transistor. Potential technologies could solve problems like information management, user needs, fiscal
aspects, and environment problems of defence 2020. For example, potential technology exists today to solve the information overload problems of tomorrow. Human - computer interaction devices may also aid the soldier in this area of information management. In addition, both virtual reality and worldwide instant access are assured.

Many current defence personnel already belong to wide area networks such as internet and bulletin board services like CompuServe. These connectivity providers are currently developing the next generation network technologies. This includes automated aids used to find information and people over the networks. Virtual reality itself is being used now as one solution to the information overload. One method of employing virtual reality as a database navigating and mining tool" may be popular among all.

Manuel De Landa (1991) discusses defence developments in hardware, software, and even "wetware (the implant of technology directly into the body)," in his book “War in the Age of the Intelligent Machine." The military services are actively developing artificial intelligence and expert systems to aid humans to digest information and act on it. For example, expert systems have been developed for analyzing radar signatures, labeling automatically generated maps, analyzing battlefield situations and air-to-air encounters (from command level down to helping an outnumbered pilot survive an engagement), planning for contingencies, diagnosing maintenance problems on aircraft, playing the role of intelligent opponent in war games, developing attack strategies for complex targets, helping to detect and counter C3 (Command, Control and Communication) countermeasures, providing advice on allocation decisions, assisting launch and recovery on carriers, and even predicting likely locations and times of outbreaks of violence. But all these need proper library and information infrastructure at the education and training level. There is a need to supplement these activities through available information in the form of literature in the defence libraries of the future.

The defence forces have already laid the foundation for the virtual reality world of the future. For example, navy, air and army hospitals worldwide already use an interactive video, text, sound, and graphics system for training medical personnel
about combat trauma life support and preventive medicine in combat zones. Virtual realities are a multimedia environment that gives users the sense of participating in realities different from their ordinary ones. Such simulations, when done well, should provide a user a sense of having a life-experience. Libraries of the future related to defence education needs to look into these issues and reframe their activities.

From this study it is noticed that the military or defence development is essential and needs a strong base of defence personalities. No wonder then that currently defence (military) education and training is given importance in all countries. It is said that Professional Military Education (PME) in the year 2020 will evolve to become a residency program. The “virtual residency” program of PME 2020 will link highly integrated telecommunications with virtual reality, ensuring the war fighter can overcome the challenges posed by the operating environment of the future. A new concept of PME derived from distance learning, multimedia, virtual reality, and telepresence concepts is dawning on us.

The security and safety of any country rests on its (defence) military / Armed forces. The proper development of an army depends on proper support by means of education to upgrade knowledge in their area and professional training to survive in the profession.

The army progresses and faces the situation using current tactics and modern equipments. The Indian army is ranked ninth in the world and the budget is 1,93,407 crores (2 Lakh Crores) (Kulkarni 2012). The budget is never cut even in crises, on the contrary it goes on increasing every year. Indian Defence (Military) is made stronger by adapting new technology and war weapons. Modern advanced weapons are purchased from Russia, France and America but DRDO is also busy in developing new weapons. It is said that if military is self-sufficient then it is excellent. All the three wings need continuous awareness and hence it is the task of DTE institutes to provide proper support to develop the military, like DRDO. The contribution of DTE is prominent as it gears up the base by providing military education and continuous training to update in the profession.

Libraries and Information Centers are the back bone of DTEs. Libraries have to provide proper information to cadets and keep them aware of advance practices by
providing different services. To keep abreast of latest techniques and practices in defence, libraries have to adopt ICT which helps in providing better services e.g. internet, web tools etc. In the light of development of defence trends, education system for defence which depends on libraries, are to be made smarter. The review of the study conducted by the researcher and presented here indicates the factor that there is a need for reshaping libraries attached to the DTE sector. In future technology will have a massive impact in the defence sector. Use of artificial intelligence, sensor based equipments, nanotechnology, auto operated equipments play a major role. To meet the future requirements, education system as well as library system needs proper support for development of new entrants in defence.

Libraries attached to DTE institutes need networking to keep free flow of information among these DTE libraries and provide better information base to their user community with the limited financial resources. The libraries using ICT provides a better base to users in gathering information globally in their subject of study.

India ranks 5th in the world spending on its total income of GDP on defence (Sakal 2012). America, China, Russia, Japan and India have huge defence budgets. This indicates the importance of defence for the country. It is also estimated that India ranks 8th in having nuclear weapons (Anvastras). Russia, America, France, China, UK (Britain), Israel, Pakistan, India and North Korea are leading in nuclear weapons and are top countries in the world. In the past 10 years analysis of India’s budget indicated that there is a rise of 66% expenditure for defence. Keeping in mind the status of the country, it is essential to have well equipped defence structure along with proper education in defence. It is therefore essential to take care of defence education and uplift the level of these institutes as well as increase the number of library and information centers and modernize existing ones to support the endeavor.

8.4 Scope for further research:

The study conducted by the present researcher is related to DTE libraries and its status. It attempts to build new dimensions in this area. Studies on DRDO and DTE libraries have been conducted but there is an utter lack of studies on such libraries in the area of networking of DTE libraries and presenting a model. Collection
development policies for DTE libraries are yet another areas in which studies may be useful.

References:


