

# SOROTAN DARAT

JILID 2  
BIL 13  
APRIL 1988  
ISSN 0128-0171



**JURNAL TENTERA DARAT MALAYSIA**

THE HOUSE JOURNAL OF THE MALAYSIAN ARMY



artikel kulit-muka:

**Penyusunan Semula  
Depot Pusat Ordnans**



## KANDUNGAN

|                                                                   |    |
|-------------------------------------------------------------------|----|
| 1. EXERCISE KRIS SAKTI 1/87                                       | 4  |
| Kol Tan Say Loke                                                  |    |
| 2. PENGEMBANGAN LATIHAN DI DA-LAM PASUKAN                         | 12 |
| Kol Amir Baharudin                                                |    |
| 3. SIGNAL ELECTRONIC REPAIR AND MAINTENANCE                       | 23 |
| Lt Kol Ooi Ah Kiang                                               |    |
| 4. WHAT A COMPUTER USER MUST KNOW ABOUT PERSONAL COMPUTERS        | 28 |
| Lt Kol Mohd Khir                                                  |    |
| 5. PENYUSUNAN SEMULA DEPOT PUSAT ORDNANS — satu analisa strategik | 36 |
| Lt Kol Taib B Mohamed                                             |    |
| 6. WAR AND SOCIETY                                                | 57 |
| Mej V Ramasamy                                                    |    |
| 7. WAR — AN ART, NOT A SCIENCE                                    | 60 |
| Mej Tommy Pereira                                                 |    |
| 8. HUBUNGKAIT ANTARA PERTAHANAN DENGAN KETAHANAN NASIONAL         | 65 |
| Mej (B) Sabtu Jasin                                               |    |
| 9. ARMS TRANSFER IN THE INTERNATIONAL ARENA                       | 70 |
| Lt Kol Hj Abu Zahrin                                              |    |
| 10. PEMENANG ARTIKEL TERBAIK EDISI KE 12.                         | 73 |
| 11. Clippings                                                     | 74 |
| 12. BERITA                                                        | 75 |
| 13. ULASAN BUKU                                                   | 78 |

## SOROTAN DARAT

JURNAL TENTERA DARAT MALAYSIA  
THE HOUSE JOURNAL OF THE MALAYSIAN ARMY

artikel kulit-muka:

Penyusunan Semula  
Depot Pusat Ordnans

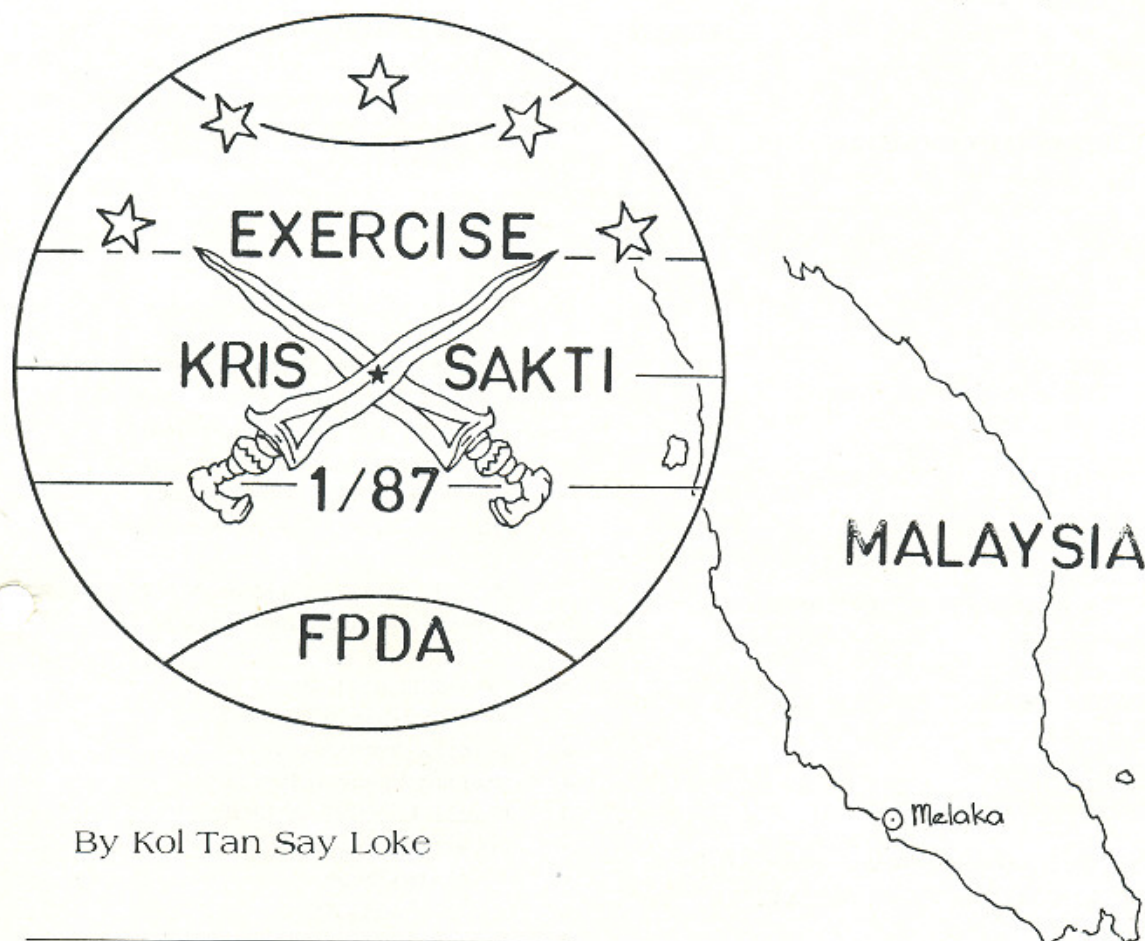
Gambar Kulit Muka disediakan oleh  
Jabatanarah Ordnans dengan kerjasama  
Staf Editor Sorotan Darat.

Grafik  
oleh

LKpl Jalil B Rahmat  
&  
Pbt Nasaruddin B Ismail

Bahagian Doktrin (Sorotan Darat)  
Markas Pemerintahan Latihan TD  
Kem Impah  
Jalan Padang Tembak  
60634 Kuala Lumpur





By Kol Tan Say Loke

## • INTRODUCTION

**E**xercise BERSATU PADU 1971 was the first exercise where five nations — Australia, Malaysia, New Zealand, Singapore and United Kingdom, eventual members of the Five Power Defence Arrangement (FPDA) participated. After a gap of ten years, a series of land exercises under the auspices of FPDA was initiated in 1981. The series which started six years ago was alternatively hosted by Australia and New Zealand. 1987 marked the first occasion when Malaysia hosted Exercise KRIS SAKTI 1/87 since the recent series of FPDA land exercises was initiated.

Exercise KRIS SAKTI 1/87 took place in Terendak from 7th to 16th October 1987. HQ 3 Div was the sponsor formation whilst HQ 7 Bde was tasked to organise and run the exercise.

## EXERCISE AIM AND OBJECTIVES

Developing the capability of FPDA partners to operate together in the Malaysian land battle

environment was adopted as the aim of the exercise. In line with the present Stage Two of the Malaysian army training programme, the emphasis was on the advance phase of war.

The objectives of the exercise bear certain similarities with previous FPDA land exercises. They were:

- To develop the interoperability between participating armies by extending the knowledge of each other's tactics and operating staff procedures.
- To extend the knowledge relating to each other's organisation, force capabilities, weapon system and equipment.
- To practise command post procedures among commanders and staff in a combined operation setting at brigade and battalion levels.
- To further develop conventional tactics in a tropical land environment.



- To foster and develop good relations between the FPDA partners.

---

## EXERCISE PARTICIPANTS

---

The formation participating in Exercise KRIS SAKTI 1/87 was designated as the 7 FPDA Bde. It had the following composition.

- *Malaysia*
  - (1) HQ 7 Bde.
  - (2) 7 Armour.
  - (3) 11 Engr Sqn.
  - (4) BMA and logistic units.
- *Australia* — 4 Fd Regt RAA.
- *New Zealand* — 1 RNZIR with Bty 29 Cdo Regt RA.
- United Kingdom — 2nd Gurkha Rifle (BF-HK).
- *Singapore* — 2 SIR.

Key appointments in Exercise KRIS SAKTI 1/87 were filled by the following officers.

- GOC of Sponsor Formation
  - Mej Jen Dato' Hj Ahmad bin Hj Abdul Kadir, GOC 3 Div.
- Exercise Director
  - Brig Jen Nordin bin Yusoff, Comd 7 Bde.
- Deputy Exercise Director
  - Kol Tan Say Loke, Army Trg, Mindef.
- Chief Controller
  - Lt Kol Hj Alias bin Shaik Mohd, C of S 7 Bde.
- Deputy Chief Controller
  - Lt Kol Hj Muhammad bin Hj Mohsin CO 2 Arty.
- Head of Exercise Secretariat
  - Lt Kol Mohd Nor bin Darus, SO 1 Log 3 Div.
- Head of Evaluation Team
  - Lt Kol Birinder Singh, CO 3 Arty.

It must be mentioned that a host of officers from 3 Div under the able supervision of the Chief of Staff, were involved in the preparation and administration of the multiple facets of the exercise. Without their untiring effort and initiative, the exercise could not have met the high standards that were expected.

---

## EXERCISE PREPARATION

---

An initial instruction issued by Department of Army — Training on 9 Dec 86, signalled the commencement of planning. Subsequently a total of ten meetings/conferences chaired by the Exercise Director were held. Three of these meetings were also attended by FPDA representatives.

A host of exercise papers and instructions were prepared and distributed. These include:

- General Instructions.
- Administrative Instructions.
- Financial Instructions.
- Standing Operating Procedures.
- General Information Handbook.
- Programme Handbook.
- FPDA Handbook.
- Visiting Forces Act.
- Exercise Enemy (Lanun and Pengkom).
- Exercise Papers for CPX.
- Communication Instructions.

Other than the Visiting Forces Act and the Lanun and Pengkom handbooks, the rest had to be produced.

A major aspect of exercise preparation was administration. For accommodation, the village concept was adopted where all participants stayed and mingled together in Kota KRIS SAKTI. Renovations to old buildings were carried out to bring the accommodation up to standard. Generally the facilities and amenities provided met with much approval.

The multi-racial make up of the Kota KRIS SAKTI "villagers" called for a mixed menu of European and Malaysian cuisine. This proved to be popular and successful. Not surprisingly, many foreigners preferred the Malaysian menu which gave opportunity for the local boys to try the European dishes. Lt Kol Zainuddin bin Buyong



who planned and supervised the messing requirement should be congratulated for a job well done.

### EXERCISE ORGANISATION

The exercise organisation for Exercise KRIS SAKTI 1/87 was similar to most other exercises. There was the Exercise Planning Staff which wrote the CPX papers under the close direction of the Deputy Exercise Director. Inevitably, there was the requirement for higher and lower control. Higher control was made up of HQ 7 Bde together with the headquarters of the Artillery Regiment, the Armour Regiment and the Engineer Squadron. Lower control was provided by the infantry companies, armour troops and artillery FOO/GPO.

The Exercise Secretariat was by far the single largest organisation in the exercise. They consisted mainly the staff of HQ 3 Div and Terendak Garrison. They were responsible for accommodation, messing, transportation, ceremonies, social, games, recreational and environmental tours, security, communications, medical and visits. In short, they provided the whole administrative and social infrastructure for the exercise.

A small team with its members going round unobtrusively making notes and observations during the exercise was the Evaluation Team. The exercise evaluation report was the eventual product of this team.

### ACTIVITY HIGHLIGHT

The outline programme for the exercise is given in Table I. The main activities may be highlighted as follows:

- *Contingents' Arrival.* Being the hosts, the Malaysian participants arrived a few days earlier. The Australian, New Zealand and Singapore contingents arrived on schedule on the afternoon of 7 Oct 87. The UK contingent's arrival was delayed by one day due to a breakdown of their C-130 in Hong Kong.
- *FPDA Seminar.* This was conducted by the Deputy Exercise Director primarily to meet the second objective of the exercise. Each contingent took turn to present on their organisation, weapon capabilities, em-



Arrival of Australian contingent at Batu Berendam Airport.



ployment, characteristics and tactics. The knowledge gained at this seminar enhanced the interoperability of the participants during the exercise. The seminar included a presentation on the exercise enemy — Lanun and Pengkom, to put all participants on a common understanding on that subject. Finally there was a briefing on the exercise by the Chief Controller.

- **Cultural Night.** HQ 3 Div went out of their way to give a grand welcome to the FPDA contingents in the form of a cultural night. A very credible performance was put up by HQ 3 Div's "locomotive". There is no doubt that a great deal of effort was put in by a group of amateurs for a near professional show. Malaysian hospitality was truly appreciated by the foreign contingents.



Cultural presentation to welcome FPDA contingents

- **Environmental Tour.** To give the foreign participants a good idea of the terrain in which they were to operate during the



Exposure to Malaysian Environment

exercise, an environmental tour was conducted. The tour exposed the participants to the various types of vegetation prevalent in this country.

- **Command Post Exercise (CPX).** The major format of Exercise KRIS SAKTI 1/87 was the CPX. Many of the other activities played a supporting role to the CPX. Amongst other things, the briefings, Brigade Commander's orders, and the various Commanding Officer's orders preceded the CPX. The CPX ran continuously from 1400 hr 11 Oct until 1300 hr 13 Oct 87. It consisted of a two-phased advance with inherent attacks up to brigade level. All FPDA contingents had a fair share of the major activities in the CPX.

- **Opening and Closing Ceremonies.** The newly appointed Chief of Army Jen Dato' Yaacob bin Mohd Zain opened Exercise KRIS SAKTI 1/87 just before the commencement of the CPX. It was his first official opening of an exercise since assuming his new appointment on 6 Oct 87. GOC 3 Div was given the honour to close the exercise two hours after the CPX terminated.



Opening of exercise by PT D

- **International Night.** After the CPX, it was time for relaxation. Each contingent gave a short cultural presentation before the evening was taken over by the Orkestra Tentera Darat (OTD). The inspiring performance of the OTD was matched in



enthusiasm from the FPDA audience. Clearly they have never been given such high class entertainment in previous FPDA exercises. It was something which future host countries will find difficulty to surpass. It was a more than fitting reward for the tired participants after the gruelling 47 hours of continuous CPX.



International Night — Presentation by the Kiwis.



Item by OTD during international night

- **Exercise Debrief.** This was conducted to verify the strength and weaknesses of the exercise. The unanimous view was that the exercise was a great success. The aim and objectives of the exercise had been achieved. Some lessons learnt are being reflected later.
- **Recreational Tour.** This was conducted on the last two days to allow the foreign participants a chance to see part of our country before they depart. The places visited include Malacca, Kuala Lumpur and Genting Highlands.

Apart from the main activities highlighted above, there were other minor activities which

kept the participants occupied. A Sepak Takraw competition was organised to introduce this Malaysian game to the foreigners. They were also presented with a ball each to encourage them to take up this sport. A soccer match also took place between the FPDA combined versus HQ 3 Div's "Locomotive" team. The score of 4 - 4 was indicative of the competitiveness of the match.

## VISITORS

Exercise KRIS SAKTI 1/87 appeared to have a special attraction for visitors. The exercise organisers were kept busy by a stream of visitors from 10th to 13th Oct 87. The more prominent visitors included the following:

- \* **Australia.** Brigadier Peter M Arnison, Comd 3 Bde.
- \* **Brunei.** Mej Jen Mohamed bin Daud, Chief of Brunei Armed Forces.
- \* **New Zealand.** Air Commodore John S. Boys, Comd NEWZ FORSEA.
- \* **Singapore.** Maj Gen Winston Choo, Chief of General Staff.
- \* **United Kingdom.** Brigadier R.A. Pett, Comd 48 Gurkha Bde.
- \* **Malaysia.** YB Datuk Abang Abu Bakar — Deputy Minister of Defence, Jen Dato' Yaacob bin Mohd Zain — Chief of Army, Lt Jen Dato' Nik Mahmood Fakharuddin Kamil — Deputy Chief of Army, Lt Jen Dato' Mohamed Daud bin Abu Bakar — Corps Comd.



Welcoming Dy Defence Minister by Dy Director of Exercise



| Serial | Date/Time   | Events                                                                                                       | Remarks                                                 |
|--------|-------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| (a)    | (b)         | (c)                                                                                                          | (d)                                                     |
|        | 7 Oct 87    |                                                                                                              |                                                         |
| 1.     | 1500        | Arrival on FPDA contingents                                                                                  | By air/civil coaches                                    |
|        | 8 Oct 87    |                                                                                                              |                                                         |
| 2.     | 0815 - 1600 | FPDA Seminar                                                                                                 | Moderated by Dy Ex Director                             |
| 3.     | 1700        | Sepak Takraw practice                                                                                        |                                                         |
| 4.     | 2000 - 2300 | Welcoming reception/cultural show                                                                            | Performance by 3 Div Locomotive                         |
|        | 9 Oct 87    |                                                                                                              |                                                         |
| 5.     | 0830        | Tour CPX complex                                                                                             | Conducted by Chief Controller                           |
| 6.     | 0900 - 1200 | Tour Malaysian environment                                                                                   | Ex Secretariat                                          |
| 7.     | 1400        | Briefing CPX control staff                                                                                   | Dy Ex Director/Chief Controller                         |
| 8.     | 1630        | Sepak Takraw competition                                                                                     | Ex Secretariat                                          |
|        | 10 Oct 87   |                                                                                                              |                                                         |
| 9.     | 0830        | Bde Comd's orders                                                                                            | Ex Director                                             |
| 10.    | 0930        | Rehearsal for opening/closing ceremonies                                                                     | Ex Secretariat                                          |
| 11.    | 1100        | Visit by Corps Comd                                                                                          |                                                         |
| 12.    | 1630        | Soccer competition                                                                                           | FPDA vs 3 Div Locomotive                                |
| 13.    | 1900        | Bn HQ submit OpO to higher control                                                                           |                                                         |
|        | 11 Oct 87   |                                                                                                              |                                                         |
| 14.    | 0830        | CO's orders                                                                                                  |                                                         |
| 15.    | 1100        | Opening ceremony                                                                                             | By Chief of Army                                        |
| 16.    | 1400        | CPX commences                                                                                                |                                                         |
|        | 12 Oct 87   |                                                                                                              |                                                         |
| 17.    | 1030        | Visit by CGS Singapore, Chief of Brunei Armed Forces, Comd 3 Bde Australia, Comd NEWZ-FORSEA, Comd 48 GR Bde | Accompanied by Chief of Army and Corps Comd, Malaysia.  |
| 18.    | 1500        | Visit by senior staff officers of MINDEF and formation HQ.                                                   |                                                         |
|        | 13 Oct 87   |                                                                                                              |                                                         |
| 19.    | 1030        | Visit by Dy Defence Minister                                                                                 | Accompanied by Dy Chief of Army and Corps Comd.         |
| 20.    | 1300        | CPX ends                                                                                                     |                                                         |
| 21.    | 1500        | Closing ceremony                                                                                             | By GOC 3 Div                                            |
| 22.    | 2030 - 2350 | International Night                                                                                          | Performance by FPDA contingent representatives and OTD. |
|        | 14 Oct 87   |                                                                                                              |                                                         |
| 23.    | 0830        | Exercise Debrief                                                                                             | Conducted by Dy Ex Director.                            |
| 24.    | 1040        | Recreational tour commences                                                                                  | Ex Secretariat                                          |
|        | 15 Oct 87   |                                                                                                              |                                                         |
| 25.    | AM          | Recreational tour/free                                                                                       |                                                         |
| 26.    | PM          | Pre-departure administration                                                                                 |                                                         |
|        | 16 Oct 87   |                                                                                                              |                                                         |
| 27.    | AM          | FPDA contingents depart                                                                                      |                                                         |

Table 1. Exercise KRIS SAKTI 1/87 Programme



---

**LESSONS LEARNT**

---

The major lessons learnt from Exercise KRIS SAKTI 1/87 may be summarised as follows:

- The correct role to be played by each contingent should be determined at the earliest stage of planning. In this exercise, the Australians were obliging enough to change their contingent to an Artillery unit. As there were no takers to play the role of Armour, the host country was obliged to take this on in order to have a balanced force.
- The organising brigade played the role of higher control. This is workable and recommended. However, the brigade staff should not be tasked to hold other key appointments such as Chief Controller or Enemy Controller. These two appointments, just like the Deputy Chief Controller and Leader for lower control should be provided from outside sources. Where the CPX runs continuously for 24 hours, each key appointment should also have a deputy. Ideally these key personalities should have been a part of the EPS so that they would be very familiar with the detailed concept of the exercise. The brigade staff should be free enough to effectively function in its organic role by monitoring unit activities and responding to unit queries and problems.
- Time-tunnelling was necessary to achieve the desired balance between keeping the players sufficiently busy without the loss of realism. In general this was achieved. However, to allow the participants to settle down into the momentum of the exercise it would be better to initially dispense with time tunnelling, or at least to reduce its tempo from 1:4 to 1:2.
- A draft SOP was produced for Exercise KRIS SAKTI 1/87. Based on the feedback from the exercise, the SOP should be updated and made more comprehensive.



Some VIP visitors to Ex KRIS SAKTI 1/87



---

**CONCLUSION •**

---

Exercise KRIS SAKTI 1/87 had been unanimously hailed as a great success. No doubt this was achieved through the untiring effort of the sponsor formation, the organising brigade and all the supporting staff. The aim and objectives of the exercise had been achieved, in particular better relations had been fostered and developed between the FPDA participants. All those who contributed to the success of the exercise should be congratulated for a job well done.

next two FPDA land exercises have been scheduled to be hosted by New Zealand and Singapore respectively. In 1990, it will probably be held in Australia. Malaysia's turn to host will come round again in 1991. By that time, experience of Exercise KRIS SAKTI 1/87 would probably be forgotten. A comprehensive record of the exercise from its initial planning stage would come in very useful to the next organising formation. The activities of Exercise KRIS SAKTI 1/87 are also relevant to the Malaysian contingents earmarked for the FPDA land exercises in the other countries in the years ahead. □

Much experience had been acquired in the organisation of Exercise KRIS SAKTI 1/87. The



*Kol Tan Say Loke was commissioned into the Malaysian Artillery in Dec 61. Amongst the courses he attended were the Gunnery Staff Course at Larkhill, Tac 5 Course at Canungra, the Staff and Defence College courses locally. He is presently Kol Training/Doctrine in MINDEF.*





# PENGEMBANGAN LATIHAN DI DALAM PASUKAN

"Biar bermandi keringat semasa latihan supaya tidak bermandi darah di dalam peperangan"  
— Suatu falsafah lama

## • UMUM

Pembinaan anggota di dalam pasukan sentiasa mempunyai kaitan dengan latihan. Kedua-duanya saling berkait dan tidak dapat dipisahkan. Malah, latihan merupakan unsur terpenting bagi pembinaan anggota di pasukan. Di dalam tentera, khususnya pasukan tempur dan bantuan tempur latihan seharusnya menjadi kegiatan pokok sehari-hari, terutama sekali apabila tidak terlibat dengan operasi. Setiap lapisan pimpinan hendaklah memberikan perhatian dan penglibatan sepenuhnya kepada pengembangan latihan di dalam pasukan kerana latihan itu adalah tanggungjawab mutlak kepimpinan.

Mengendalikan sesuatu latihan di dalam pasukan bukannya suatu hal yang sulit. Apa yang diperlukan adalah kesedaran bahawa latihan itu akan menyelamatkan nyawa di dalam peperangan dan ianya adalah kebajikan yang termulia bagi seseorang perajurit. Latihan tidak semestinya sen-

tiasa memerlukan alat kelengkapan dan bantuan latihan yang sofistikated. Apa yang wajib adalah kesungguhan, imaginasi dan akal budi (common sense).

## FALSAFAH LATIHAN

*Suatu Falsafah.* 'Latihan itu menyeluruh dan saling berkait' adalah falsafah latihan yang harus dan perlu disedari oleh setiap lapisan kepimpinan di dalam pasukan. Sesuai dengan sifatnya yang menyeluruh dan saling berkait, ianya mencakupi semua bidang pembinaan termasuk disiplin, mental, rohani, jasmani dan regimental di samping pembinaan profesional. Perkara-perkara tersebut merupakan ciri-ciri mutlak bagi sesuatu pasukan yang baik dan tersusun. Disiplin lahirnya dari latihan yang mencabar yang juga dapat membina ketahanan mental dan fizikal serta perawakan yang teguh. Ianya dapat mewujudkan seorang perajurit yang tanggul dan total. Latihan itu dinamik, berkesinambungan dan berterusan. Ianya tidak kenal tem-



pat dan waktu. Semua kegiatan di dalam pasukan seharusnya berkisar dengan latihan baik secara langsung mahupun secara tidak langsung.

*Unsur-unsur Latihan.* Falsafah di atas berdasarkan kepada empat unsur pokok bagi latihan seperti di bawah:

- Perajurit — kita mempunyainya di setiap pasukan.
- Alat Kelengkapan — mungkin tidak cukup namun dapat diiktiraf dan diimprovisasikan, dan diimprovisasikan.
- Tempat/Kawasan — terdapat di mana-mana, gunakannya dengan bijaksana.
- Kebijaksanaan — kombinasi akal fikiran, imaginasi, kemahuan dan inisiatif.

Unsur-unsur pertama hingga ketiga bukannya masalah besar dan yang sedia ada dapat dimanfaatkan dengan semaksimumnya. Unsur keempat adalah yang berkaitan dengan aspek kejiwaan dan mental dan ini akan sukar sedikit untuk membinanya. Namun, seorang pemimpin yang bertanggungjawab yang mengutamakan kepentingan pasukan dan perajuritnya serta tugasnya, akan dapat membina dirinya dengan sewajarnya.

*Disiplin.* Seperti yang diungkapkan di atas, bahawa disiplin itu merupakan di antara ciri yang utama yang diperlukan untuk mendukung falsafah latihan tersebut. Disiplin yang teguh akan hanya dapat dibina melalui latihan yang penuh dengan cabaran. Tiada seorang pun yang memasuki Tentera Darat dengan harapan untuk menikmati penghidupan yang mudah. Mereka mengetahui bahawa latihannya adalah berat lagi mencabar. Mereka juga menyedari bahawa mereka akan digembelingkan sampai ke titik akhir ketahanan diri dan jasmani mereka di dalam latihan, namun akan merasa puas setelah berjaya menempuhnya. Mereka juga memaklumi bahawa penghidupan tentera itu penuh dengan disiplin dan regimentasi. Ciri-ciri disiplin tersebut dapat dibina semasa para perajurit masih rekrut, tetapi kenapa mutu yang sama tidak dapat dipelihara apabila mereka memasuki pasukan? Adalah diamati di antara sebabnya kerana kebanyakan pasukan sekarang agak melonggarkan penguatkuasaan amalan disiplin asas seperti kawad,

baris perbarisan, pemeriksaan bilik dan sebagainya. Perlu disedari bahawa disiplin itu bermula di padang kawad dan di bilik berek. Di padang kawadlah para perajurit dapat dilatih untuk menerima dan mematuhi sebarang perintah dengan spontan tanpa menyoal balik; dan di padang kawad jugalah ketua-ketua rendah dapat membina keyakinan diri dan ketegasan dengan memberi perintah kepada orang bawahan. Kedua-dua perajurit dan ketua-ketua rendah sebelum berkawad akan mempersiapkan diri dan pakaian secara tidak langsung membina disiplin diri masing-masing. Sama juga halnya dengan pemeriksaan bilik dan 'kit' di dalam berek. Kesannya sama dengan kawad. Ini adalah di antara amalan asas yang kita seolah-olah lupakan di pasukan. Jeneral Patton pernah berkata, "Disiplin administratif, iaitu disiplin padang kawad dan bilik berek adalah ukuran bagi disiplin tempur. Sebarang ketua yang tidak dapat menguatkuasakan disiplin administratif tidak mungkin dapat menentukan disiplin tempur".

*Akal Budi (Common Sense).* Latihan bukannya suatu aktiviti pasukan yang susah untuk dirumus dan dikendalikan; ianya hanya memerlukan akal budi dan imaginasi. Apa jua sistem yang telah diperkenalkan ke dalam Tentera Darat dewasa ini adalah bertujuan untuk memudahkan pelaksanaan dan pengendaliannya di dalam pasukan. Pendekatan Latihan Secara Sistem (PLSS) umpamanya, adalah satu sistem yang berdasarkan kepada akal budi dan bukannya sesuatu yang begitu baru dan susah. Tidak ada sebabnya kenapa segolongan Pegawai Memerintah dan pegawai-pegawai lain berasa bimbang akan kemutakhirannya. Ianya bertujuan untuk memudahkan latihan dengan menentukan objektif-objektif yang nyata dan spesifik. Dengan adanya penentuan objektif, kepemimpinan di tingkat apa jua sekalipun secara relatif lebih mudah menilai prestasi latihan para anggota dan unit masing-masing. Buku panduan 'Program Penilaian Latihan Darat' (Army Training Evaluation Programme — ARTEP) telah dikeluarkan untuk membantu pasukan mengendalikan latihan masing-masing; tetapi, terus terang, berapa orangkah daripada Pegawai-pegawai Memerintah benar-benar menggunakannya di dalam latihan. Kalau diteliti 'ARTEP' tersebut, akan terdapat tidak ada sebenarnya perkara-perkara yang begitu baru, hanyalah ianya lebih mantap di segi susunan dan berdasarkan kepada akal budi. Prinsipnya adalah akal budi dan sedikit imaginasi.



## PENGURUSAN LATIHAN

**Faktor-faktor Pengurusan.** Latihan memerlukan masa, manusia, alat kelengkapan, fasilitas dan kebijaksanaan untuk menentukan apa yang harus dilakukan. Kebanyakan perkara tersebut adalah di dalam penguasaan setiap Pegawai Memerintah walaupun ada di antaranya yang kurang lengkap. Adalah disedari bahawa oleh kerana kekurangan dan batasan, Pegawai Memerintah agak sukar untuk merancang dan mengurus latihan pasukannya. Namun, keterbatasan masa, kekurangan alat kelengkapan dan anggota yang tidak cukup tidak seharusnya dijadikan alasan terhadap latihan yang kurang atau pelaksanaan yang tidak mantap. Kita harus menyedari kenyataan bahawa kita tidak akan mungkin selalu mendapat orang serta alat kelengkapan yang cukup dan masa akan senantiasa menjadi suatu batasan. Apa yang diperlukan bagi pengurusan anggota, alat kelengkapan dan masa adalah sikap yang positif, ditambah dengan akal budi, imaginasi, inovasi dan ikhtiar cipta.

**Sistem Latihan.** Apabila merancang sesuatu rencana latihan, Pegawai Memerintah pasukan hendaklah memberi perhatian terhadap sistem Latihan Tentera Darat yang harus digunakan sebagai pedoman untuk menentukan pelaksanaan latihan berjalan dengan wajarnya. Sebagaimana yang dimaklumi, sistem tersebut mempunyai lima tahap dengan urutannya seperti berikut:

- **Tahap I – Analisa Keperluan Latihan.** Apakah keperluan latihan serta tingkat dan jenis latihan.
- **Tahap II – Rumuskan Latihan.** Tentukan objektif dan taraf yang ingin dicapai.
- **Tahap III – Kembangkan Latihan.** Siapkan rencana pengurusan latihan untuk memenuhi keperluan latihan.
- **Tahap IV – Laksanakan Latihan.** Laksanakan latihan sesuai dengan garis panduan yang ditentukan oleh 'ARTEP'.
- **Tahap V – Kajinilai (Validate) Latihan.** Lakukan kajinilai untuk menentukan kesesuaian objektif yang telah ditetapkan dan sama ada ianya dapat dicapai ataupun sama ada latihan yang wajar telah diberikan.

**Kesinambungan Latihan.** Momentum dan kesinambungan latihan hendaklah dipelihara seberapa mungkin. Di antara pelanggaran prinsip pengurusan latihan yang baik adalah meminda jadual latihan yang telah ditetapkan khususnya sewaktu 'Masa Perdana'. Sebarang pindaan tidak seharusnya diterima kerana ianya hanya menggambarkan perancangan yang kurang mantap dan kepimpinan yang agak lemah bagi sesiapa yang memindanya dan kurang bijaksana bagi pihak atasan yang membenarkan atau yang mengarahkan pindaan itu dibuat. Pindaan yang kerap terhadap jadual latihan akan menghasilkan latihan yang kurang mantap dan mungkin mengelirukan anggota yang terlibat. Jadual latihan hendaklah berterusan dan diikuti dengan seketatnya dan hanya boleh dipinda apabila keadaan benar-benar genting dan memaksa dengan alasan serta sebab yang menasabah. Ada di antara pindaan kepada jadual latihan mungkin boleh diterima kalau tidak dapat dielakkan lagi; tetapi jadual latihan di 'Masa Perdana' tidak seharusnya disentuh.

**Gangguan/Hambatan.** Konsep putaran enam-belas bulan yang dirumuskan oleh DTD Latih bertujuan untuk membolehkan para pemerintah pasukan merancang dan menjadualkan latihan pasukan masing-masing secara progresif bermula dengan latihan individu, kelompok dan seterusnya kolektif sebagai satu pasukan dengan memberi waktu yang cukup bagi pentadbiran dan istirahat di antara operasi. Namun, masih juga terdapat rungutan dari pemerintah-pemerintah pasukan tentang serba macam kekurangan baik masa mahupun anggota dan latihan, mereka acap terganggu oleh tugas-tugas yang di luar rencana dari markas formasi masing-masing. Kadangkala rungutan tersebut ada asasnya kerana ada juga di antara markas formasi yang agak terlalu tinggi keghairahan dan obsesinya terhadap tugas-tugas lain sehingga mengganggu gugat masa latihan perdana pasukan. Keadaan ini perlu disedari dan diakui dan usaha hendaklah dibuat agar ianya tidak dijadikan satu kebiasaan. Latihan di dalam masa perdana tidak seharusnya diganggu sama sekali. Suatu batas hendaklah ditentukan tentang penglibatan sebarang anggota tentera dengan tugas-tugas yang tidak langsung mempunyai kaitan dengan tugas pokok perkhidmatan tentera. Penglibatan ini kalau tidak dikawal mungkin akan mempengaruhi semangat perjuangan anggota-anggota kita. Seandainya keperluan itu begitu mendadak dan penting, markas atasan berkaitan boleh memberi tugas tersebut ke-



pada pasukan yang tidak terlibat dengan latihan dalam masa perdana yang memang menyedari bahawa mereka akan dilibatkan dengan sebarang tugas apabila diperlukan. Namun, bagi pasukan yang di dalam masa perdana, anggotanya juga mengetahui bahawa mereka tidak seharusnya dilibatkan dengan tugas lain kecuali markas formasinya tidak ada jalan lain lagi dan tugas yang bakal diberikan mempunyai implikasi jangka panjang. Walau bagaimanapun, para pemerintah pasukan tidak seharusnya merungut terhadap gangguan kecil-kecilan dari markas formasi yang tidak mengganggu gugat dengan seriusnya pelaksanaan latihan masing-masing. Ia tidak seharusnya digunakan sebagai alasan dan sebab atas pelaksanaan latihan yang kurang mantap khususnya di waktu eksais ujian di akhir masa perdana. Ianya hendaklah dianggap sebagai satu cabaran latihan dan bukan hambatan. Amalkan prinsip yang kenyal dan pengubahsuaian terhadap jadual latihan boleh dibuat.

**Tanggungjawab Latihan:** Sememangnya ialah para pemerintah pasukan merancang latihan pasukan berdasarkan kepada direktif dan objektif yang ditentukan oleh Panglima Briged masing-masing, namun penyesuaian hendaklah dibuat mengikut keperluan pasukan berkenaan. Di samping itu iktibar dan pelajaran hendaklah diambil dari operasi-operasi yang dijalankan dan juga dari latihan-latihan sebelumnya. Seseorang Pegawai Pemerintah itu hendaklah peka terhadap kelemahan pasukannya dan rancangan latihannya harus mengambil kira perkara tersebut serta juga sebarang kekuatan dan kebaikan yang dimilikinya. Di dalam pasukan, Pegawai Pemerintahnya adalah pengurus latihan dan bertanggungjawab untuk menentukan latihan dilaksanakan dan dikendalikan dengan mantapnya. Beliau hendaklah menentukan objektifnya dan mengurus fasilitasnya dengan baik. Di samping itu beliau hendaklah membimbing, menuntun dan mengasuh mereka yang dipimpinnya. Untuk mengendalikan latihan secara langsung, satu tim latihan perlu ditubuhkan. Para anggota tim tersebut hendaklah memiliki kelayakan dan pengalaman tertentu untuk jawatan masing-masing, khususnya Pegawai Pengembang Latihan (PPL) yang bertanggungjawab untuk menasihati Pegawai Pemerintah tentang aspek-aspek teknikal berkaitan dengan sistem latihan. Pada dasarnya tim latihan pasukan yang dimaksudkan seharusnya dianggotai oleh:

- Pegawai Pengembang Latihan (PPL) —

Penasihat sistem latihan.

- Pegawai Latihan (PL) — Mengurus latihan sesuai dengan direktif Pegawai Pemerintah. Pegawai Pemerintah.
- Jurulatih (JL) — Mengendalikan latihan dan membantu di dalam tahap-tahap lain kepada sistem latihan.

## PANDUAN LATIHAN (TRAINING TIPS)

**Ruang Lingkup.** Panduan latihan mencakupi aktiviti-aktiviti yang luas lingkungannya. Di antara lain ianya termasuk prosedur dan teknik-teknik tertentu yang mana kalau digunakan sebagai panduan dan dikembangkan dengan bijaksana akan dapat memperluaskan dimensi dan cara pelaksanaan sesuatu latihan. Namun, penggunaan sebarang panduan (tips) hendaklah dilakukan dengan penuh kebijaksanaan dan jangan sampai terjebak dengan teknik dan tatacara yang menyimpang dari prinsip-prinsip dan asas sistem latihan sebenar. Ini akan mengelirukan anggota-anggota yang dilatih. Sesuai dengan falsafah bahawa 'latihan itu menyeluruh dan saling berkait', maka di bawah ini diturunkan beberapa teknik pengembangan latihan di dalam pasukan yang meliputi perkara-perkara berikut:

- Latihan individu.
- Tugas sambil belajar.
- Latihan pasukan kecil.
- Latihan situasional.
- Latihan fizikal.
- Putaran enambelas bulan.
- Indoktrinasi mental.
- Teknik pengembangan latihan.

### Latihan Individu

● **Asas-asas.** Adalah diakui bahawa setiap tingkat latihan akan mendukung kemampuan sesuatu unit itu di dalam mencapai misi tugasnya; namun, kunci semua kejayaan tugas tentera terletak di atas mutu latihan mereka yang menganggotainya. Latihan individu merupakan landasan dari mana prestasi sesuatu pasukan itu berkembang. Tujuan latihan individu adalah untuk mengembelikan kemampuan maksimum seseorang anggota itu menerusi pembinaan moral, mental dan fizikal. Sesuai dengan falsafah bahawa 'latihan itu menyeluruh



ruh dan saling berkait', justeru itu objektif pokok latihan individu adalah untuk meningkatkan ketrampilan seseorang anggota itu secara menyeluruh dan total. Oleh kerana pertukaran anggota yang berlaku terus menerus, sememangnya akan sentiasa terdapat perbezaan mutu kemahiran di kalangan anggota. Tugas semua pemerintah pasukan adalah untuk meningkatkan lagi kemahiran dan mutu prestasi yang dimiliki oleh anggota-anggota tersebut menerusi latihan yang sistematik yang meliputi keperluan perseorangan dan juga unit. Kesenambungan latihan adalah perkara yang penting yang perlu diberi perhatian sewaktu mengendalikan latihan individu. Latihan tersebut akan dapat memelihara ketrampilan seseorang individu dan juga prestasi pasukannya. Sekaligus ia dapat memperkuatkan keyakinan para anggota berkenaan terhadap kebolehannya.

- **Tugas Sambil Belajar.** Salah satu latihan individu yang efektif adalah penugasan sambil belajar. Latihan ini merupakan satu proses ketika anggota yang terlibat mempelajari kemahiran tugas tertentu dan memperoleh pengetahuan menerusi penglibatan dan pengamalan langsung dari tugas tersebut di bawah pengawasan pihak tertentu dan disesuaikan dengan satu jadual yang ditetapkan.



Latihan rondaan

Setiap jadual tugas sambil belajar hendaklah progresif dan mempunyai rancangan kursusnya tersendiri. Ianya perlu mempunyai tarikh mula dan akhir dan juga pemeriksaan serta ujian di waktu-waktu tertentu. Jadual hariannya hendaklah mengandungi satu atau dua mata pelajaran setiap hari untuk membolehkan peserta memperluas pengetahuan dan meningkatkan kemahirannya setiap hari dalam proses untuk memperoleh kelulusan di akhir penugasannya nanti. Tugas sambil belajar ini boleh dikendalikan baik di dalam kem mahupun

sewaktu operasi. Sebagai contoh, kalau seseorang itu dilatih sebagai operator radio, sebarang pelajaran/pengetahuan asas yang diperolehinya sewaktu tugas sambil belajar di dalam kem dapat diuji kemahirannya sewaktu ianya berada di dalam kawasan operasi mengikut platoon/kompeninya. Tugas sambil belajar ini boleh juga dibuat terhadap tim-tim MGKA dan sebagainya termasuk juga seorang anggota raifel. Pemeriksaan dan ujian boleh diadakan apabila anggota yang terlibat sedang melakukan tugas tertentu dengan sebenarnya di kawasan operasi sama ada sebagai pengawal atau pun sewaktu rondaan. Latihan seperti ini secara tidak langsung akan dapat mengisi waktu yang terguna untuk tugas mendadak yang diberikan oleh markas atasan.

**Latihan Pasukan Kecil.** Sememangnya para panglima bertanggungjawab keseluruhannya terhadap bala tentera yang dipimpinnya di dalam perang, tetapi lazimnya yang memperoleh kejayaan bagi panglima tersebut adalah para ketua pasukan-pasukan kecilnya. Hasil sesuatu peperangan itu, sama ada menang atau kalah, banyak ditentukan oleh pasukan-pasukan kecil yang terlibat secara langsung berdepanan dengan musuh. Bala tentera yang memiliki senjata moden dan peralatan yang lengkap belum tentu akan berjaya menentang pasukan-pasukan kecil yang mantap latihannya dan tinggi disiplin serta semangatnya. Walaupun mungkin dapat digempuri oleh lawannya, namun oleh kerana mutu latihan yang diperolehinya, mereka tidak mungkin kucar kacir dan bertempiran dan begitu mudah menyerah kalah. Penyelidikan yang dilakukan oleh pakar sosiologi Amerika menunjukkan bahawa ketaatsetiaannya seseorang perajurit itu terletak kepada pasukan utamanya. Pasukan utama yang dimaksudkan adalah seksyen, pelatun, kompeni dan barulah batalion. Bertambah sengit sesuatu pertempuran itu akan bertambah kuat pulalah semangat setiakawan di antara anggota pasukan yang terlibat. Semangat inilah yang akan menentukan hasil sesuatu pertempuran itu. Justeru, demi pentingnya latihan terhadap pasukan-pasukan kecil, di bawah ini dibincangkan beberapa cara untuk mengendalikan latihan pasukan-pasukan kecil dengan mengambil kira tugas-tugas 'extra-regimental' yang dibebankan kepada pasukan dari waktu ke waktu:

- **Konsep X dan Y.** Konsep ini sebenarnya bukanlah konsep baru dan memang ada beberapa pasukan mengamalkannya. Namun, sayugia di-



buat penegasan di sini tentang konsep tersebut agar dijadikan sebagai satu amalan yang menyeluruh di dalam tentera darat, khususnya dengan pasukan tempur. Konsep ini bersifat silih ganti dengan dua pasukan kecil (platun/kompeni) dijadikan pasangan. Satu pasukan iaitu 'X' akan membuat segala tugas tadbir pasukan 'Y' termasuk untuk pasukannya sendiri, sementara pasukan 'Y' membuat latihan sahaja di medan. Setelah selesai jangka waktu yang ditentukan, contohnya satu minggu, pasukan 'Y' pula akan menggantikan pasukan 'X' membuat tugas-tugas tadbir sementara 'X' terlibat sepenuhnya dengan latihan. Apabila sesuatu pasukan itu membuat latihan sahaja di medan tanpa gangguan, walaupun buat beberapa hari sahaja, tetapi hasilnya lebih baik jika dibandingkan dengan waktu yang sama andainya latihan tersebut dibuat di dalam kem dengan segala macam gangguan.

- *Latihan Situasional.* Latihan ini berorientasi kan kepada sesuatu situasi yang dihadapi kepada pasukan kecil untuk tujuan tertentu. Latihannya mungkin memakan waktu selama lima minit sahaja ataupun mungkin sampai empat puluh lima minit, tergantung kepada situasinya. Ianya mengandungi eksersaiz yang mendadak yang dilemparkan kepada sesuatu pasukan kecil untuk menguji sesuatu aspek latihan. Sesiapa pun yang ingin menggunakan teknik ini, hendaklah benar-benar mengetahui kemampuan dan tingkat prestasi pasukan yang bakal diuji dan apa aspeknya yang ingin diuji tentang tingkat latihan pasukan tersebut. Dengan melemparkan aneka situasi untuk dilaksanakan di dalam jangka waktu yang tertentu akan dapat memberi gambaran kepada seseorang pemerintah pasukan tentang taraf latihan yang telah dicapai oleh pasukannya dan juga kesiapsiagaannya. Di samping itu pasukan-pasukan dapat membiasakan diri untuk menghadapi situasi mendadak yang di luar dugaan dan ini adalah aspek yang penting di dalam peperangan. Ditegaskan di sini bahawa teknik latihan ini mencakupi semua unsur latihan iaitu perajurit, alat kelengkapan, tempat dan pengetahuan. Justeru, latihan situasional merangkumkan kesemua unsur tersebut di dalam situasi yang memerlukan aksi/tindakan oleh anggota yang terlibat. Situasi yang mendadak sebegini tidak memerlukan rancangan yang bertulis. Apa yang dikehendaki adalah untuk menghidupkan suatu situasi dengan mendadak agar pasukan dapat bertindak balas terhadapnya. Kebiasaannya latihan situasional ini

dilemparkan terhadap apa jua aktiviti yang sedang dilakukan oleh pasukan. Situasi taktisnya mungkin saja semudah pengawal yang sedang bertugas ataupun kawad tindak balas seksyen dan/atau platun. Contohnya seperti berikut:

#### LATIHAN SITUASIONAL – GAMBARAN 1

Pasukan : Mana-mana pasukan.  
 Objektif : Menguji reaksi pengawal dan seksyennya.  
 Situasi : Pengawal sedang bertugas.  
 Gambaran : Seorang pengawal sedang bertugas di kedudukan pertahanan seksyennya. Di sampingnya terdapat tali perhubungan dan set telefon medan. Beritahu kepadanya bahawa dia terlihat satu lembaga bergerak di semak di hadapannya kira-kira satu ratus meter jauhnya. Lihat apa reaksinya. Perhubungan mana yang akan digunakannya tali atau telefon. Apa pula selanjutnya reaksi ketua seksyen dan seterusnya ketua pelatun.

#### LATIHAN SITUASIONAL – GAMBARAN 2

Pasukan : Infranstri.  
 Objektif : Menguji kemahiran kawad tindak balas seksyen.  
 Situasi : Seksyen sedang meronda.  
 Gambaran : Satu seksyen sedang meronda. Beritahu kepada ketua seksyennya bahawa seksyennya tiba-tiba ditembak seperti kedengaran bunyi senjata mesingan ringan dari sebelah kanan tetapi musuh tidak kelihatan. Apa reaksinya, adakah dia akan memancing untuk menarik tembakan musuh tersebut, ataupun memanggil tembak artileri/mortar, ataupun menyerbu?

*Latihan Fizikal.* Peperangan banyak menguji ketahanan, kekuatan, stamina, kekenyalan dan koordinasi seseorang perajurit itu kerana kemenangan, hidup atau mati banyak bergantung kepada faktor-faktor tersebut. Ketahanan mental dan fizikal pada keseluruhannya merupakan bekal yang paling ampuh di dalam pertempuran. Kedua-duanya saling berhubungan dan mempunyai kaitan langsung dengan emosi, moral individu dan semangat pasukan. Perajurit yang kuat dan tahan lasak akan mempunyai daya tahan dan keyakinan diri di dalam situasi yang penuh cabaran dan desakan dan tidak akan begitu mudah lemah semangat. Kekuatan jasmani terlalu penting bagi seseorang



perajurit justeru harus dijadikan satu latihan yang wajib. Latihan jasmani hendaklah dilaksanakan setiap hari. Jadualnya hendaklah dirancang sedemikian rupa agar dapat mendorong para anggota untuk bersaing melaksanakannya dan berasa bangga serta puas di akhir latihannya kerana berjaya mengikutinya. Agar para anggota lebih bersemangat lagi, para pemerintah di setiap tingkat dalam pasukan hendaklah turut serta mengambil bahagian. Mereka hendaklah mengambil bahagian secara langsung dan bukan sekadar hadir sahaja. Di beberapa pasukan ada beberapa gejala yang kurang sihat diamati, seolah-olah aktiviti fizikal hanya untuk dilaksanakan oleh kapten ke bawah bagi pegawai dan kopersal ke bawah bagi lain-lain pangkat. Ini adalah satu amalan dan contoh yang buruk yang mungkin mempengaruhi keruntuhan semangat para anggota di pasukan berkenaan. Sindiran 'cakap tak serupa bikin', sering diucapkan oleh anggota-anggota menyindir pimpinan mereka di pasukan. Setiap anggota di dalam pasukan tidak dikecualikan dari sebarang aktiviti fizikal kecuali yang sakit. Sewaktu membuat Ujian Kecergasan Asas (UKA) dan Ujian Kecergasan Tempur (UKT), semua anggota yang berumur 55 tahun ke bawah diwajibkan. Ini termasuklah Pegawai Pemerintahnya sekali. Walau bagaimanapun, apabila merancang sesuatu latihan jasmani, hendaklah diawasi supaya ada peningkatan secara progresif dengan latihannya dan para pesertanya disesuaikan dengan pengelompokan umur UKA/UKT.

*Putaran Enambelas Bulan.* Pegawai Pemerintah selaku pengurus latihan pasukannya hendaklah secara efektif menggunakan dengan maksimumnya masa yang ada terluang baginya. Hendaklah di sedari bahawa sering aktiviti latihan pasukan terganggu oleh tugas-tugas mendadak yang diberikan oleh markas atasan. Berdasarkan kepada kenyataan ini, Pegawai Pemerintah hendaklah mengambil kira gangguan seperti ini semasa merumuskan rancangan latihan meliputi putaran enambelas bulan. Adalah disarankan agar putaran enambelas bulan tersebut dibahagikan kepada tiga bahagian meliputi latihan di antara operasi, latihan semasa operasi dan latihan masa perdana.

● *Latihan Di antara Operasi.* Di antara latihan yang boleh dibuat semasa ini adalah latihan individu dan latihan tim senjata bantuan meliputi subjek-subjek berikut:

- (1) Ilmu medan perang.

- (2) Seni perang.
- (3) Pengendalian senjata.
- (4) Pembinaan mental dan fizikal.

● *Latihan Semasa Operasi.* Di dalam kawasan operasi latihan fungsional dapat dilaksanakan baik bagi individu juga bagi kelompok. Pendekatan latihan situasional boleh digunakan sama ada di pangkalan ataupun semasa rondaan. Dengan cara demikian para anggota dapat mengisi waktu yang luang untuk mengikis kebosanan di samping dapat meningkatkan pengetahuan dan kemahiran berkaitan dengan taktik dan teknik operasi. Di antara subjek yang dapat diliputi adalah:

- (1) Ilmu medan perang.
- (2) Seni perang.
- (3) Pengendalian senjata.

● *Latihan Masa Perdana.* Latihan berkelompok dan berpasukan dan eksasais ujian dilaksanakan waktu ini berdasarkan kepada petunjuk-petunjuk dan ketentuan Sistem Latihan Tentera Darat dan objektif-objektif yang ditentukan oleh 'ARTEP' sesuai dengan direktif latihan Tentera Darat.

*Indoktrinasi Mental.* Pembinaan mental bertujuan untuk melahirkan semangat patriotisme serta kesedaran dan untuk menanamkan perasaan taat setia terhadap Raja, Negara, Agama dan rakan seperjuangan. Ianya juga adalah satu usaha untuk membina semangat kekitaan dan perasaan afiasi kepada sesuatu organisasi. Pendekatan pembinaan mental ini mencakupi indoktrinasi kerohanian untuk memperkuat kesedaran beragama dan meningkatkan ketaqwaan. Organisasi-organisasi awam dipimpin oleh Perdana Menteri sendiri dewasa ini sedang giat melancarkan gerakan setia untuk menanamkan semangat kesetiaan kepada Raja, pemimpin dan Negara. Kita lihat dan baca kempen tersebut saban hari di media massa. Program indoktrinasi mental ini sebenarnya bukanlah sesuatu yang baru di dalam Tentera Darat. Namun, tidak dimengerti kenapa banyak di antara pemerintah pasukan memberi sambutan yang dingin terhadapnya. Amalannya mungkin kelihatannya tidak akan mendatangkan hasil, tetapi perlu di sedari bahawa indoktrinasi mental yang berterusan dan bersinambung dapat membina disiplin diri dan ianya mempunyai efek dan kesan jangka panjang terhadap perajurit. Adalah diharapkan agar



amalan-amalan berikut dapat digiatkan kembali di dalam pasukan:

- Upacara menaikkan bendera Malaysia dan pasukan, dan sekaligus menyanyikan Negara Ku dan lagu pasukan pada setiap perbarisan pagi. Di samping itu berikutnya melafazkan pula Ikrar Kesatria.

- Kelas indoktrinasi diadakan untuk perkara-perkara berikut agar dapat dihayati dan dimengerti dengan lebih mendalam lagi supaya semangat patriotisme dan setiakawan dapat tertanam di sanubari.

- (1) Rukunegara.
- (2) Ikrar Kesatria.
- (3) Rukun Kesopanan Angkatan Tentera.

- Pembinaan rohani untuk yang beragama Islam khususnya adalah bertujuan untuk meningkatkan ketaqwaan kepada Allah swt, yakni kepercayaan dan keyakinan kepada segala ajaran Islam serta khodrat dan iradatNya, taat menjalani perintahNya, menjauhkan diri dari pantang dan laranganNya serta dari kemunafikan dan kemusyrikan. Pendekatan ini hendaklah digunakan sesuai dengan petunjuk-petunjuk resmi dan jangan terkeluar hendaknya dari batasnya. Elakkan dari pengaruh dan ajaran yang boleh menimbulkan fanatisme. Amalan sekarang hendaklah dikekalkan dan seterusnya ditingkatkan lagi:

- (1) Tahlil setiap malam Jumaat.
- (2) Kuliah dan ceramah kesedaran agama setiap hari Jumaat.
- (3) Muzakarah sebulan sekali.
- (4) Adalah disarankan agar pendekatan kuliah dan ceramah-ceramah hendaknya lebih condong ke bidang perjuangan Rasul dan Sahabat-sahabat baginda di dalam menegakkan syiar Islam dan tanggungjawab seseorang pejuang/pahlawan dan warga negara terhadap nusa dan bangsanya. Di antara perkara yang boleh dibincangkan/disampaikan waktu ceramah kesedaran beragama adalah:

- (a) Peperangan Rasulullah.
- (b) Khalid Ibn Walid — Pedang Allah.
- (c) Penaklukan Mesir oleh Tentera Islam.
- (d) Penaklukan Sepanyol oleh Tentera Islam.
- (e) Penaklukan Parsi oleh Tentera Islam.

**Teknik Pengembangan Latihan.** Pada keseluruhannya pendekatan latihan yang harus diamalkan hendaklah 'pendekatan sistem' dengan pengamalan secara indoktrinal dan fungsional agar segala sesuatu yang dipelajari menjadi sehati dengan para anggota di dalam pasukan. Di antara teknik pengembangan yang dapat digunakan sesuai dengan situasi adalah seperti berikut:

- **Instruktif.** Berupa pengajaran digunakan untuk melaksanakan sesuatu berdasarkan doktrin, petunjuk, prosedur dan sebagainya dengan cara syarahan, pengajaran dan sebagainya.

- **Edukatif.** Bersifat pendidikan digunakan untuk meningkat dan menambahkan ilmu profesional agar pengetahuan lebih luas dan mantap.

- **Sugestif.** Berupa saranan digunakan dengan mengemukakan syor, cadangan serta pandangan dan tanggapan terhadap pelaksanaan sesuatu dan bukannya dengan cara pengajaran.

- **Stimulatif.** Digunakan untuk menimbulkan suatu situasi dan suasana yang kondusif agar para anggota dengan secara rela dan penuh ghaiah akan ikut serta berpartisipasi.

- **Persuasif.** Digunakan untuk mendorong dan kadang kala secara provokasi guna menimbulkan kesedaran agar secara aktif dapat bergiat dan bertindak khusus di dalam keadaan yang penuh dengan cabaran dan tentangan.

- **Praktis.** Secara amalan untuk melahirkan kebiasaan di dalam melaksanakan sesuatu agar ianya menjadi sehati dan mendarah daging.

## KEPIMPINAN DAN LATIHAN

**Tanggungjawab Kepimpinan.** Adalah menjadi pengetahuan umum bahawa latihan itu tanggungjawab kepimpinan. Latihan tidak dapat dipisahkan dari kepimpinan. Semua tingkat kepimpinan di dalam pasukan hendaklah menjadikan latihan sebagai tugas utama masing-masing. Mereka hendaklah dengan bijaksana mengurus masa terbatas yang ada, menggunakan dengan maksimumnya alat kelengkapan yang terhad, tanamkan semangat, tuntuni dan pimpin anggota masing-masing di dalam latihan. Adalah menjadi tanggungjawab para ketua untuk menimbulkan suatu suasana yang kondusif bagi melaksanakan latihan



yang efektif. Mereka hendaklah mahir dengan sistem senjata yang digunakan, lingkungan taktis sekitar dan kemampuan para anggota yang dipimpin. Mereka juga harus mengenali apa dia 'bentuk' dan apa sebenarnya 'isi'. Latihan yang dirancang hendaklah serealistik mungkin penuh dengan tentangan yang akan mencabar ketahanan para anggota sekaligus dapat melahirkan suasana peperangan yang sebenar yang akan dapat memberi kepuasan kepada anggota yang terlibat setelah mengikutinya. Di samping itu biarkan anggota melakukan sebarang kesilapan dan jangan dihukum mereka, namun hendaklah ditegur agar mereka dapat belajar dari kesilapan tersebut. Hendaklah ditinjau secara positif bahawa seseorang yang belajar dari kesilapan kesannya akan lebih lama tertanam di sanubarinya dan ia akan lebih bijaksana selanjutnya nanti. Namun, kalau kesalahan yang sama diulangi acapkali, maka adalah wajar teguran keras diberikart.

*Latihan Kepimpinan.* Satu dari tugas utama seseorang pemerintah itu adalah untuk melatih pimpinan di bawahnya teknik-teknik kepimpinan. Prosesnya berterus menerus dan bersinambung dan hendaklah dijadikan sebagai satu bahagian penting di dalam jadual latihan pasukan. Ketua-ketua rendah di dalam latihan hendaklah diberi kesempatan untuk menjawab jawatan yang lebih tinggi supaya apabila keadaan sebenar memerlukan, mereka telah pun bersedia untuk mengambil alih jawatan tersebut dengan serta merta. Berikan mereka tanggungjawab dan tugas yang setingkat di atas kedudukan mereka dan jangan 'suapkan' panduan terperinci tentang bagaimana tugas tersebut harus dilaksanakan. Kesempatan hendaklah diberi kepada mereka menggunakan inisiatif bagi menyelesaikan masalah yang dihadapi. Jangan kongkong mereka, biarkan mereka menggunakan daya fikir dan imaginasi dan biarkan mereka melakukan kesilapan, namun perlu ditegur kalau kesilapan tersebut akan memungkinkan bahaya. Apabila sesuatu eksasais berakhir, adakan kritikan, tanggapan dan teguran. Walau bagaimanapun, ada juga kalanya, teguran perlu diberi semasa eksasais tertentu demi memelihara mutu latihan dan penampilan yang tinggi daripada mereka dan kalau kesilapan yang sama berulang kali dilakukan.

*Latihan Ketua-Ketua Rendah.* Para pemerintah pasukan hendaklah menentukan supaya ketua-ketua rendah mereka, baik pegawai mahupun

PTT, diberi latihan kejurulatihan kerana mereka merupakan golongan pengendali yang penting di dalam apa jua jenis dan tingkat latihan. Perhatian yang sewajarnya perlu diberikan kepada latihan jurulatih di dalam sebarang rancangan latihan. Ketua-ketua rendah hendaklah digunakan dengan sepenuhnya untuk melatih anggota-anggota di pasukan. Mereka merupakan inti kepada tim jurulatih kerana mereka mempunyai hubungan langsung dengan anggota-anggota dan dapat menggunakan pengaruh untuk menggembelingkan para perajurit menjadi satu kumpulan pahlawan yang ampuh. Ketua-ketua rendah seharusnya mengetahui dengan lebih dekat kekuatan dan kelemahan anggota-anggotanya dan ini dapat digunakan sebagai panduan di dalam membina kemahiran anggota-anggota tersebut sebagai perajurit tempur. Mereka hendaklah diberi kesempatan untuk mengembangkan inisiatif masing-masing dan diberi tanggungjawab terhadap anggota-anggota yang dilatih dan elakkan seberapa boleh pengongkongan terhadap tindak tanduk mereka.

*Teladan Kepimpinan.* Sebagai insan, manusia itu tidak terlepas dari melakukan kesalahan dan juga tidak bebas dari memiliki kelemahan. Namun, sebagai pemimpin yang diharapkan oleh bawahan untuk mendapatkan bimbingan dan tuntunan serta teladan dan contoh, justeru hendaklah diusahakan seberapa mungkin agar sikap, perilaku dan teladan yang diperagakan oleh seseorang pemimpin itu dapat menjadi contoh dan boleh ditcontohi oleh bawahan. Adalah satu contoh yang tidak baik dan mungkin melemahkan semangat anggota bawahan apabila seseorang ketua itu tidak melakukan sendiri apa yang diperintahkan supaya anggota bawahan membuatnya. Sering kita mendengar tohmahan dan sindiran 'cakap tak serupa bikin' yang dilemparkan oleh anggota bawahan kepada para ketuanya yang hanya pandai bercakap tetapi tidak pandai ataupun tidak sanggup dan tidak rela untuk melakukan sendiri sesuatu yang diperintangkannya. Ini satu-satunya sikap dan perilaku seseorang ketua yang akan menghakisakan moral anggota bawahannya. Para ketua dan pimpinan atasan hendaklah peka terhadap sindiran dan tohmahan tersebut dan berusaha untuk membuktikan sebaliknya. Kalau ditinjau dengan positif, sindiran tersebut banyak benarnya. Tidak dapat dinafikan bahawa ada juga golongan dari kalangan pegawai yang berperilaku sedemikian terutamanya dengan aktiviti fizikal atau sebarang kegiatan yang memerlukan banyak pengorbanan waktu dan



tenaga. Contohnya dengan latihan jasmani pagi yang dimulakan pada jam 0630 pagi di dalam pasukan; sudah menjadi lumrah dengan beberapa pasukan seolah-olah latihan tersebut hanya untuk kapten ke bawah bagi pegawai dan koperal ke bawah bagi lain-lain pangkat. Bagi pasukan-pasukan berkenaan Pegawai Memerintahnya tidak pernah hadir dan ini seterusnya diikuti pula oleh ketua-ketua kompeninya apabila melihat ketidakhadiran Pegawai Memerintahnya. Penyakit ini kian menular dan sampailah ke peringkat platun. Sama juga halnya dengan Ujian Kecergasan Jasmani/Tempur dan latihan jalan lasak, golongan yang sama jarang hadir dalam latihan-latihan tersebut. Pada petang Rabu pula, yang merupakan hari sukan bagi kebanyakan pasukan, para pegawainya sibuk dengan bermain golf dan tenis sementara anggota-anggotanya bersukan sesama sendiri sahaja. Ini adalah kurang wajar kerana inilah masanya para pegawai seharusnya dapat menjalinkan interaksi dengan anggota-anggotanya. Tidaklah bererti di sini pegawai tidak boleh bermain golf ataupun tenis tetapi janganlah hendaknya sukan tersebut dimainkan semasa hari sukan pasukan, pilihlah hari-hari yang lain. Perlu disedari bahawa inti pati sesuatu latihan yang berkesan adalah pemimpinnya wajib menunjukkan teladan dan 'bikin seperti cakap'.

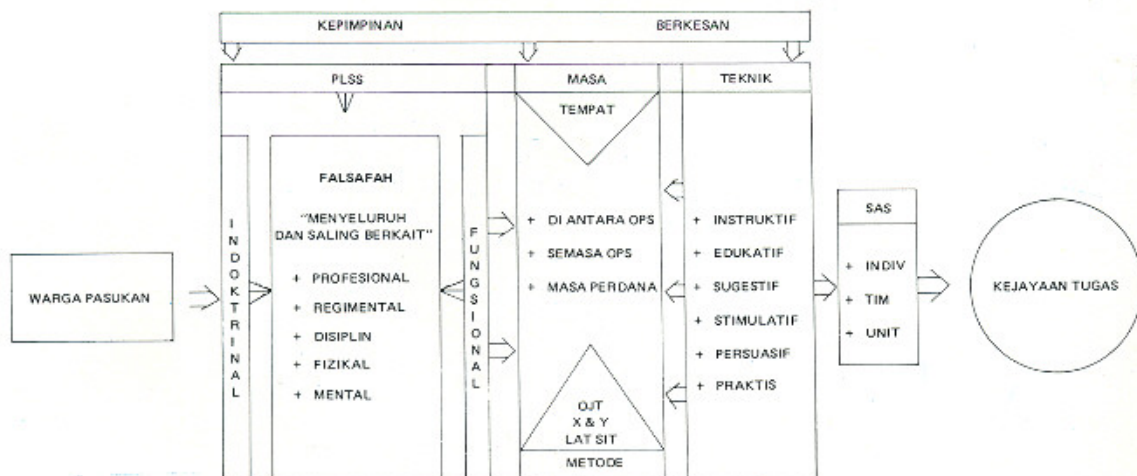
## PENUTUP •

Pengembangan latihan adalah inti pati kepada pembinaan anggota di dalam pasukan. Falsafah

bahawa latihan itu menyeluruh dan saling berkait bukan sahaja meliputi pembinaan kemahiran teknikal dan kemandapan taktikal, tetapi falsafah tersebut juga mencakupi pembinaan mental, rohani dan fizikal yang mana merupakan aspek-aspek penting di dalam pembinaan disiplin. Disiplin adalah faktor yang pokok terhadap kejayaan sesuatu latihan di dalam pasukan. Di samping itu, satu lagi prinsip yang mendasari falsafah latihan tadi adalah bahawa kunci kepada latihan yang berkesan terletak pada peningkatan mutu penampilan individu dan kemahiran pasukan-pasukan kecil.

Untuk mewujudkan satu jadual latihan yang komprehensif, adalah penting bagi seseorang pemerintah pasukan itu mengetahui dengan mendalamnya sistem latihan. Sesuatu latihan, kalau tidak dikendali dan diuruskan dengan mantap akan menimbulkan kebosanan di kalangan para anggota yang mengikuti dan mungkin melahirkan pengaruh negatif terhadap moralnya. Pemerintah pasukan sebagai seorang pengurus latihan berpandukan kepada pengetahuannya terhadap unsur-unsur latihan, hendaklah menggunakan daya fikiran dan imajinasinya agar pelaksanaan latihan pasukannya efektif dan berkesan. Ianya hendaklah memanfaatkan dengan maksimumnya apajua kemudahan yang ada di dalam pasukannya dan menguruskan latihan pasukannya sesuai dengan masa yang ada dengan mengambil kira sebarang tugas mendadak yang mungkin diberikan oleh markas atasannya di dalam proses putaran enambelas bulan itu. Pelak-

### BAGAN BAGI PENGEMBANGAN LATIHAN DALAM PASUKAN



Rajah 2.



sanaan latihannya hendaklah meningkat dengan progresif bermula dengan yang asas berkembang kepada yang kompleks, dari latihan individu, kelompok dan seterusnya memuncak dengan latihan sebagai satu pasukan. Perseimbangan hendaklah diwujudkan di dalam penjadualan latihan di antara waktu untuk latihan dan waktu untuk pentadbiran. Teknik yang berkesan untuk mendapatkan perseimbangan ini adalah dengan mengadakan putaran/giliran tugas sesuai dengan konsep 'X dan Y', pentahapan latihan, belajar sambil bertugas dan latihan situasional.

Pembinaan anggota sangat bergantung kepada kepimpinan yang mantap lagi efektif. Sebagai

ketua agung di dalam pasukan, pemerintah pasukan hendaklah mempunyai perilaku yang tidak sepatutnya dipertikaikan, beliau seharusnya seorang yang maha mengetahui, dapat menunjukkan teladan dan boleh mengajar bagaimana sesuatu tugas itu seharusnya dilaksanakan. Latihan dan kepimpinan tidak dapat dipisahkan dan seorang ketua yang mantap sentiasa mengajar dan melatih para anggotanya. Seorang ketua yang efektif di dalam usahanya untuk membina anggota dan pasukannya akan 'bikin seperti cakap' dan bukan 'cakap tak serupa bikin' □



*Kolonel Amir Baharuddin seorang bekas Putera Maktab Tentera Diraja telah ditauliahkan dari Royal Military Academy Sandhurst pada tahun 1964 ke dalam Kor Askar Melayu Diraja. Kol Amir telah menghadiri pelbagai kursus di dalam dan di luar negara termasuk kursus Pegawai Staff Bersama (Joint Service Staff College) Australia 1983. Beliau telah berkhidmat pada pelbagai tahap perkhidmatan tentera dan kini beliau ialah Ketua Pegawai Staf (Tentera) Markas RASCOM.*







# SIGNAL ELECTRONIC REPAIR AND MAINTENANCE

By Li Kol Ooi Ah Kiang

## • INTRODUCTION

**T**he recent expansion of the Army and the introduction of new and more sophisticated communications electronic equipment to units in the field have ramifications which affect the repair and maintenance of these equipment. Not only has there been a large increase in the number of equipment to be maintained, the types of equipment to be repaired are also more diverse. There is now in use in the Army more than twenty thousand major items of signal equipment (not counting ancillaries) produced from various sources and of varying vintage, employing technology ranging from thermionic valves to the use of very large scale integrated circuitry incorporating microprocessors.

The additional signal maintenance requirements created as a result of these changes have placed considerable strain on the existing tel-repair resources. Faulty signal equipment takes

longer to be repaired and consequently there is a decline in the quality of signal maintenance support provided. In field units the Annual Signal Specialist Inspection results show a drop in the number of signal equipment available for deployment due to poor signal equipment maintenance. There is need to examine the present problems on signal equipment maintenance and suggests ways to resolve them.

## UNIT SIGNAL EQUIPMENT MAINTENANCE

*Need For Regular Maintenance.* The issue of section radios to infantry battalions and the purchase of a new range of tactical radios to replace those which have gone obsolescent have increased infantry battalion unit equipment holdings by almost one hundred percent. This doubling of signal equipment holding is also true for all units of the Armoured Corps. To keep these equipment serviceable, it is important that regular maintenance are carried out even if the equipments are



not deployed and are kept in the unit stores. This need for regular equipment maintenance has not always been adhered to rigidly. In some units the Signal Inspection Team found many equipment unserviceable during the inspection although the individual equipment record cards indicate that monthly maintenance had been carried out. There is also a tendency for some units to retain faulty equipment in their signal stores and only send them to brigade signal workshops just before the Annual Signal Specialist Inspection. Besides losing the use of these equipment such, large inflow of faulty equipment into brigade signal squadrons also causes severe overloading and upsets any repair programme the unit may have planned. The reasons for poor signal equipment maintenance at unit level may be due to one or a combination of the following factors:

- *Lack of Expertise.* The Regimental Signal Officer (RSO) is usually a relatively junior officer and often one who has not attended an RSO course. The unit Regimental Signal Instructor may also be relatively inexperienced. Owing to lack of expertise the unit signal equipment although clean, well accounted for and properly stored may still not function properly due to incorrect or inadequate maintenance. For example the efficiency of nickel cadmium rechargeable batteries is often suspect although the batteries themselves may look good physically. Likewise radio sets and their associated ancillary equipment may not function properly. It is also felt that being a relatively junior officer, the RSO may have difficulty convincing his superiors of his signal maintenance requirements and as a result, the units signal problems may not be given the priority they deserve.

- *Inadequate Liaison.* There is insufficient liaison and visits between the staff of brigade signal squadrons and the units they serve and vice versa. Granted there are problems which hinder regular liaison for example difficulties in road communication owing to the dispersed locations of units within the brigade area. However this should not be an excuse for inadequate liaison.

- *Misconception.* There is also a misconception amongst some units that the technical efficiency of their signal equipment is the responsibility of the brigade signal squadron as they do not have any signal technicians attached to them or on their establishment. This is incorrect as the

technical efficiency of a signal equipment includes not only bringing the equipment up to its technical specifications (a signals responsibility) but regular maintenance to ensure that the equipment and its ancillaries function properly.

*Remedial Action.* Much of the units problems on signal equipment maintenance can be alleviated if there is closer liaison between the brigade signal squadron and the units it supports and vice versa. As a guide the OC Brigade Signal Squadron or his staff should visit the units under their technical control at least once a month. Unit RSOs should where possible do the same. Such visits besides helping to resolve whatever signal problems the units may have, also provide an opportunity for the Brigade Signal Officer to ensure that the requirements of regular signal equipment maintenance are complied with. The Brigade Commander and his staff should be kept informed regularly of signal problems within the brigade and by so doing will help improve signal consciousness within the formation.

*Technicians For Infantry Battalions.* The doubling of signal equipment holding in infantry battalions has significantly increased the signal equipment maintenance and repair tasks in infantry units. To ensure a high rate of signal equipment availability, infantry battalions should be provided with signal technicians. This will not only improve unit signal equipment maintenance but will also obviate the need to backload every piece of unserviceable equipment as faulty ancillary equipment and radio sets with minor faults can be repaired in situ. This will save time and effort as units are often widely dispersed and communication by road can be difficult. For proper command and control the technicians should be a part of the present battalion rear link detachment. A revision of the establishment of the battalion rear link detachment is needed.

---

## INCREASED TELSREPAIR WORKLOAD

---

The decline in the quality of signal maintenance support may be attributed to several factors, one of which is the increased telsrepair workload. The present technical manpower establishments of signal units are based on the signal maintenance requirements in the early 1970s. Since then the number of equipment to be maintained has increased by more than two folds. Without



any corresponding increase in technical manpower establishments, signal repair workshops often get overloaded with work and consequently the quality of signal support provided declines as it takes longer for faulty signal equipment to be repaired. The situation is made worse if technicians are frequently misemployed to provide colour lighting and public address systems for official functions.

There are other implications on signal technical manpower. The sophistication of the present generation of communications electronic equipment necessitate the acquisition of new and more specialised repair skills. Such skills take time to acquire and in the interim period a slight decline in productivity and quality of workmanship is to be expected. The diversity of the present range of signal equipment also makes it difficult if not impossible to be specialized in the repair of all types of signal equipment. In this respect there is a need to review the present electronic technician trade to allow for further sub specializations (based on repair skills and equipment systems) in place of the present classification of electronic technician, either as radio or terminal equipment technicians.

The shortage of technical manpower in signal units will only be overcome with a revision of their establishments. In the mean time the staffing of technicians in signal workshops should be reviewed to make available technical manpower for development where they are needed most, namely at Brigade Signal Squadrons and in Armoured Regiment Signal Troops.

### NEED FOR TESTS EQUIPMENT AND TOOLS

The field of electronics has seen tremendous advances in the last few years. Manufacturers are continuously improving their products by incorporating state of art technology which makes their equipment not only more efficient but also easier to operate and considerably smaller in size. This is well and good for operators and users but for the technicians who have to maintain and repair them, the problem can turn into a nightmare. Owing to the very high density of components/circuitry per square inch of printed circuit board (PCB) conventional tools such as the common soldering and desoldering irons are unsuitable for the repair of such radio equipment and indeed the use of incorrect tools can cause

more damage than good. Special tools are required to extract, solder/desolder and insert minute components into circuit boards. There is also need for more sensitive and specialized test equipment with the range and capability needed to check and measure the technical specifications of the new range of communication equipments.

Whilst contracts to purchase new communication equipment usually include the purchase of test jigs for their maintenance and repair, they do not include the test equipment for use with such test jigs. Since the procurement and replacement of test equipment and tools is usually considered as part of operating expenditure, their acquisition is often accorded less priority and consequently, although we may have the necessary test jigs, we may not have the test equipment and tools needed for the repair of these equipments. One way of overcoming this problem is to include such test equipment/tools in all future purchases of new communications equipment. Test equipment and tools to a technician is what a rifle is to an infantry soldier. Without them his productivity is severely limited. The present shortage of test equipment and tools in signal workshops can only be resolved through new purchases.

### SIGNAL SPARES PROCUREMENT AND MANAGEMENT

The present problems on signal spares may be attributed to weaknesses in the system of signals spare parts procurement and management. It is true that funds for the procurement of signal spares are very limited. However even when funds are available there are still problems as the spares contract does not include every item of spare needed for any one equipment. The list on which the supply contract is based is at best a reasonable estimate of the type and quantity of spares needed taking into account wastage rate, common faults encountered and known data on the expected life span of components. It does not take into account factors beyond our control for example equipment faults/damage caused through neglect and misuse, spares needed or substituted as a result of modifications carried out by the manufacturer and others. To overcome this problem the present system of signal spares procurement through a ceiling contract should be modified to permit a portion of the contract to be used as and when required for the purchase of spares urgently



needed for jobs awaiting repair in signal workshops. This can be done by vesting the Chief Signal Officer with the power of purchase of such spares. In so doing the present wastage resulting from signal spares purchased but not used will be minimized. The number of equipment awaiting repair as a result of non availability of spares will also be reduced.

There are also problems in the present system of signal spares management which results in delay and does not optimize usage of the limited spares available. With rapid advances in technology, signal electronic components have become much smaller, more specialized and requiring special knowledge in their identification, storage, handling and management. Consequently it is not uncommon to find many faulty signal equipment still awaiting spares many months after the spares have been received in Central Ordnance Depot (COD) as a lot of time is taken to identify them and to process them before issue. Control and issue of signal spares is another problem area although COD has sections to deal with control, issue and storage of signal spares the problem of control still persists as spares are issued on a first come first serve basis. Control is exercised only from the point of view of ordnance accounting as COD is unable to decide on issues based on operational or technical considerations. The few signal stores personnel who make up the Signal Equipment Troop in COD helps to a limited extent but since the Troop is not involved in signal equipment repair, it is also not in the best position to offer advice on signal spares management.

As the Regiment responsible for the maintenance and repair of all communications electronic equipment in the Army, Signals should also be responsible for the procurement and management of spares needed for such repairs. This will not inconvenience anyone or have any ill effect on the present system of supply as signal spares are only used by Signals. To be efficient in carrying out its telrepair functions, Signals has to have the right type and the right quantity of signal spares at the right time and the right place. This can only be done if the system of signal spares procurement and management is responsive and can react quickly to changes resulting from field operational requirements and unforeseen technical developments. Furthermore as signal equipments become more and more sophisticated, the manage-

ment of the spares needed for their maintenance requires specialized knowledge not only on individual components but also on the whole communication equipment/communication system and up to date technical developments on them viz modifications, component substitution etc. To reduce processing time and ensure that the spares are handled and properly maintained during storage, it would be better for Signals to assume responsibility for their management. This division of responsibility is also in line with the management practice of other government departments and civilian organizations involved in the repair and maintenance of telecommunication and electronic systems.

---

## CONCLUSION •

---

In a developing country like ours, the Army cannot afford to buy custom made communications equipment. We have to purchase equipment off the shelf and on what is available in the open market. In doing so we have to strike a balance between the need to keep up to date with technology and our ability to maintain equipment employing such technology both in terms of the costs involved and the skill/expertise needed. In addition there is also need to ensure that our signals maintenance organization and maintenance expertise keep in step with changes in signal equipment.

The recent expansion of the Army and the introduction of new and more sophisticated communications equipment has increased the Army's holding of signal equipment by two folds. To cope with the increased maintenance and repair workload, the establishments of signal units should be reviewed to ensure that they have the correct organization, skilled manpower and test equipment/tools needed for the tasks expected of them.

Signal equipment maintenance in infantry battalions and other field units can be improved with closer liaison between the brigade signal squadron and the units it serves and vice versa. With the introduction of section radios and the doubling of a battalion's signal equipment holding, infantry battalions should have signal technicians on establishment to effect minor repairs and assist on signal equipment maintenance. For ease of control the technicians could be established as part of the present battalion rear link.



The present system of signal spare parts procurement and management should be reviewed to optimize usage of the limited funds available and minimize wastage due either to spares purchased but not used or to ineffective control. For any maintenance organization to be effective it has to have a spare part organization which is responsive to its needs and can react quickly to changes either due to operational en-

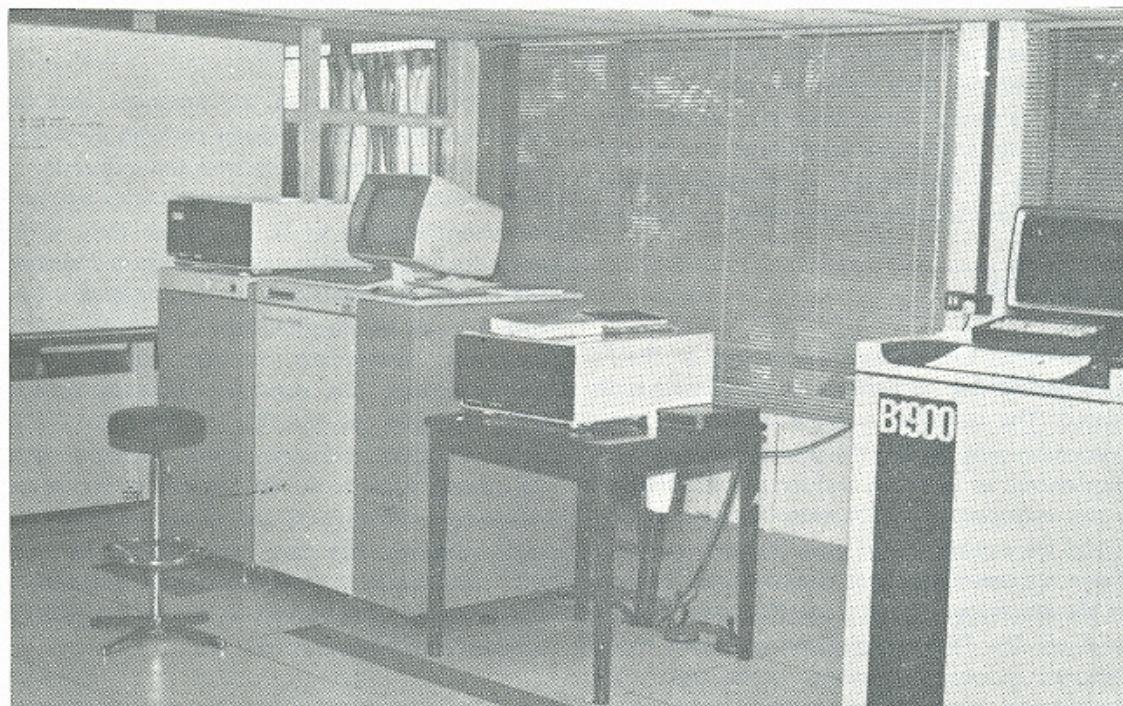
vironment or to unforeseen technical developments. This is particularly true in a situation where funds for spares are very limited and where long lead times and unforeseen developments can very easily upset the best laid plans for signal equipment repair and maintenance. In view of this it is felt that Signals should be responsible for the management of the spares needed for their telrepair tasks □



*Lt Kol Ooi Ah Kiang was commissioned as a regular Officer in the Regiment of Signals on 10 Dec 60. Has attended various military courses at home and abroad. Lt Kol Ooi had held various appointments at Staff and command levels. He is presently Commanding Officer of 95 Signal Regt.*







# WHAT A COMPUTER USER MUST KNOW ABOUT PERSONAL COMPUTERS

By Lt Kol Mohd Khir

## • THE COMPUTER AGE IN THE ARMED FORCES

**T**he development of computerization in the Malaysian Armed Forces (MAF) is progressing slowly but surely to fulfil the needs of modernization for the three services. So far, the progress is in the field of logistics and payroll applications. In other applications, the progress is very slow. There are several reasons for this state of affair. One is because of financial constraint. Secondly, there is a lack of computer professionals with experience in the 'business'. On the other hand we have potential users who know the business but lacking in electronic data processing (EDP) knowledge. The absence of a mix of EDP orientated users and professionals involved in the effort to acquire authority for computer facilities from the Government, namely MAMPU, is a major factor in the slow development of computerization in the MAF.

The first installation of computer system in the MAF took place in the early 1980's. During a period of more than five years until now, we have achieved some progress with installations at UGAT, COD, TLDM base at Lumut, and MINDEF. The computers installed at these locations are either mainframe or mini-computers. But we should be aware also that there have been many micro computers or also known as personal computers (PC), that have found a place in many offices at MINDEF, formation headquarters, and units throughout the country. The acquisition of these many PCs is not necessarily legitimate from the point of view of government procurement process, but more often than not the PCs have been purchased by the individual personnel who are in need of one but could not wait too long to be issued by the authority. There are very few PCs which were acquired through the normal process in the past. However, in 1988 it is expected that about 100 units of PCs will be purchased by MINDEF.



Irrespective of the source of the PCs, we should examine the applications that could be run on the machines. This article attempts to cover in general the various applications that could be used by those whose functions are orientated to management role in the context of managing defence business. This article addresses them as managers.

## HARDWARE

A brief explanation is necessary on the PC hardware before the application of software is discussed. The hardware is made up of the central processing unit (CPU), the disc drives, the visual display unit or monitor, and the printer. The CPU is the main part of the PC which comprise the memory, the controller and the arithmetic logic unit. There are many makes or brands of PCs available in the Malaysian market now. The most popular ones are the IBM compatibles which are manufactured in many countries other than USA, Europe and Japan. These countries include Hong Kong, Singapore, Taiwan and Malaysia. The IBM compatibles come with 640 kilobytes of random access memory (RAM) and 2 times 360 kilobytes of floppy disc drives. The monitor and the printer could be purchased separately to suit one's needs. Besides, these items are also manufactured by companies which mainly specialise on these product lines. To get better display output, the monitor should be of the high resolution type and with colour screen. As for the printer, one may choose an 80 column or 132 column model, that can perform dot matrix, daisy wheel or near letter quality print. All in, the price range of hardware of the compatible could be between \$2,500 to \$3,500. For more external storage capacity, one could opt for a fixed disc which could accommodate 20 megabytes of data storage. Fig. 1 illustrates the configuration of a typical PC.

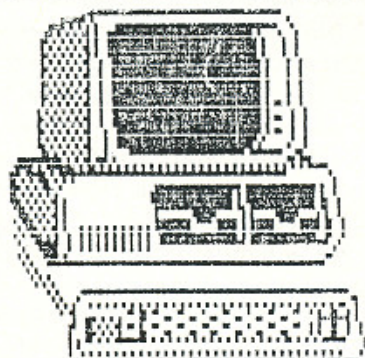


Fig. 1 A personal computer

## SOFTWARE

Software refers to the programs that are written to make the computer perform a required task. Without these programs the computer is just a black box that takes in electricity and produces nothing out of it. But if we feed in the programs, the computer will react to the instructions that are contained in the programs. The software can be classified into operating systems, compilers, interpreters, utilities, packages, and user programs. The common operating systems (OS) that run on the PCs are MS DOS, CPM, PICK, PC DOS, and many more. Normally, once we choose a particular OS we can only run our programs under that OS and we cannot swap them with programs that have been tailored to other OS. This means, if we have software that run on the Apple PC, they cannot be run on the IBM PC because both PCs use different OS.

Programming languages are part of software. The common languages are Beginners All Purpose Symbolic Instructional Code (BASIC), Pascal, Formula Translator (Fortran), and Common Business Oriented Language (COBOL). To the managers, they only need to know that these languages are used by programmers, not end users. The managers purchase packages which means that they are pre-written software. These packages are sold through the retail outlets which are located even in super markets. With these packages, the managers need only to plug in the program disc and use them. Do managers need to know how to program? The answer is NO!

## THE SOFTWARE REVOLUTION

Before the PCs become available to the home users, they are marketed for the corporate users. Later they are channelled to the business users of personal computers. During the days of the corporate users computing, the software era is one of programming.

In those days, the complex programming languages such as the Assembler and machine codes had to be learned. These languages are called the low level languages.

Today it is the package era. The home and office users do not have to write languages either low level or high languages such as COBOL, Pas-



cal, BASIC, C, FORTRAN and PL/I. Today it is the age of using spreadsheet, local data base management systems, word processing, games, and graphics.

### SPREADSHEETS

To have a good appreciation of spreadsheet one has to get hold of a floppy disc with any well known electronic spread sheet packages such as Multiplan, Lotus 123, Supercalc or Symphony. Load the floppy disc in the PC and call the program until the spread sheet appears on the screen. Enter any information into the column provided as if the screen in a form formatted into columns and rows. With electronic spreadsheet the information can be formulas and these formulas can be copied into any location in the spreadsheet. After

all the informations have been entered the managers can apply "what if" analyses on the information. For instance if the information entered is on finance which is being managed by a particular Division, the "what if" analyses could be applied to view the results if certain changes are made to the formulas or the figures. Fig 2 illustrates an output of a financial application system using the Superscale spreadsheet package.

### LOCAL DATA BASE MANAGEMENT SYSTEMS

Data Base Management System (DBMS) are facilities made available for users to manipulate informations stored in more than one file. A one file facility is known as file management systems. Local DBMS are available on the PC under such names as Dbase III, knowledge-mana-

RINGKASAN KEDUDUKAN PERUNTUKAN OE 1988  
BAHAGIAN PERKHIDMATAN LOGISTIK

| Pecahan Kepala | Tajuk                                | Permintaan BPL                                                     | Disyorkan Oleh Bhg Kewangan                                        | Diluluskan Oleh Perben-daharaan                                    | Peratus Disyor Oleh Bhg Kewangan                  | Peratus Dilulus Oleh Perben-daharaan              |
|----------------|--------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|
| 21000          | Perbelanjaan Perjalanan & Sara Hidup | 20400000                                                           | 19051000                                                           | 18000000                                                           | 93.39                                             | 88.24                                             |
| Jumlah:        |                                      | 20400000                                                           | 19051000                                                           | 18000000                                                           | 93.39                                             | 88.24                                             |
| 22000          | Pengangkutan Barang-Barang           | 2150000                                                            | 2125000                                                            | 1950000                                                            | 98.84                                             | 90.70                                             |
| Jumlah:        |                                      | 2150000                                                            | 2125000                                                            | 1950000                                                            | 98.84                                             | 90.70                                             |
| 23000          | Perhubungan Dan Utiliti              | 85300000                                                           | 66000000                                                           | 54814800                                                           | 77.37                                             | 64.26                                             |
| Jumlah:        |                                      | 85300000                                                           | 66000000                                                           | 54814800                                                           | 77.37                                             | 64.26                                             |
| 24000          | Sewaan                               | 3909000<br>5300000                                                 | 3909000<br>5080000                                                 | 3900000<br>1864000                                                 | 100.00<br>95.85                                   | 99.77<br>35.17                                    |
| Jumlah:        |                                      | 9209000                                                            | 8989000                                                            | 5764000                                                            | 97.61                                             | 62.59                                             |
| 25000          | Bahan-bahan Makanan & Minuman        | 12801000<br>29021000<br>18633000<br>24382000<br>6680000<br>5706000 | 11449000<br>25969000<br>16669000<br>21820000<br>5986000<br>5107000 | 10909000<br>24746000<br>16582000<br>21110000<br>5700000<br>4864000 | 89.44<br>89.48<br>89.46<br>89.49<br>89.6<br>89.50 | 85.22<br>85.27<br>88.99<br>86.58<br>85.3<br>85.24 |
| Jumlah:        |                                      | 97231000                                                           | 87000000                                                           | 84021000                                                           | 89.48                                             | 86.41                                             |
| J. Besar       |                                      | 214290000                                                          | 183165000                                                          | 164549800                                                          | 85.48                                             | 76.79                                             |

Fig 2. A Typical Spreadsheet Output



data bases are available for corporate users and they are located at the main computer site external to the user's offices.

The concept of filing systems is not new to management. The concept exists in the form of paper filing systems. This entails the collections of pieces of paper (record) for each individual manager. These records are in fixed field format with each record having the same fields. The fields are always in the same order. The information in the files are sorted on some key. This method of handling information is a common practice for managers working with paper files. What are the activities involved in handling the information this way? One has to enter records, edit, analyse and summarise information in the file.

The activities involved in working with a computer file are very much the same. But the computer will assist the manager to perform these tasks more efficiently. Firstly, the records are stored in logical form which takes away the worry of knowing where they are located in the computer. It manages the locations of the records automatically. Secondly, the records are arranged in files on any fields and in any order. This process is done easily by computer and just imagine how long it will take for the manager to do it manually using paper filling systems. Once the records are arranged in files they are easily and quickly retrieved. Thirdly, the computer can assist in summarizing the informations so that they are organised as structured reports. It makes the task of decision making so handy if the reports are structured as compared to informations presented haphazardly.

With DBMS, the file management system described above is made to look out of date. This is because DBMS allow data from two or more files to be extracted at a time. DBMS models are of various types. The common one for managers is the relational model which treats files as tables. These tables can be combined and pruned to give specific output. The relational DBMS is the easiest for managers to learn and use. The Dbase II package is a relational DBMS which runs on the IBM PC compatibles.

## WORD PROCESSING

A very common utilization of PC is in the application of word processing. What can word

processing package such as Word Star, Display Write, or Word Perfect provide? It provides text entry and editing capability. The screen presents "What you see is what you get". It simply means that what we type in is what we get when it is printed out. The package does not provide the capability to carry out arithmetic functions as in DBMS and spreadsheet packages. For advanced users, the word processing packages provide features such as spelling checker and grammar assistance.

Having the facility available to the manager does not mean that he must waste his time doing typist work by creating letters and papers in the computer himself. He should persuade his clerks or secretary to assist him with the file creation.

## WAR GAME

For home users, computer games normally make us think of the entertainment materials for the kids. But in the context of PC users in defence environment, we can select games which provide strategic simulations that depict certain scenarios. The writer has reviewed two such simulations which depict conflict in Vietnam and business strategic exercises.

The conflict in Vietnam simulation offers five historical battle scenarios which span 18 years, from 1954 to 1972. They are:

- PRELUDE :                      ● INTO the Valley:  
Dien Bien Phu, 1954              Ia Drang, 1965
- THE Tide Turns:              ● FIRST Cracks:  
Khe Sauh, 1968                  Quang Tri, 1972

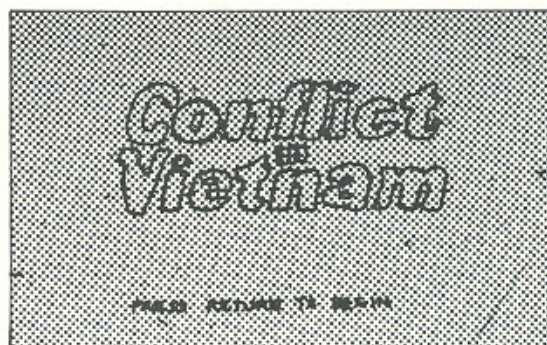


Fig 3. The Title screen of "Conflict in Vietnam"



After reviewing the "Conflict in Vietnam" simulation the writer feels that the authority should encourage those experienced strategists, tacticians and logisticians to develop computer simulations in the form of war games. It is the experienced strategist, tacticians, and logisticians who should manage the development of war games in MAF because they are the ones who are the experts in the war business. The computer experts should be employed as the team members only.

## GRAPHICS

Management information are best presented in pictorial form to give the broad picture of a situation. Pictorial representation of information is commonly made using charts and graphs such as pie chart, bar chart, and line graph. The personal computers can be used to assist managers in producing these charts. Packages that provide such capabilities are Lotus 123, Fast Graph, Super-cale 3, Chart Master, and others.

The information transformed into such charts will provide the managers the means to compare current situation with those in the past. From the underlying trend observed, managers could anticipate the future more objectively and therefore think of plans to take advantage of the factors that benefit the organization. The charts that could be easily produced by the personal computers are illustrated in Figs. 4 and 5.

## DEVELOPING A DEFENCE STRATEGY FOR PCs

The impending personal computer explosion in MAF demands a strategy. Why is a strategy needed? This is because PC option demands for secretarial support. Word Processing is best handled by the secretary rather than the senior officer himself. On the other hand, the way the information is to be structured should come from the senior officer. PC option also demands for information exchange among the users. There is less benefit if information were to be used by a single user only. There is also the demand for access to corporate data. What this means is that in the defence organization there should be a central authority to control the use of PCs and link them to the central computer so that the flow of informations is properly managed. Other demands include advice in equipment selection and training.

To ensure the effectiveness of a defence strategy for PCs there should be training programmes for computer courses. The first course should teach computer basics in hardware, operating system and simple packages such as word processing and spreadsheet. Further courses may include individual packages and advanced applications. Sometimes it may even require courses which are orientated towards the way the business should be run. The emphasis on such courses is on the objectives, goals, decision models and organisation culture of the particular organisations. More often than not computers will bring about changes in the way the business is run and therefore managers need to adjust themselves to the new work environment.

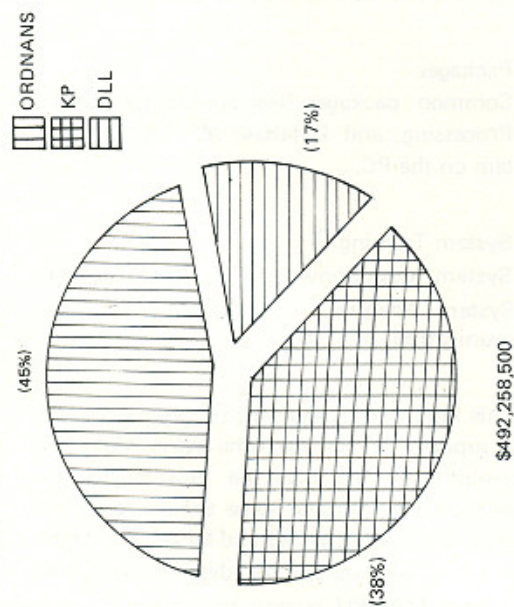
Kumpulan Sistem Komputer Logistik (KS-KL) in a joint effort with Sekolah Ordnans at Batu Kantonmen have provided training facility for the MAF to teach computer subjects which are broadly categorised into:

- EDP Concepts  
Introduction to computer for managers and technical staff
- Programming Language  
General purpose computer languages such as BASIC, Pascal, COBOL and FORTRAN.
- Packages  
Common packages like Spreadsheet, Word Processing, and Database Management System on the PC.
- System Training  
System development skills in Structured System Analysis, LINC, SAS, Data Communication, and Database

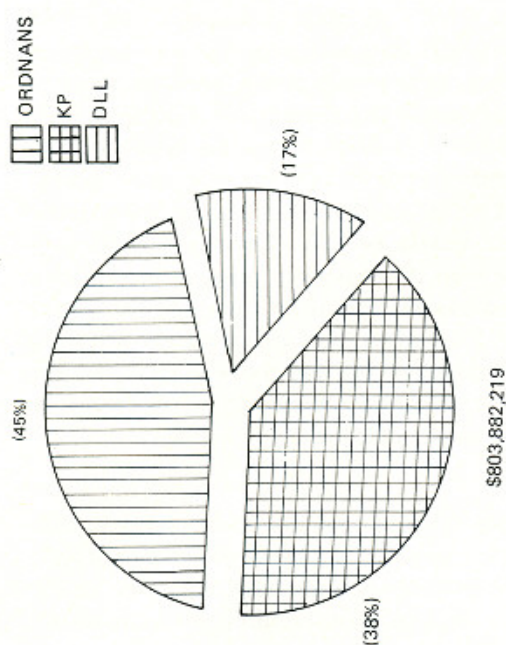
This kind of training facility requires specialists to support it. For the time being KSKL has been building up the expertise to cater for the defence needs. It will take some time before institutions such the RMC, MTAT and MPAT are able to handle computer courses for their students. At the moment MAMPU is not convinced yet that such courses could be made available freely at those places. Hence, computer education at these



PERUNTUKAN BELANJA MENGURUS BPL 1986



TANGGUGAN BELANJA MENGURUS BPL 1986



BAYARAN BELANJA MENGURUS BPL 1986

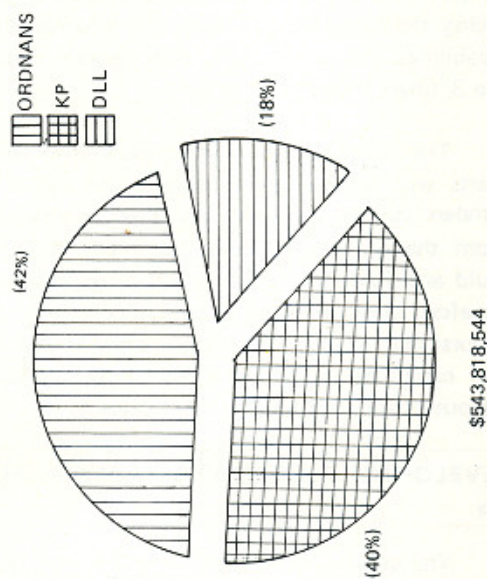


Fig 4. Pie Chart



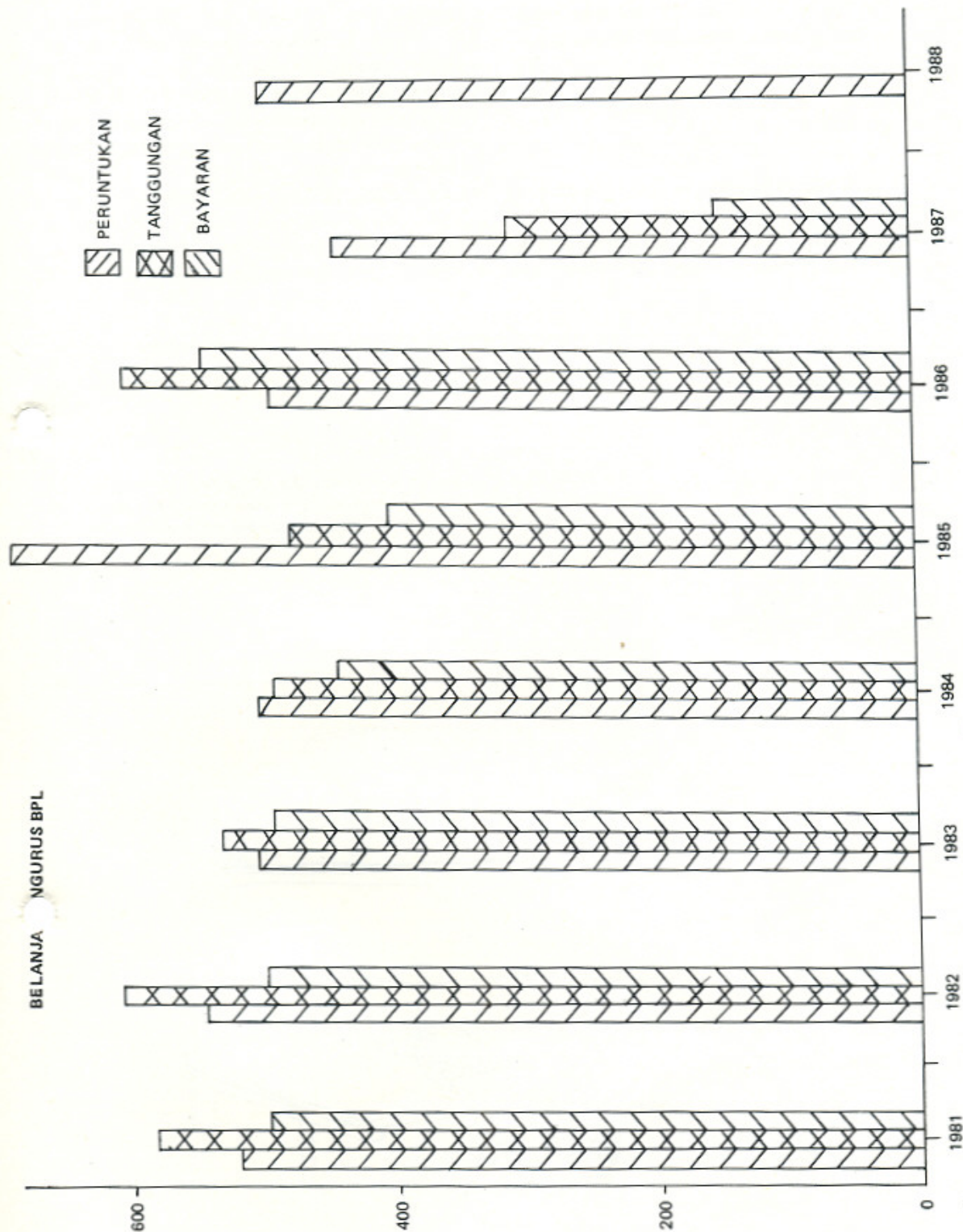
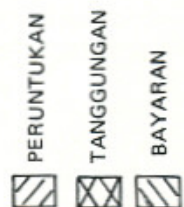


Fig 5. Bar Chart



institutions is not likely to materialise in the current Malaysia Plan. Plans could be drawn out from now for wider coverage of computer education in the MAF and a master plan for this is overdue.

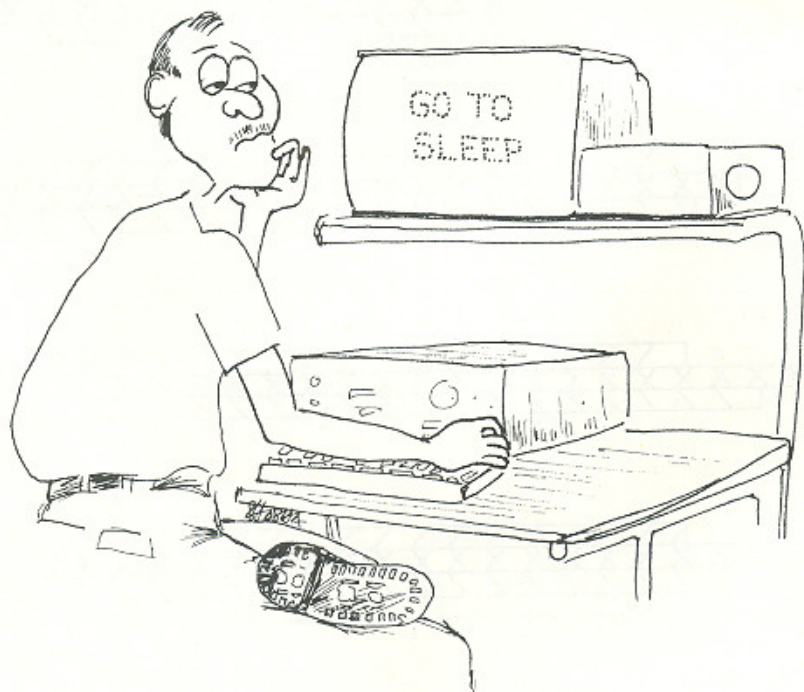
#### CONCLUSION •

The MAF community is now slowly being exposed to computer technology. The advent of personal computers will speed up computer literacy and skill among 'managers'. With the right

skill managers should be able to exploit the advantages provided by personal computers in terms of storing, retrieving, and displaying of informations capability towards better utilization of resources. Managers should be aware that skill does not come overnight. It should be developed through training, development and practice. There should also be clear goals, organization established to achieve the goals, and motivation to acquire results. We are talking about the awareness of a cultural change that could affect the MAF community due to new work orientation. Should we not prepare ourselves for the change? □



*Lt Kol Mohd Khir B Abdul Razak presently the CO of 71 KOD Sarawak, has served at various levels of Command in the Ordinance Corps. He holds a Masters Degree in Business Administration and had attended the Armed Forces Staff College.*





## Artikel Kulit Muka



# PENYUSUNAN SEMULA DEPOT PUSAT ORDNANS

ooooo satu analisis strategik

Oleh Lt Kol Taib B Mohamed

## • PENDAHULUAN

Kajian ini lebih merupakan suatu pandangan dari segi akademik dan bukan sebagai Kertas Projek atau Penubuhan perjawatan. Ia bertujuan memberi pandangan secara teori bagi menyelesaikan beberapa persoalan yang timbul. Pendapat dan pandangan yang dilahirkan adalah berkaitan dengan cabang ilmu pengetahuan; perlu untuk menyokong perdebatan yang akan dibentangkan. Pendekatan terhadap kajian ini adalah berlandaskan kepada panducara sistem analisis dan proses pengurusan yang strategik dengan berpandukan prinsip analisis hasilkerja Rue dan Holland.<sup>1</sup> Hasilkerja ini didapati amat sesuai untuk digunakan bagi menjalankan sebarang kajian masakini berhubung dengan masalah organisasi secara pengurusan strategik. Ianya terbahagi kepada empat bahagian utama:

- Menganalisis keadaan sekarang.
- Mengesan harapan masa depan.
- Menggariskan arah haluan masa depan.
- Mengatur strategi pada kerja.

## PENDEKATAN SECARA SISTEM

Am, Pendekatan secara sistem selalunya membayangkan sesebuah organisasi itu mempunyai rangkaian kerja yang berhubungkait di antara bahagian-bahagian dalam satu organisasi. Depot Pusat Ordnans (DPO) juga mempunyai satu sistem yang tersendiri terdiri dari beberapa jabatan dijadikan sebagai sistem kecilnya. Kelicinan terhadap sistem ini semata-mata bergantung kepada tindakbalas dari setiap sistem kecil tersebut. Kebaikan yang diperolehi dari pendekatan secara sistem ini ialah ianya dapat memberikan satu gambaran secara menyeluruh. Oleh itu, sesuatu masalah yang timbul tidak dapat diatasi dengan hanya memberi perhatian atau tumpuan kepada sesuatu sudut tertentu sahaja tanpa meneliti kepada keseluruhan sistem tersebut.

**Komponen.** Komponen-komponen DPO yang diturunkan di bawah adalah berdasarkan kepada pandangan secara sistem, dan ini bercanggah dengan struktur organisasi sebenar DPO. Komponen-komponen tersebut ialah:



- Input
- Proses
- Penghasilan
- Penyudahan
- Tujuan
- Objektif
- Maklumbalas

Di dalam kajian ini, hanya perkara-perkara berikut sahaja yang akan dibincangkan.

- Input
- Proses
- Penghasilan

*Input.* Sebagai satu sistem, DPO melaksanakan operasinya dari berbagai input seperti:

- Permintaan
- Sumber-sumber
- Rintangan (gangguan)

Permintaan-permintaan yang perlu dilayani oleh Depot ini datang dari berbagai-bagai punca seperti:

- Unit tanggungan (KOD, KOB, TUDM, TLDM, dll).
- Jabatanarah Ordnans.
- Bahagian Perkhidmatan Logistik.
- Bahagian Bekalan.
- Perbendaharaan Malaysia.
- Audit Negara.
- Audit Dalam.
- Tim Analisa Dan Penilaian.
- Tim Verifikasi Stok.
- Pelawat dan lain-lain lagi.

Sumber-sumber yang ada pada Depot ini untuk berfungsi dengan sepenuhnya adalah seperti berikut:

- Tenaga Kerja.
- Kemahiran Pengurusan.
- Kecekapan Penyeliaan (Pengawasan).
- Sistem Komputer.
- Stok (Simpanan).
- Alat Pengendalian Barang.
- Rumah Stor.
- Peruntukan Kewangan.
- Pengangkutan Pasukan.

Seperti agensi-agensi kerajaan yang lain, Depot ini juga mempunyai kemampuan yang terhad serta rintangan atau halangan yang tertentu. Ini termasuklah:

- Tenaga Kerja
- Prosedur
- Peruntukan Kewangan
- Pegangan Stok
- Kawalan Mutu
- Rumah Stor
- Pengangkutan

*Proses.* Sebelum mengeluarkan penghasilan kerja (outputs), semua input terpaksa melalui beberapa proses tertentu yang merupakan fungsi di dalam sistem tersebut. Fungsi-fungsi yang dikenali adalah:

- Pembekalan
- Kawalan
- Perakaunan
- Pemilihan
- Pembungkusan/Pemetian
- Penyediaan Anggaran
- Penaksiran
- Pesanan
- Pengeluaran
- Penerimaan
- Semakstok dan Penyesuaian
- Penstoran
- Belanjawan

*Penghasilan.* Ini merupakan hasil yang nyata daripada suatu sistem tersebut:

- Jumlah pengeluaran yang dibuat.
- Jumlah Bakal Keluar yang diselenggarakan.
- Jumlah penyemakan stok yang dijalankan.
- Jumlah barangan dalam simpanan (kuantiti).
- Jumlah pesanan yang dilakukan.
- Bilangan barangan yang telah dikatalogkan.
- Lain-lain.

*Penyudahan.* Sementara penghasilan dapat dilihat, penyudahan hanya dapat dinilai dari kesan penerimaan penghasilan tersebut seperti:

- Tahap kemampuan bantuan perkhidmatan.
- Pertambahan tanggungan secara umum.
- Peningkatan kemampuan.
- Keadaan keseluruhan bantuan Logistik.
- Keluar sukatan/masuk sukatan Inventori.



- Tahap semangat anggota.
- Kewujudan kontrak.

**Tujuan.** Untuk menentukan sama ada aktiviti-aktiviti setiap komponen berjalan lancar selaras dengan kehendak-kehendak yang diperlukan, suatu sistem hendaklah menetapkan tujuannya. Sebagai contoh tujuan bolehlah ditetapkan sebagai berikut:

- Mewujudkan perkhidmatan ordnans kepada Angkatan Tentera.
- Meningkatkan moral pekerja-pekerja.
- Untuk mengurangkan kos perbelanjaan.

**Objektif.** Kadangkala tujuan dan objektif saling bertukar ganti. Walau bagaimanapun, bagi tujuan kajian ini penulis meletakkan objektif sebagai pemimbal kepada tujuan. Objektif adalah rancangan ke arah pencapaian tujuan-tujuan korporal.

**Lingkaran Maklumbalas.** Maklumat dari lingkaran maklumbalas akan dapat membantu kawalan dan pengukuran bagi meninjau sama ada sesuatu sistem itu berfungsi sebagaimana telah dirancang ataupun sebaliknya. Pembetulan boleh dilakukan untuk membawa balik kepada objektif sekiranya ia telah melencong dari tujuan asal. Untuk mencapai tujuan ini, satu ukuran perlu ditetapkan bagi mengukur penghasilan sebagaimana telah dibentangkan di dalam berbagai-bagai laporan seperti Laporan Semakstok, Laporan Situasi Stok dan sebagainya. Bahagian-bahagian komponen yang akan diuraikan di perenggan yang berikutnya boleh diselitkan ke dalam rajah sistem seperti ditunjukkan di Jadual "A".

## ANALISIS KEADAAN SEKARANG

### STRUKTUR ORGANISASI

**Jurang Pengurusan.**<sup>2</sup> Tiada terdapat satu keputusan atau kesudahan dalam memperkatakan keluasan sesuatu jurang itu. Apakah kajian terakhir yang dilakukan di DPO telah menyebut sebagai menunjukkan ada satu jurang pengurusan yang luas?<sup>3</sup> Sebelum meninjau dengan lebih mendalam lagi di dalam perkara ini, perlulah kita memberi perhatian kepada perkara yang lebih penting lagi seperti peri mustahaknya mengadakan jurang pengurusan yang bersesuaian terhadap sesuatu struktur organisasi itu. Mengikut pendapat Stoner dan Wankel<sup>4</sup>,

terdapat dua sebab utama mengapa perlunya jurang pengurusan yang sesuai dipilih. Pertama, jurang pengurusan itu memberi kesan kepada kecakapan pihak pengurusan dan keberkesanan prestasi pihak kakitangan. Mereka juga bersependapat jika jurang itu terlalu luas akan menyebabkan kemampuan pihak pengurusan akan terjejas. Akibatnya kakitangan kurang mendapat pengawasan dan kawalan yang sewajarnya. Jika sekiranya terlalu sempit pula akan menyebabkan kurang kegunaannya, serta meletakkan mereka semata-mata bergantung kepada kakitangan mereka sepanjang masa. Kedua, mereka juga bersetuju bahawa terdapat pertalian di antara jurang pengurusan dengan struktur organisasi. Jurang yang sempit akan menyebabkan strukturnya menjadi lonjong dan kecil, manakala jurang yang luas pula, dengan bilangan kakitangan yang sama akan mengurangkan imbalan bahagian pengurusan berbanding dengan kakitangannya.

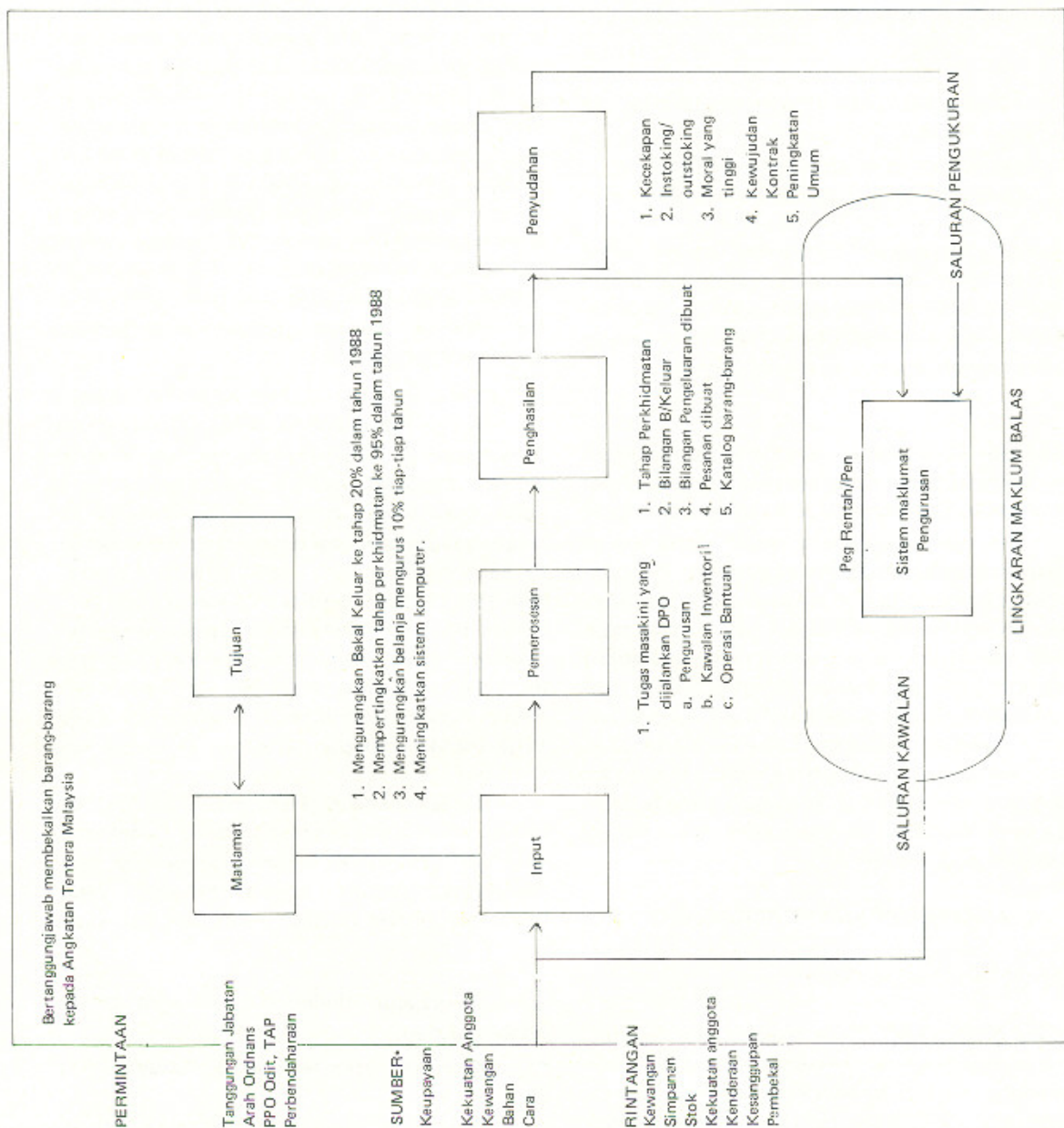
Penelitian yang dibuat oleh Tim Kajian Kementerian Pertahanan terhadap keluasan jurang pengurusan di DPO berkemungkinan sehaluan dengan pendapat Urwick<sup>5</sup>, seorang penasihat pengurusan British, antara lain berpendapat "bilangan yang unggul bagi seseorang penyelia menyelia kakitangannya . . . ialah seramai 4 orang". Manakala di dalam terbitannya yang berasingan<sup>6</sup>, beliau meminda pendapatnya dengan menyebut "Bahawa tidak sepatutnya seseorang penyelia menyelia kakitangannya melebihi dari 5 orang atau paling banyak ialah seramai 6 orang dan pekerja mereka mempunyai kaitan di antara satu sama lain".

Dengan meneliti lebih mendalam lagi terhadap kajian oleh Tim Kementerian Pertahanan, beberapa pembuktian telah dibentangkan bagi menyokong saranan mereka terhadap kesan jurang pengurusan di DPO antara lain menyebut:

- Kelembapan tindak-balas terhadap permohonan pasukan.
- Kesesakan yang terdapat di Cawangan Trafik.
- Setiap cawangan bertindak secara bersendirian.

Ini jelas memberi gambaran bahawa DPO mempunyai jurang kawalan yang luas dan bercanggah dengan prinsip-prinsip yang dibentangkan oleh Urwick. Untuk menyelesaikan isu ini, adalah





JADUAL A - SISTEM GAMBARAJAH DPO



wajar jika sekiranya kita meninjau kepada perkembangan terakhir selepas Urwick, yang memberi pendekatan secara lebih klasik. Perkembangan terakhir ini diterajui oleh para saintis yang terdiri dari kumpulan operasi penyelidikan, yang telah menggariskan pandangan mereka dengan menetapkan had terhadap bilangan kakitangan bagi setiap pengurus untuk tujuan pengawasan; tetapi sungguhpun begitu bilangan yang sebenarnya tidak pula ditentukan. Ianya tertakluk kepada faktor-faktor yang menjadi sebagai perkara dasar. Mengikut pendapat kumpulan ini, yang terpenting sekali adalah memastikan jurang yang bersesuaian yang digunakan oleh pengurus-pengurus bagi mengawasi kakitangannya. Bagi mengulas kedudukan perkara ini, salah satu di antara faktor-faktor dasarnya adalah tahap latihan kakitangan. Dengan latihan yang cukup dan sempurna, maka kurangnya keperluan pengawasan dari pihak pengurusan. Tidak dinafikan, terdapat beberapa faktor lain juga diperlukan sebagai garis panduannya seperti dasar pertukaran (dengan menempatkan pegawai yang bersesuaian bagi sesuatu tugas yang tertentu seperti Pegawai Kanan Bekalan atau Pegawai Memerintah) dan lain-lain lagi.

Berasaskan kepada keadaan sekarang, tahap latihan terhadap anggota-anggota amatlah mendukacitakan. Kajian Projek DPO telah memberikan faktor-faktor yang ada hubungannya dengan kes ini, terutama bagi anggota-anggota tentera. Sebelum kakitangan DPO mencapai tahap profesionalisme yang diperlu, jurang pengurusan DPO mungkin terpaksa dibuat pengubahsuaian, bertujuan bagi mengurangkan bilangan pegawai rendah yang melapor kepada Pegawai Memerintah.

**Struktur Pangkat — Pegawai Pemerintah.** Persamaan pangkat Pegawai Memerintah DPO dan KOD adalah satu contoh yang baik menunjukkan bahawa struktur peningkatan pangkat Pegawai Memerintah DPO patutnya lama telah dilaksanakan. Dalam apa juga keadaannya, ternyata tanggungjawab Pegawai Memerintah DPO jauh lebih berat dari apa yang dipikul oleh Pemerintah Depot Wilayah. Oleh itu sesuatu langkah perlulah diambil untuk menyelesaikan anomali ini. Memandangkan pengubahsuaian ini dijangka melibatkan hampir keseluruhan perjawatan DPO, maka seharusnya satu langkah penyusunan semula diaturkan. Tindakan ini perlulah mengambil kira keadaan sebenar bagi pengwujudkan Depot, termasuk peranannya di masa-masa akan datang, bebanan tugas dan tanggungjawab serta cabaran yang bakal di-

tempuh menjelang tahun 2000. Cawangan atau bahagian-bahagian yang akan dikumpul atau disatukan hendaklah berdasarkan kepada fungsi-fungsi yang kelak akan menjadikannya sebagai prinsip bagi sesuatu organisasi. Keistimewaan di sebalik ini ialah untuk mengasingkan di antara fungsi yang beroperasi sepenuhnya dengan fungsi yang hanya menjadi sebagai pembantu/penyokong kepada fungsi yang beroperasi penuh. Lain-lain kebaikan yang terdapat hasil dari pembahagian secara berkumpulan ini ialah:

- Mewujudkan gambaran yang logik terhadap sesuatu fungsi.
- Berpanduan kepada prinsip pengurusan secara khusus.
- Mengekalkan kedudukan dan prestasi.
- Memudahkan latihan.
- Bersungguhan dalam mengadakan kawalan yang ketat dari pihak atasan.

Dari kacamata struktur organisasi, dua aspek utama yang perlu diperbincangkan ialah berhubung dengan pertentangan terhadap jurang kawalan dan struktur pangkat. Kemuncak dari segala perbincangannya ialah bagi mengesyorkan cadangan penyusunan semula organisasinya.

Struktur organisasi DPO mengikut jawatan ditunjukkan seperti di Jadual B. Jadual C adalah cadangan penyusunan semula organisasi Depot tersebut.

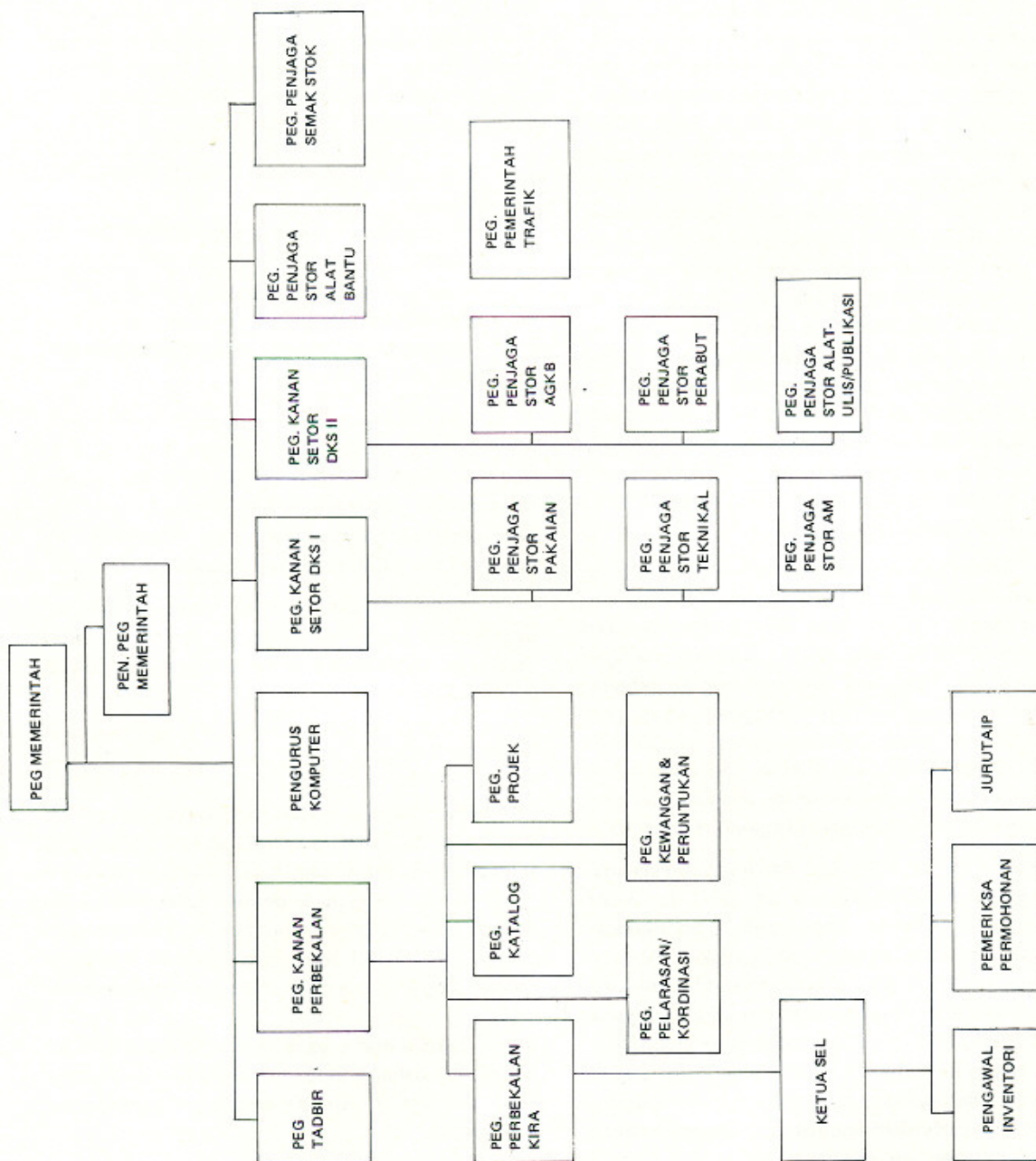
## KONSEP SISTEM

**Komponen.** Melalui sistem ini, penekanan haruslah diberi bagi menganalisis ketiga-tiga komponen yang terdapat pada sistem dan hubungkaitnya di antara tiap-tiap satu. Kajian terperinci kelak akan jelas menunjukkan bahawa sama ada komponen-komponen itu betul-betul dapat membantu ke arah pencapaian objektif organisasi atau pun di sebaliknya.

**Input.** Sebagaimana yang telah dimaklumkan sebelum ini, bahawa input merangkumi tiga elemen iaitu permintaan, sumber-sumber dan rintangan (gangguan).

- **Permintaan.** Terdiri daripada permohonan-permohonan yang diterima oleh Depot dari pihak pengguna bertujuan memenuhi keperluan pengguna. Setiap pengguna mempunyai cara dan ragam yang tersendiri yang kelak





JADUAL B - ORGANISASI DPO MENGIKUT JAWATAN

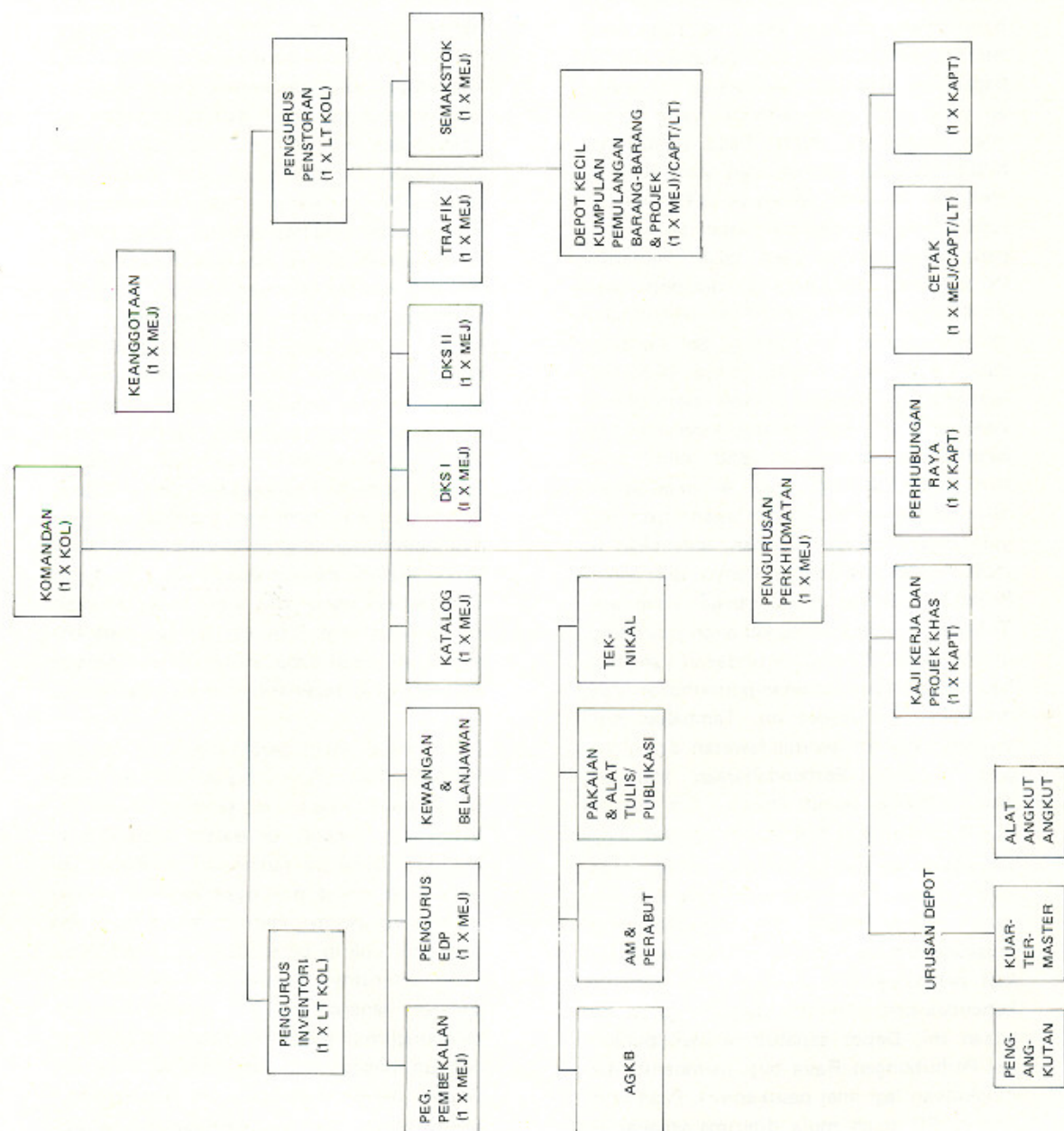


akan memberi kesan terhadap kelancaran perjalanan sesuatu sistem. Sebagai contoh, kesahehan permohonan (BAT L 8) yang dimajukan ke Depot. Berasaskan kajian di Sel Kenderaan, DPO telah mengambil masa purata selama 7 minit bagi Pemeriksa Permohonan menyemak setiap permohonan yang betul (tiada terdapat kesalahan pada Nama Barang, Peruntukan, Kod pasukan dan sebagainya). Manakala bagi setiap permohonan yang salah, masa semakan yang diambil ialah purata 22 minit. Pada setiap hari, hitung panjang permohonan yang diterima oleh Sel ini ialah sebanyak 300, dan dari jumlah ini 13% darinya adalah terdiri daripada permohonan yang salah. Pemeriksa Permohonan selalunya mengambil masa yang lama untuk menyimak permohonan tersebut dengan Sel Katalog, Sel Kordinasi dan kadangkala dengan pihak pemohon. Berpandukan kepada jumlah permohonan yang diterima dan peratus kesalahan, Sel Kenderaan memerlukan 858 minit (14.3 jam) setiap hari bagi tujuan semakan sahaja. Jelas sekali, Sel ini memerlukan lapan anggota Pemeriksa Permohonan, sedangkan semasa kajian dijalankan hanya didapati 2 Pemeriksa Permohonan sahaja yang ada. Tidakkah menjadi suatu kehairan jika sekiranya terdapat berlakunya tindakan yang lembap terhadap permohonan-permohonan yang dimajukan ke Depot ini. Tambahan pula terdapat adanya lawatan-lawatan dari Bahagian Bekalan, Perbendaharaan Malaysia, Audit Negara, Audit Dalam, Tim Analisa dan Penilaian dan Tim Verifikasi Stok yang sama-sama mengambil bahagian dalam "mencuri" masa yang terhad dari Pegawai Memerintah. Pihak Depot telah mengorbankan sebahagian masa yang besar bagi mengaturkan persediaan dan timbal balas terhadap kehendak-kehendak ini. Bagi mengatasi keadaan ini, Depot sepatutnya menubuhkan Sel Perhubungan Raya bagi membantu meningkatkan lagi imej pasukannya. Pada hakikatnya PR telah mula diterima sebagai sebahagian dari fungsi pengurusan. Sel PR ini kelak akan berupaya melayani pelanggan tentang aktiviti-aktiviti yang sedang berlaku, mengapa ianya dilakukan dan tentang faedah-faedah yang bakal didapati.

- *Sumber-sumber.* Tenaga kerja adalah salah satu sumber-sumber yang terpenting bagi sesuatu organisasi. Ia adalah punca daya-cipta, kerja-kerja dan bakat semula jadi untuk sesuatu organisasi itu. Kedudukan keanggotaan DPO amat meruncing sekali. Pertama, Depot mengalami kekurangan anggota hingga ke tahap 20% berbanding dengan perjawatannya. Ini bermakna sebahagian dari tugas-tugas telah tergendala tanpa dipenuhi oleh pekerjanya. Lebih mendukacitakan lagi kekurangan ini termasuk jawatan-jawatan penyeliaan di peringkat Staf Sarjan dan Pegawai Waren. Kedua, Depot ini telah diisikan dengan anggota-anggota yang baharu sahaja tamat latihan asas dari Pusat Latihan Rekrut. Ketiga, bilangan anggota yang menamatkan perkhidmatan adalah juga terlalu tinggi. Berdasarkan kepada keadaan sekarang, pihak Depot perlulah menjalankan rancangan sumber tenaga manusia bagi memenuhi keperluan keanggotaannya. Ini juga meliputi keperluan masa depan dengan menetapkan jumlah keanggotaan serta bidang kelulusan yang diperlukan. Langkah selanjutnya ialah merancang keseimbangan masa depan seperti mengenalpasti akan bilangan keanggotaan masa kini yang perlu dikekalkan dengan organisasinya. Dengan cara begini Depot akan dapat menetapkan bilangan anggota yang sebenar-benarnya diperlukan.

Akhir sekali ialah perancangan latihan dan pembangunan. Pembentukan latihan akan dapat memperbaiki, di samping membina, kecekapan anggota di dalam tugas harian mereka, manakala rancangan pembangunan pula akan dapat meningkatkan kedudukan mereka dengan memberikan pandangan yang luas dan cukup bersedia bagi peningkatan yang seterusnya. Sepatutnya perancangan sumber tenaga manusia adalah menjadi tanggungjawab pihak pengurusan Kor. Sungguhpun begitu, seharusnya di peringkat Depot perlu diadakan satu perancangan secara keseluruhan keanggotaan dan pengurusan sumber tenaga manusia, tanpa ini pihak Depot akan mengalami sepertimana keadaan sekarang disebabkan tenagakerja sentiasa di dalam keadaan naik turun di sepanjang masa.







Seperkara lagi yang menjadi sumber terpenting ialah peruntukan kewangan, yang selalunya tidak dapat menampung perbelanjaan. Kerap kali akan terdapat berlakunya kekurangan atau ketandusan, tidak kira walau sebaik mana sekali pun justifikasi yang diberikan semasa membentangkan anggaran. Untuk tahun 1986 peruntukan adalah sebanyak \$145.6 juta yang kemudiannya dikurangkan kepada \$131.0 juta. Pemotongan ini adalah disebabkan kemelesetan ekonomi. Masalahnya, pihak Depot mengalami tanggungan yang dibawa ke hadapan sebanyak \$29.0 juta di samping mempunyai penglibatan sebanyak \$103.5 juta. Ini bermakna ia meninggalkan kesan berhutang sebanyak \$1.5 juta. Amat jelas sekali pihak Depot tidak dapat melaksanakan atau mencapai matlamatnya dan terpaksa menghadapi semua situasi dengan sendirinya. Walaupun perbelanjaan adalah dikawal oleh BPL/Jabatanarah Ordnans, tetapi ini tidak juga dapat menyelesaikan masalah yang ada. Langkah munasabah yang harus diambil adalah perlunya melihat kembali kedudukan sebenar rancangan pembelian dan senarai peralatan yang benar-benar penting. Pihak Depot perlulah membuat pengubahsuaian terhadap rancangan pembelian selaras dengan peruntukan kewangan.

Sumber yang tidak juga kurang penting ialah material. Ia meliputi stok dan harta yang dipegang oleh Depot. Setakat Dis 1986, DPO memegang inventori bernilai lebih kurang \$295.4 juta. Oleh yang demikian amatlah berat sekali bagi seseorang pengurus menguruskan sejumlah inventori dengan begitu berkesan sekali lebih-lebih lagi sebagai seorang penjaga terhadap wang dan hartabenda awam. Perlulah diingatkan bahawa berpagai-bagai masalah berhubung dengan penstoran akan pasti timbul seperti, keusangan, kerosakan, kehilangan dan lain-lain lagi. Bagi tahun 1986 sahaja, pelupusan terhadap barang simpanan mencapai ke tahap \$3.43 juta, manakala sejumlah \$171,500.00 telah dihapuskan. Kedudukan sebenar terhadap fenomena ini tidak pula diketahui. Walau bagaimanapun, sebahagian kecil darinya adalah disebabkan kegagalan bagi menjalankan penyenggaraan terhadap barang-barang. Konsep dan perimustahaknya

Pusingan Riwayat Hidup (PRH) barangan dan had tempoh guna perlulah dikekalkan di dalam ingatan. Sebagai tambahan, untuk mempertingkatkan pengurusan penstoran maka prinsip Pareto Analysis atau pemilihan pengurusan perlulah diberi perhatian yang khusus. Konsep ini bukanlah merupakan suatu perkara yang baharu kerana ianya telah pun tersedia ada di dalam Arahan Teknikal kelengkapan sejak ianya dikeluarkan pada tahun 1979<sup>7</sup> lagi.

Cara yang paling elok bagi mengelakkan adanya Bakal Keluar ialah dengan mengadakan jumlah inventori yang tidak terbatas. Ini mustahil dilakukan kerana kita tidak mempunyai sumber kewangan yang mencukupi bagi membeli semua jenis barangan yang diperlukan oleh pengguna dan jika sekiranya dapat dilakukan, kita akan menghadapi masalah tempat simpanan dan lain-lain kemudahan asas. Jadi terpaksa kita menggariskan sukatan inventori yang diperlukan. Ini juga tidak bermakna akan menjadi satu jaminan dari ketandusan stok. Semakan dan kajian semula perlulah diadakan terhadap dasar simpanan bagi sebahagian barangan. Tidakkah ada faedahnya bagi Depot menyimpan barang-barang yang tidak diperlukan, kerana masih berkehendakan kepada tambahan ruangan simpanannya. Dari statistik yang diperolehi, Depot memegang sejumlah 69,020 jenama barang-barang di dalam simpanannya. Hanya 18.7% dari jumlah tersebut adalah terdiri dari barang-barang yang laris. Dari sejumlah 48,063 jenama barang-barang teknikal hanya 4,501 jenis atau 9.4% adalah barang yang laris. Persoalan tentang ketandusan stok adalah menjadi sebagai suatu tandatanya yang memerlukan penilaian yang waras, terutama dari segi Bakal Keluar, kerana dari sejumlah 71,901 permohonan bagi tahun 20,508 atau 28.5% adalah dipegang sebagai Bakal Keluar.

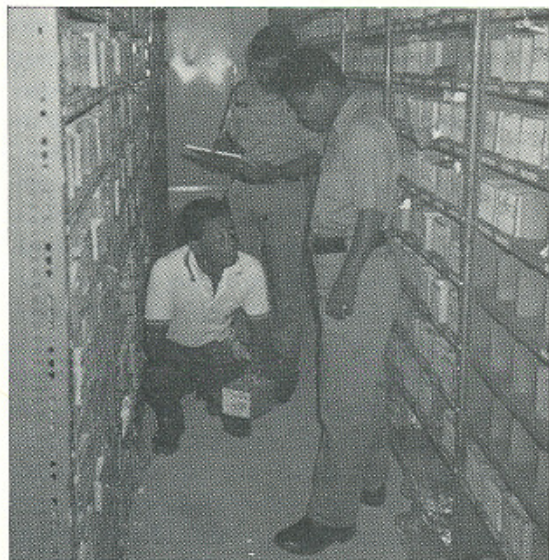
- *Rintangan (Gangguan).* Depot hanya beroperasi di dalam lingkungan had yang ditetapkan, di antaranya telah pun dibincangkan sebelum ini. Di antara rintangan yang dimaksudkan di sini ialah kemampuan pihak pembekal. Walaupun sekiranya Depot mengamalkan sistem yang terbaik sekali pun di samping mempunyai kakitangan yang cukup



terlatih dan berkecukupan tetapi ini tidak akan memberi sebarang makna atau jaminan tanpa mendapat kerjasama dan penglibatan yang sepenuhnya dari pihak pembekal untuk membekalkan barang-barang.

*Proses.* Kelicinan perjalanan sesuatu sistem itu adalah bergantung kepada kaedah atau jenis input yang diterima. Depot berfungsi dengan mengolah data input kepada sistem. Dengan meneliti secara terperinci terhadap laporan tahunan 1986 ianya telah memberikan suatu tanggapan kepada kita tentang jenis beban kerja yang dikendalikan oleh Depot.

- *Semak stok dan penyesuaian.* Sejumlah 8874 barang-barang telah dibuat semak stok (pusingan) manakala yang telah pun dibuat penyesuaian berjumlah 8387 barangan. Pihak Depot tersangat berharap untuk mendapat keanggotaan yang mencukupi bagi menjalankan semak stok pusingan ini. Tugas yang dilakukan secara berulang kali ini

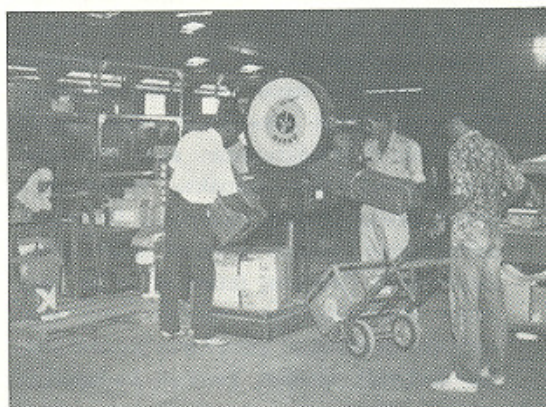


**Semak Stok — Stor Ordnans**

mungkin dianggap sukar untuk dijalankan. Walau bagaimanapun jika terdapat sesuatu teknik yang baharu, bagi menjalankan semak stok, berkemungkinan ianya dapat dilakukan samada dengan menggunakan kaedah pesampelan atau sebarang teori yang

berkemungkinan membolehkan sebahagian daripada barang-barang tidak tertakluk kepada semak stok. Ketepatan terhadap teknik ini hendaklah memberi suatu kepastian bagi mendapat tahap keyakinan yang diperlukan oleh pihak pengurusan.

- *Pembungkusan dan Pemetian.* Tugas ini dikeluarkan oleh Cawangan Trafik sebelum penghantaran barangan dilakukan. Perangkaan 1986 menunjukkan sejumlah 6402



**Proses penimbangan**

Laporan Perselisihan telah diterima oleh Depot berpunca dari pengeluaran yang salah dan kerosakan barangan. Ini menunjukkan kualiti pembungkusan dan pemetian memainkan peranan yang penting dalam keseluruhan kecekapan melaksanakan tugas tersebut. Penekanan harus diberikan kepada aspek perlindungan pembungkusan seperti mengawal kerosakan semasa dalam pengangkutan, penyimpanan atau oleh persekitaran seperti suhu dan kelembapan.

- *Pergudangan atau Penstoran.* Ini adalah fungsi yang sedikit sekali mendapat perhatian oleh Kor. Pada keseluruhannya anggota tidak mendapat latihan yang secukupnya berhubung dengan pergudangan, selain dari sedikit bimbingan atau tunjuk ajar secara yang terhad sebagai seorang pegawai atau penyelenggara stor. Mereka tidak mendapat

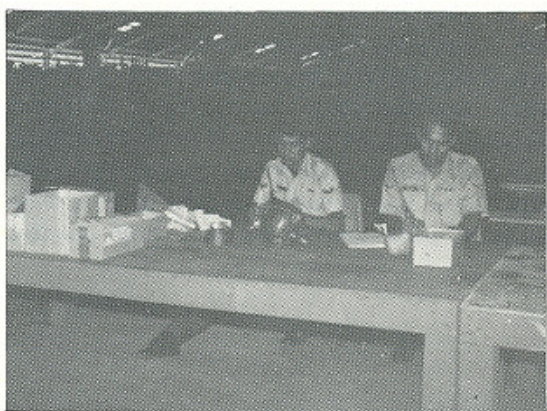




Menyusun alatganti

sebarang latihan secara formal dari segi pengurusan stor. Sesuatu usaha perlulah dilakukan untuk menentukan tahap kemampuan penstoran seperti yang dikehendaki. Terdapat beberapa kaedah tertentu untuk menyukat tahap kemampuan penstoran<sup>8</sup>, seperti mentaksir nilai secara fizikal dan kewangan yang boleh diterima.

**Output.** Dalam tahun 1986, Depot telah menerima sebanyak 80,755 permohonan. Dari jumlah tersebut 74,208 (91.8%) telah dapat dilayani. Yang banyak terdapat Bakal Keluar adalah bagi Barang Teknikal dan Alatganti Kenderaan. Ini menduka-



Merekod alatganti

citakan kerana ia membayangkan kenderaan tidak boleh digunakan atau tidak boleh digerakkan kerana menunggu alatganti. Di samping itu pula permohonan Bintang Merah telah meningkat terhadap kedua-dua kategori barang ini. Perhatian perlulah diberi oleh pihak pengurusan untuk menyasat kedudukan perkara ini.



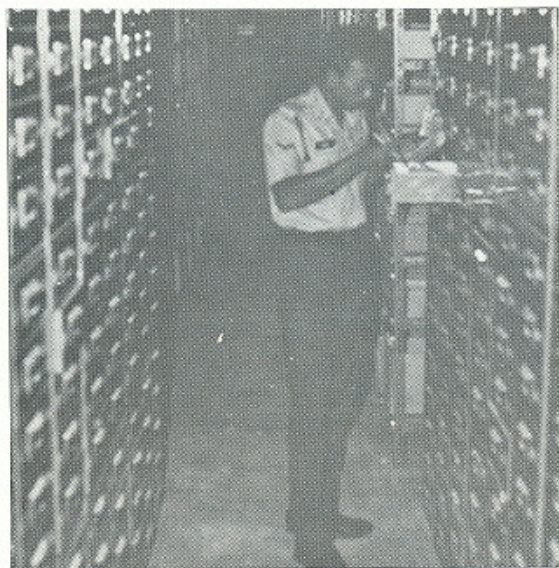
Pemunggaran

Sungguhpun DPO sebuah organisasi yang bertanggungjawab terhadap kawalan inventori, tetapi ia juga terlibat dalam menjalankan latihan seperti kursus percetakan yang dibuat oleh Pasukan Cetak AT (PCAT). Usaha ini patut dipuji kerana bertujuan mempertingkatkan lagi kemampuan anggota, tetapi ianya tidaklah begitu bersedia untuk memikul tanggungjawab ini. Di antara kesan-kesan negatif yang dapat dikesan oleh Tim Kajian<sup>9</sup> pada tahun 1986 di PCAT ialah:

- Kerosakan yang sering berlaku terhadap mesin cetak disebabkan pengendalian yang kurang cekap oleh pelatih-pelatih.
- Kerja-kerja yang dijadualkan telah tergendala hingga ke tahap 95% disebabkan mesin yang tertentu sedang digunakan oleh penuntut-penuntut. Ini telah dapat dikesan semasa kajian sedang dijalankan.
- Penyelia-penyelia percetakan telah digunakan sebagai jurulatih dan ini menyebabkan tugasnya bertambah selain dari tugas-tugas biasa.

**Penyudahan.** Amatlah mendukacitakan kerana maklum balas dari pasukan/pengguna terhadap perkhidmatan yang diberikan oleh DPO tidak dapat diperolehi untuk dibuat penilaian keberkesanannya. Dengan ketiadaan maklumbalas ini perbincangan hanya diadakan dengan Pegawai-Pegawai Memerintah KOD dan pegawai-pegawai kanan yang lain untuk mendapatkan pendapat dan





Aktiviti Penyimpanan — Stor Ordnans

pandangan mereka terhadap prestasi DPO. Secara keseluruhannya adalah didapati kurang memuaskan. Kajian dari Projek DPO juga menyokong pendapat ini.

*Tujuan dan Objektif.* Analisa terhadap tujuan dan matlamat DPO tidak dapat dijalankan disebabkan tidak tercatat di mana-mana. Adalah dicadangkan supaya DPO merencanakan tujuan dan objektif mereka sebagaimana disyorkan oleh Projek DPO. Berikut adalah cadangan yang disyorkan untuk dipertimbangkan oleh Depot:

- *Tujuan.* Untuk memberikan khidmat dan bantuan Ordnans kepada Angkatan Tentera.
- *Objektif.*
  - (1) Mengurangkan Bakal Keluar ke tahap 20% pada tahun 1986.

- (2) Untuk mencapai tahap khidmat hingga ke 95%.
- (3) Untuk melatih anggota-anggota — 40% LLP dan 40% pegawai di dalam berbagai-bagai kursus dalam 1988.
- (4) Untuk mengurangkan kos perbelanjaan 10% setiap tahun.
- (5) Untuk mempertingkatkan sistem komputer pada tahun 1988.

---

#### PENUTUP •

---

Struktur organisasi sekarang terdapat banyak kelemahan sebagaimana yang telah dapat dikesan di sepanjang kajian ini dijalankan. Ini meliputi jurang kawalan, struktur pangkat, taraf keprofesionalisme anggota, kekurangan anggota dan pelbagai rintangan atau gangguan yang dihadapi oleh Depot sama ada di dalam atau di luar sistemnya. Kelemahan-kelemahan ini perlulah diatasi sebelum bertukar haluan. Dengan permasalahan yang sedia ada ini, Depot tidak akan berkemampuan untuk menempuh cabaran yang bakal dihadapi seperti bertambahnya bilangan inventori, pertambahan bebanan kerja, kekurangan ruang simpanan dan pembesaran Angkatan Tentera menjelang tahun 2000. Sesuatu daya usaha perlu dilakukan untuk mempergiatkan lagi tindakan di semua cawangan yang berkenaan di dalam semua aspek termasuk latihan kemahiran sebagai persediaan oleh Depot bagi menghadapi peranan yang lebih kompleks pada jangkamasa yang lebih panjang.

#### Bahan Rujukan

1. Leslie W. Rue and Phylis G. Holland, *Strategic Management*, Mc Graw Hill, 1986.
2. Walaupun "Jurang kawalan" selalu digunakan, Tetapi "Jurang Pengurusan" lebih tepat digunakan kerana ia merangkumi semua fungsi pengurusan dan tidak terhad kepada kawalan sahaja.
3. Semak "Projek COD" oleh Tim Kajian Kementah.
4. Management, Prentice Hall Edisi Ketiga muka surat 270.
5. Lyndall Urwick, *Axiom of Organization*, Public Administration (London), 1956, muka surat 348—349.



6. Semak "Notes on the Teory of Organization," American Management Association 1952, muka surat 53.
7. Arahan Teknikal Kelengkapan, Vol 1, Bab 1 Sek 24.
8. Donald J Bowersox, Logistic Management Edisi Kedua, Mac Millan Publishing Co muka surat 231.
9. Laporan Kajikerja WS/8/86 bertajuk AFPU. Tim kajian diketuai oleh Kapt Mansor bin Shukur, Seksyen Komputer 91 DPO.



*Lt Kol Taib B Mohamad telah ditauliahkan ke dalam Kor Ordnans pada tahun 1965. Beliau telah mengendalikan pelbagai tugas staf. Beliau telah menghadiri Maktab Pertahanan dan memperoleh Diploma dalam jurusan Pengurusan Perindustrian dari UKM. Kini beliau menjadi Pegawai Memerintah 73 Kumpulan Ordnans Divisyen (KOD).*





Cover Story

# REORGANIZATION OF THE CENTRAL ORDNANCE DEPOT — A STRATEGIC ANALYSIS

By  
Lt Kol Taib B. Mohamed

## ● INTRODUCTION

This study is more of an academic exercise rather than an establishment or project paper. This is so in the sense that theoretical knowledge is made use of to solve real problems. In this study, expert opinions on relevant disciplines are sought to support the arguments put forth. The approach to the study is based on the mixture of systems analysis and strategic management process. The guiding principles adopted in analysing the organization is based on the model created by Rue and Holland<sup>1</sup>. This model is found to be suitable for analysing current status of organisation used in strategic management. It has four major segments:

- Analysing the current situation.
- Examining the prospect of the future.
- Setting the future course.
- Putting the strategy to work.

## SYSTEMS APPROACH

*General.* The systems approach views an organisation as a network of inter-related parts or sub-systems. COD represents a system with several departments as sub-systems. The smooth-running of this system is contingent upon the interactions of these sub-systems. The advan-

tages of using the systems approach are that they enable us to see the overall picture. A problem, therefore, will not be treated in isolation without analysing its total effect on the system.

*Components.* As opposed to the organization structure, COD as viewed from a system approach, comprises the following components:

- Input.
- Process.
- Output.
- Outcomes.
- Goals.
- Objectives.
- Feedback loop (Control measures).

In this study, the following will be discussed:

- Input.
- Process.
- Output.

*Input.* COD as a system operates on various inputs, namely:

- Demands.



- Resources.
- Constraints.

The demands which are to be met by the Depot come from various sources such as:

- Its dependencies (KOB, KOD, RMAF, RMN etc).
- Ordnance Directorate.
- Bahagian Perkhidmatan Logistik (Logistic Services Division)
- Supply Division.
- Federal Treasury.
- Federal Audit.
- Internal Audit.
- Tim Analisa Dan Penilaian. (Analysis and Assessment Team)
- Tim Verifikasi Stok. (Stock Verification Team)
- Visitors, etc.

The resources available to the Depot to carry out its functions are as follows:

- Labour/manpower.
- Managerial skill.
- Supervisory skill.
- Computer system.
- Stock.
- Mechanical Handling Equipment.
- Warehouses.
- Financial allocation.
- Unit transport.

The Depot, like any other government agencies operates within certain constraints, therefore limiting its capabilities. These are:

- Manpower.
- Procedures.
- Financial allocation.
- Stock holding.
- Quality control.
- Warehouses.
- Transportation.

**Process.** Before churning out the outputs, the inputs undergo various processes which are the functions of the system. Functions identified are:

- Provision.
- Contrbl.
- Account.
- Selection.
- Packing and packaging.
- Forecasting.
- Preparation of estimates.
- Ordering.
- Issues.
- Receipt.
- Stocktaking and reconciliation.
- Warehousing.
- Budgeting.

**Outputs.** These are the tangible products of the

system that could be obtained:

- Number of issues made.
- Number of dues out maintained.
- Number of items stock taken.
- Number of items stored (Quantity).
- Number of orders placed.
- Number of items catalogued.
- Etc.

**Outcomes.** While the output can be seen, the outcomes refer to the impact of the output produced, i.e. the intangibles.

- Service level.
- General improvement of the dependencies.
- Increased efficiency.
- General state of logistic support.
- Instocking or outstocking of inventory.
- High morale among personnel.
- Availability of contract.

**Goals.** To ensure that all activities of the components are moving in the required direction the system must establish its goals. Examples of goals could be:

- To provide Ordnance services to the Armed Forces.
- To upgrade employee morale.
- To reduce cost.

**Objectives.** Goals and objectives are sometimes interchangeable. However, in this study the writer maintains that objectives are subordinate to goals. Objectives are plans taken towards achieving the corporate goals.

**Feedback Loop.** A Feedback Loop serves as a control measure to determine whether the system is functioning as planned or not. Correction could be made to bring it back in line should it deviate from the set direction. To achieve this, standards are set to measure the output as reflected in the various reports viz stocktaking report, stock position report etc. The components elaborated in the foregoing paragraphs can be depicted in a systems diagram as shown in Table A.

## ANALYSIS ON THE PRESENT SITUATION

### ORGANIZATION STRUCTURE

**Span of Management.**<sup>2</sup> There seems to be an endless argument over how wide a span should be. Is the span of management of COD too wide as claimed by a recent study?<sup>3</sup> Before delving further into the subject, we must not lose sight of a more important issue i.e. the rationale of having an appropriate span to an organisation structure. In the opinion of Stoner and Wankel,<sup>4</sup> there are two main reasons why the choice of appropriate span is essential. First, the span of management affect the efficient utilisation of managers and the effective performance of their subordinates. They found out that too wide a span may mean that managers are over-extending themselves. As a result their subordinates may receive less guidance and control. Too narrow may imply that the managers



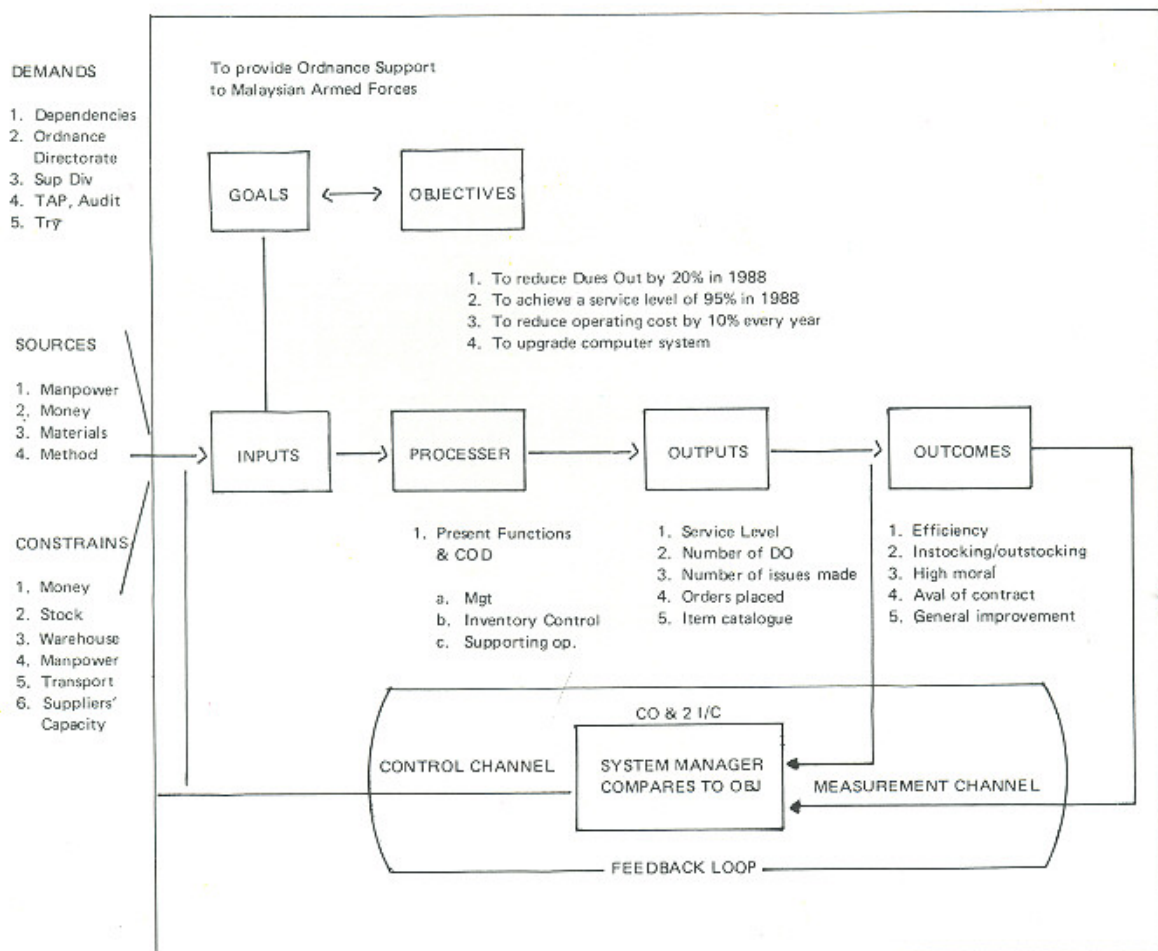


TABLE A - SYSTEMS DIAGRAM OF COD

are under-utilised, allowing them to be breathing down their subordinates' necks all the time. Secondly, they maintain that there is a relationship between span of management and organisational structure. Narrow span may mean the structure becomes tall and narrow, and wide span, with the same number of personnel, results in fewer management levels between the top and the bottom.

The observation made by the Mindef Study Team on wide span of management may be in line with the principle stated by Urwick,<sup>5</sup> a British management consultant, i.e. "the ideal number of subordinates for all superior authorities . . . to be four." Later in the another publication,<sup>6</sup> he modified his position by saying that no person should supervise more than five or at the most six direct subordinates whose works interlock.

Pursuing the Mindef Study Team's observation further, the team produces evidence to prove the effect of COD's wide span of management, which are:

- Sluggish response to unit demands.
- Bottlenecks at Traffic Branch.
- Departments functioning independently.

It may appear on the outset the COD has a wide span of control, violating the principle established by Urwick. To resolve this issue, it is pertinent to survey the latest thought which was developed after Urwick, who represented the classical approach. This new school of thought is pioneered by scientists from operational research groups, who hold the view that there is a limit to the number of subordinates a manager can effectively supervise. But the exact number cannot be determined. It depends upon various underlying factors. The more important, according to this group in determining the appropriate span is to look at what it is that consume the time taken by managers in handling subordinates/managers relationship. To illustrate this point, one of the underlying factors is the level of training of subordinates. The better trained they are, the less they require the supervision of the Commanding Officer. Of course, there are other factors such as clear guidelines, posting policy (putting the right officer for the right job, especially key appointments like Senior Provision Officer, Commanding Officer), etc.

Under the present circumstances, the level of training of COD personnel leaves much to be desired. The Project COD took relevant note over the lack of approp-



riate qualified personnel, especially the military. Until personnel have attained a certain standard of professionalism, the span of management of COD may have to be modified, thus reducing the number of subordinates reporting to the Commanding Officer.

**Rank Structure — Commanding Officer.** Both the Commanding Officers of COD and Regional Depots are of Lt Kol ranks. By this simple comparison it is clear that the upgrading of rank structure of CO COD is long overdue. By any account, the responsibility of CO COD is a lot heavier than that of a regional depot. Therefore, efforts should be made to put up justifications to rectify this anomaly. Since this restructuring involves the overall situation, a reorganization exercise should be carried out. The reorganization should take into consideration the environment within which the Depot operates, the role it is expected to play in the future, the workload assessment and the challenges of the year 2000. The groupings of the departments is based on the principles of functional organisation. The philosophy behind this organization is that the operational functions are separated from the supporting functions at all levels. Other advantages of functional departmentation are:

- Logical reflection of functions.
- Follows the principle of occupational specialization.
- Maintains the power and prestige of major functions.
- Simplifies training.
- Means of tight control at the top.

From organization structure view-points, two main aspects were discussed at length, viz. The controversy over the span of control and the rank structure. Culminating the discussion, a reorganization proposal is offered for consideration.

Table B shows the present organization structure of COD by appointments. Table C shows a proposed reorganization.

## SYSTEMS CONCEPT

**Components.** Under the systems concept, emphasis is given to the analysis of three main components of the system and their interaction with each other. A close study of these interactions would reveal either they contribute to the attainment of organizational objectives or would hinder them.

**Inputs.** As mentioned earlier inputs are made up of three elements: the demands, the resources and the constraints.

- **Demands.** This refers to the demands expected of the Depot by the customers, their requirements and expectations. These customers have their own peculiarities and could affect the smooth-running of the system. Take for example, the accuracy of the demands (BAT/L/8) submitted to the Depot. Based on research, at MT Cell COD, an indent

checker took an average of seven minutes to vet a clean voucher (no mistake on designation, entitlement, unit code etc), and 22 minutes for each incorrect one. The cell receives something like 300 vouchers daily. Out of this 13% is incorrect. Acting on the incorrect vouchers, MT Cell spent 858 minutes (14.3 hours) per day vetting them. For each incorrect voucher, an indent checker usually require more time for verification with Cataloguing Cell, Coord Cell and the originator. Based on the number of vouchers received daily, MT Cell requires eight indent checkers, but they have only two at the time the research was conducted. Here we can deduce why units demands were met with sluggish response by the Depot.

To add to the aforementioned problems. Supply Division and Federal Treasury, Federal Auditor, Internal Auditor, Tim Analisa dan Penilaian, Tim Verifikasi Stok all have their shares in "robbing" the already limited time the Commanding Officer has. The Depot utilises a major portion of its time making preparations to respond to these demands. To overcome this, the Depot should set up a PR Cell as a means to improve its corporate image. In fact PR requirement has been slowly accepted to be a part of management function. The PR Cell of the Depot would be able to keep the customers informed of its activities, of what is being done, why it is being done and the benefit they will get.

- **Resources.** Manpower is the most important resources of an organization. It is the source of creativity, work and talent for the organization. The manpower situation in COD is acute. Firstly, the Depot is experiencing a shortage of personnel of about 20% of its establishment. This implies that certain jobs have been left vacant or have not been fully manned. Even worse, this shortage includes the supervisory level in the ranks of Warrant officers and Staff Sergeants. Secondly, the level of training. The Depot is given untrained personnel who have just passed out from Pusat Latihan Rekrut. Thirdly, the number of personnel leaving the service on retirement is high. Based on the current situation, the Depot should carry out a human resource planning to meet its personnel requirement. The process involves planning for future needs to determine the number of personnel with the right qualification the Depot requires. The next step is to plan future balance i.e. the number presently employed that can be expected to stay with the organization. With this the Depot would have established the number of personnel actually needed. Lastly, the planning for training and development. Training is designed to improve the skill of personnel in their daily job while development programmes improve their present position so that they have broader outlook and be ready for promotion. Rightly, the human resource planning is the responsibility of the Corps. But, at Depot level there should be plans for an overall staffing and human resource management, without which the Depot will be in this situation perpetually because workforce come and go all the time.



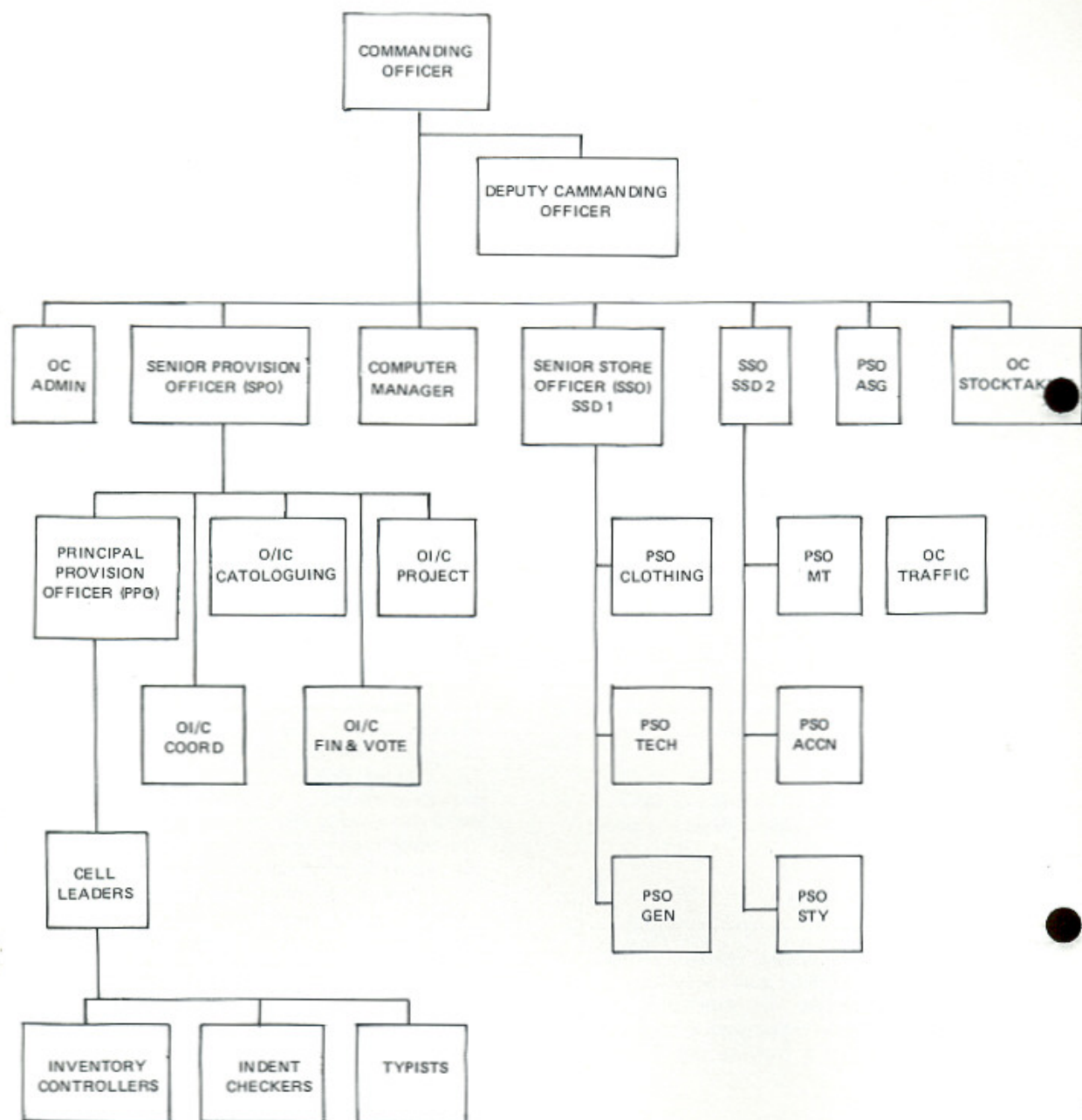


TABLE B - ORGANIZATION OF COD BY APPOINTMENTS



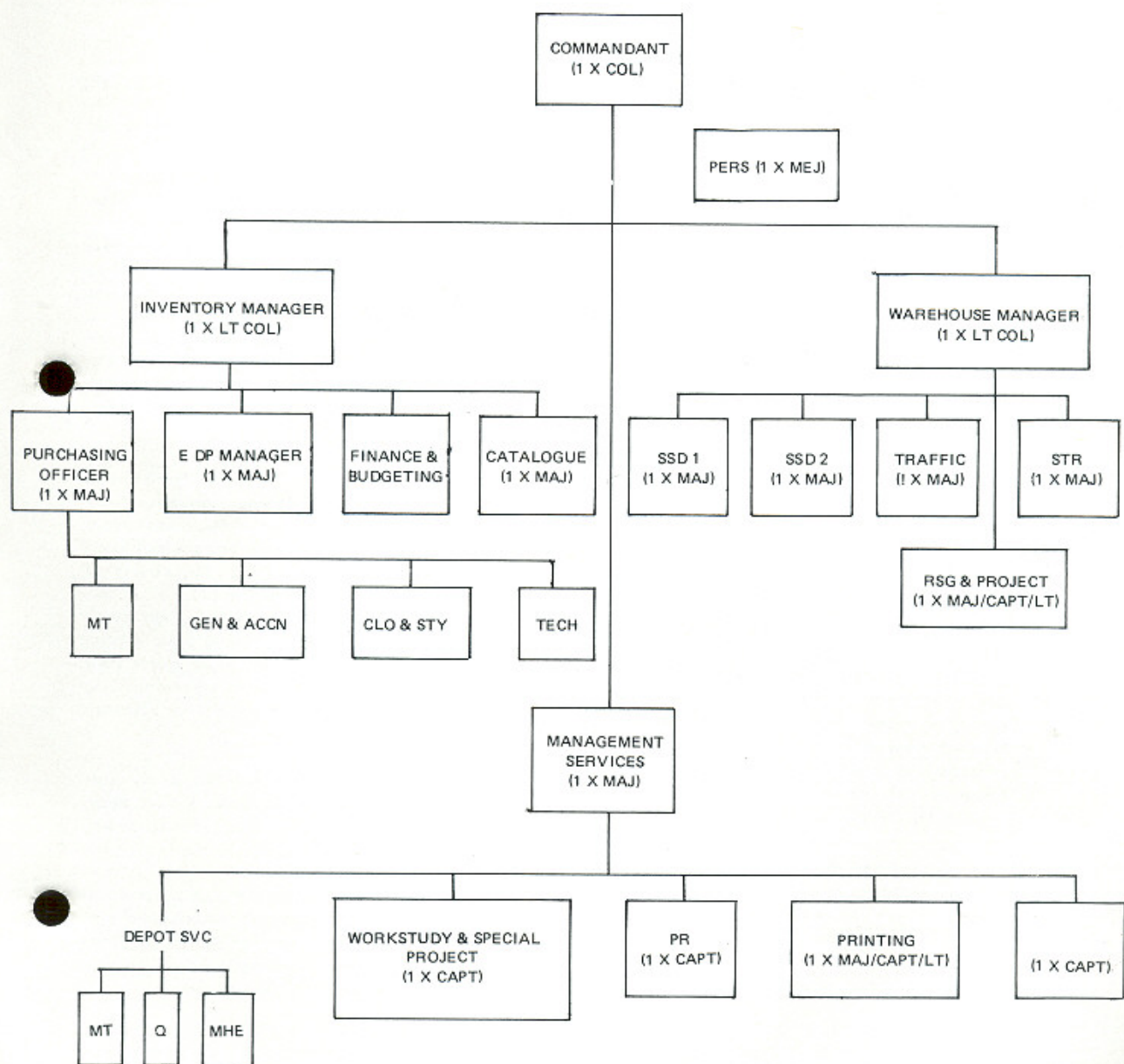


TABLE C — PROPOSED ORGANIZATION OF COD



The next important resource is money or financial allocation which is a scarce commodity. There will always be shortfalls, no matter how well it is justified at the budget screening. For 1986 the allocation was \$145.6 million and later slashed to \$131.0 million. The cut-back was inevitable due to the government austerity drive. But the problem is, the Depot has a carried forward liability of \$29.0 million and a committal of \$103.5 million, and that leaves it with a debit balance of \$1.5 million! With this, obviously the Depot will not be able to perform or meet its goal let alone maintain its status quo. As an interim measure, all expenditures are controlled by BPL/Ordnance Directorate. But this does not solve the problem. The most rational step would be to revise the use of purchase plan and essential items list. The Depot should modify the purchase plan in accordance with fund availability.

The next important resource is materials. Materials include stock and assets held by the Depot. As at December 1986, the Depot holds approximately \$295.4 million worth of inventory. It is therefore imperative that managers manage the inventory with utmost efficiency as guardians of public funds. The risks associated with storage should be borne in mind, i.e. obsolescence, damage and loss of stores whilst in storage. For 1986, disposal of stock amounted to \$3.43 million, while \$171,500.00 were written-off. The exact nature of this phenomena is not known. However, this is partly due to failure in carrying out stock maintenance. The concept and the importance of product life circle (PLC) and shelf-life must be imbedded into our minds. In addition, to enhance stores management the principle of Pareto Analysis or selective management should be adhered to. This concept is not new as it has been in the Arahkan Teknikal Kelengkapan ever since it was first produced in 1979<sup>7</sup>.

The surest way of avoiding dues-out is by having infinite inventory. But this is impossible because we do not have the financial resources to buy all the stores required by our customers and even if we do, we do not have the storage facilities. So we must strike a balance by having a certain level of inventory. But, even this does not guarantee us from stock-out. There should be a review on the stocking policy for certain items. It is pointless for the Depot to be holding stores which are not wanted when we are crying for additional storage space. From statistics available, the Depot holds a total 96,020 lines items on its inventory. From this only 18.7% are fast moving. Out of 48,063 line items for technical stores only 4,501 or 9.4% are fast moving. The question of stock-out is another point to ponder, i.e. how many of the dues-out maintained by the Depot are genuine? The total dues-out for 1986 is 20,508 against a total demand of 71,901. That is to say 28.5% were maintained as dues-out.

- **Constraints.** The Depot operates within limitations, some of which have been discussed earlier. One of the constraints is the suppliers' capacity. The Depot may have the best of systems or very highly qualified personnel, but this will not get us anywhere without the suppliers' cooperation and commitment to deliver the goods.

**Process.** How well the system function will depend on the kind of input criteria it receives. The Depot carries out its function by churning the data input to the system.

- **Stocktaking and Reconciliation.** A total of 8874 items have been stocktaken (cycle) and 8387 have been reconciled. The Depot is in dire need of manpower to fulfil the requirement of the stocktake annually. This frequency may seem impossible to carry out. However, if new stocktaking techniques could be developed perhaps by using sampling technique or theory of probability, the whole range of items need not be subjected to stocktaking. The accuracy of this technique can be assured by pre-determining the confidence level required by the management.

- **Packing and Packaging.** These functions are carried out by Traffic Branch before items are despatched. The 1986 figures show a total of 6402 discrepancy reports received by the Depot arising from issues of wrong and damaged items. The quality of packing and packaging therefore plays an important role in determining the overall efficiency of this function. The emphasis should be on protective packaging aspects i.e. to protect stores from damage during transportation, storage and handling and also from the environment such as humidity and temperature.

- **Warehousing or Storekeeping.** This is the least attended to function in the Corps. By and large, personnel are not formally trained in warehousing. Apart from a brief stint as store officers or storekeepers, they receive no formal education on warehousing management. Efforts should be taken to quantify the measurement of warehousing efficiency. Several methods of Measurement of Warehouse Efficiency are available<sup>8</sup>, such as physical and dollar evaluation, that can be adopted.

**Output.** For 1986, the Depot received 80,755 demands, and from this 74,208 or 91.8% issues were made. Technical and MT items have the highest dues-out respectively. This may be disturbing because it may imply that some important equipment and vehicles may be un-serviceable or off-the-road awaiting spares. In addition, Red Star demands show a corresponding increase in these two categories of stores. There is a positive correlation between the dues-out and the Red Star demands for MT and Technical items. Management attention should be brought to investigate into this matter.

Although COD is an inventory organization, the Depot involves itself in conducting training, e.g. a printing



course run by the Armed Forces Printing Unit. This is a commendable effort to upgrade the technical competence of personnel, but it is not geared to undertake such a task. Some of the negative effects observed by the Workstudy Team<sup>9</sup>, who made a study on the AFPU in 1986 were:

- Frequent machine breakdown due to poor handling by trainees.
- Disruption in the work schedule 95% of the time during the period of observation, a particular machine was utilised by students.
- Supervisors utilised as instructors. This is an additional duty apart from his normal work.

**Outcomes.** It is rather unfortunate that feedback from units/customers is not available to make relevant assessment on impact of the support provided by the Depot. In the absence of such feedback discussions were held with COs of Regional Depots and senior officers to get their general opinion on performance of COD. On the whole it was felt that the situation is rather less than satisfactory. The findings by the Project COD seem to support their opinions.

**Goals and Objectives.** Analysis on the Depot's goals and objectives could not be carried out simply because they are not documented anywhere. It is proposed that the Depot should formulate their goals and objectives as recommended by Project COD. Some of the suggested goals and objectives for the Depot are given here for consideration.

#### ● Goals.

- (1) To provide Ordnance support to the Malaysian Armed Forces.

#### ● Objectives

- (1) To reduce dues-out by 20% in 1988.
- (2) To achieve a service level of 95%.
- (3) To train unit personnel – 40% Other Rank and 40% Officers in various courses in 1988.
- (4) To reduce operating cost by 10% every year.
- (5) To upgrade computer system by 1988.

---

#### CONCLUSION ●

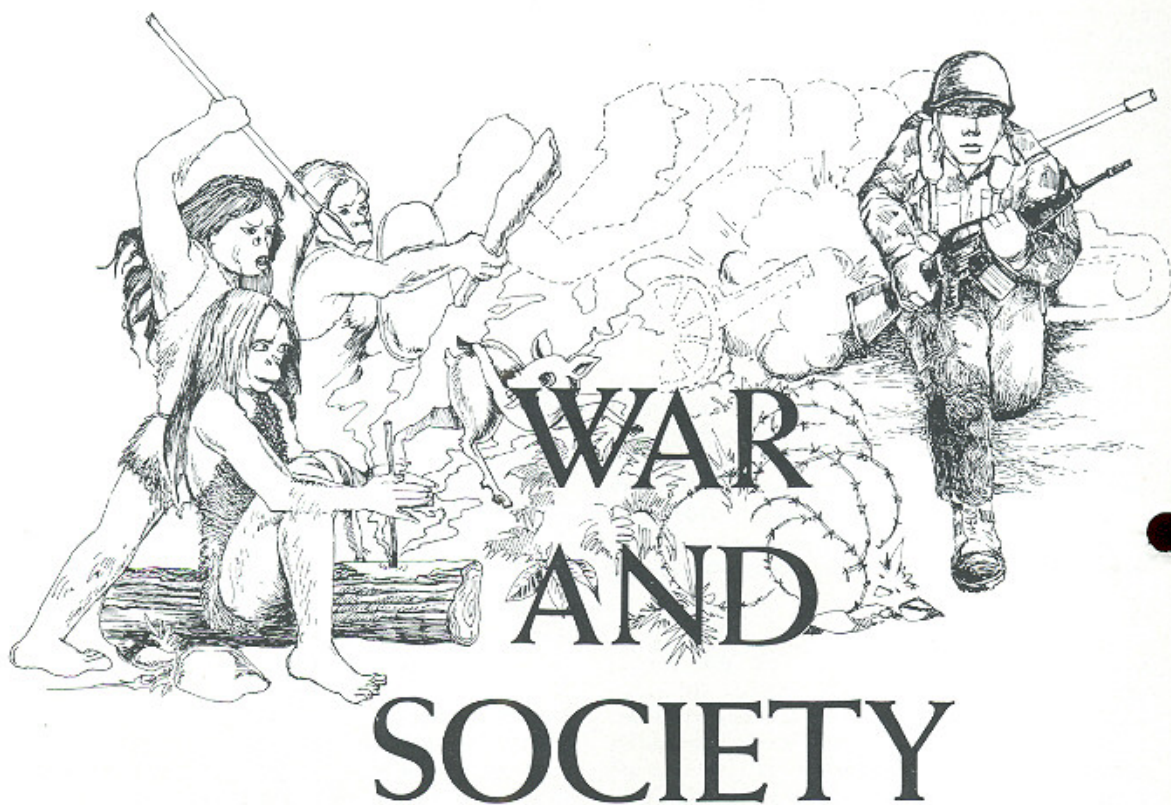
---

The present structure has several weaknesses which have been identified during the course of the analysis. These are the span of control, the rank structure, the professionalism of personnel, shortage of personnel and various constraints the Depot has to face up to within and outside the system. These weaknesses must be rectified before embarking on a new course. With the current problems the Depot will not be able to meet future challenges such as the increase in the inventory, the ever increasing workload, the requirement of storage space and the overall expansion of the Armed Forces in the year 2000. Efforts should be taken to gear up all the respective departments in all aspects including professional training to prepare the Depot to assume a more complex role in the long term.

#### FOOTNOTES

1. Leslie W. Rue and Phyllis G. Holland, *Strategic Management*, Mc Graw Hill, 1986.
2. Though "span of control" is normally used, span of management is more exact since it covers all function of management not limited to control only.
3. See "Project COD" by Mindef Study Team.
4. Management, 3rd Edition, Prentice Hall, page 270.
5. Lyndall Urwick, *Axiom of Organization*, Public Administration (London), 1956, page 348–349.
6. See "Notes on the Theory of Organization", American Management Association 1952, page 53.
7. Arahkan Teknikal Kelengkapan, Vol 1, Chapter 1 Sect 24.
8. Donald J Bowersox, *Logistic Management* 2nd Edition, MacMillan Publishing Co page 231.
9. Workstudy Report WS/8/86 on AFPU. The study team headed by Kapt Mansor bin Shukur, Computer Section 91 COD.






---

By Mej V Ramasamy

---

#### • INTRODUCTION

**W**ar in its sociological sense has existed in all human groups since primitive times and historically seen as an intrinsic part of society. Warfare has been divided into four stages: animal, primitive, civilized and modern. The first two stages were established by evidence found in archaeological remains. The civilized stage began between three and ten thousand years ago in the valleys of the Nile, Euphrates, Tydus, the Yellow River, Peru and Mexico. Modern warfare began in the fifteenth century with the advent of printing.

War in the modern context began with civilization and has been viewed as a prime mover of progress in civilization. War has had different meanings to different people at different times. To some, war was detested and to others it was adventure. To those who detested it could be due to: the shrinking of the world, the acceleration of history, the progress of military technology and

the rise of democracy. Whereas, for the adventures it could be due to: self preservation, revenge, greed for power, prestige and economic gain.

The definition of war in its broadest sense is "a violent contact of distinct but similar entities". This could mean any form of fight or hostility. Professionals accepted the concept of war by Grotius "the condition of those contending by force as such" and force was meant to be the armed forces and nothing else. Sociologists view war as a conflict between groups involving violence. Clausewitz, a military writer, defined war as "an act of violence intended to compel our opponent to fulfill our will" and emphasized that "war is nothing but a continuation of political intercourse, with a mixture of other means". Hobbes compared the manifestation of war to the weather because the type and extent of war is dependent on the degree of hostility in the relationship of states.



War is thus seen to be a legal condition, a form of conflict, of violence between groups of people to carry on a conflict by armed forces. All these activities of war are not separable from the affairs of society and as such, great thinkers and philosophers have devoted much time in studying the nature of war to establish its causes, purposes and strategies to benefit the individual nations and society.

The object of war in animals was for food, sex, dominance, self preservation, independence of territory and society. Animals' need for protection against different species developed aggregations. There were also the alliances with dominant type of the same species which resulted in balance of power. Rivalry was for possession of objects like food, intrusion of strangers or from frustration of drives or others. It was also the case of the survival of the fittest.

On primitive warfare there is a need to understand who primitive people are and what sort of behaviour is warfare. Primitive people are small groups or tribes who speak a common language and do not use writing. War was waged to retain tribal entity and possessions.

Civilized warfare is also known as historic warfare which is warfare of literate civilizations from Egypt to Mesopotamia up to the fifteenth century. These wars had caused changes to civilization as well as changes to the nature of war itself. As armies gained more experience they improved their art of war resulting in the rise and fall of states and civilizations.

Modern warfare emerged with the advent of printing in the fifteenth century. The causes of war did not change but new techniques augmented the impact of war on society. Thus, popular support became a necessity, which developed the concept of nationalism, citizen and state. Intensive wars were waged resulting in loss of lives of both military and civil population. People suffered from casualties in battle, disease in the army, and other war induced consequences. Size of armies were also increased in proportion to the population. Vast resources were channeled for military purposes. Wars became more lengthy and frequent. Throughout these periods there had been developments of military tactics, and inventions of defensive and offensive weapons. There were technical

advances in the provision of movement agencies such as steam engines, internal combustion engines, jet propulsion and missiles.



**Military Civilian Cooperation. A Member of Parliament trying to lift a ration-pack — Pulada, 1977**

The armies of the seventeenth and eighteenth centuries developed more professional standards and were loyal to their kings. The French revolution and Napoleonic period later developed the idea of the "nation in arms" which gave rise to nationalism, democracy, industrialization and mechanization of war. These ideas spread in Europe slowly leading to strategic surprise becoming part of warfare and the need to modify Clausewitz's theory.

Clausewitz later, analysing the French background against which the military techniques had emerged, formulated the trinity of war: the government, army and the people. Even this trinity had to be changed to include: technological developments, economic efforts and diplomacy. When he related the theory of "war was nothing but a continuation of policy with other means", policies are made by politicians who represent the people and the "means" are the armed forces which is also made up of men from the society. Clausewitz's explanation of morale included the morale of the society which contributed towards the national will in waging war. Two examples of failure due to absence of popular support of the people would be the First Vietnam War where the French were defeated in 1954 and the Second Vietnam War where the Americans had to withdraw from Vietnam.

Finally, it is obvious that man has been involved in primitive time as well as throughout



history in all forms of war. Therefore warfare cannot be divorced from society because war involved: people, their resources, their survival, and civilization. As long as man exists there will be disputes and such disputes are settled through some form of conflict.



Soldiers lending a helping hand in a remote village.

## CONCLUSION •

War as we have seen has been an intrinsic part of the history of men ever since primitive days. As man became more civilized, societies emerged. The need for self preservation, independence, satisfaction of drives, urge for domination and expansion of territory, made man wage war either as a society or as a state. The major impact of war on society was during the civilized warfare stages which more or less culminated during the French Revolution when the "nation at arms" came into being and the emergence of nationalism and democracy.

The evolution of warfare and its impact on society made great philosophers and military thinkers involved themselves in analysing war, thus strategic thinkers emerged and studies were promoted in the interest of nations and society.

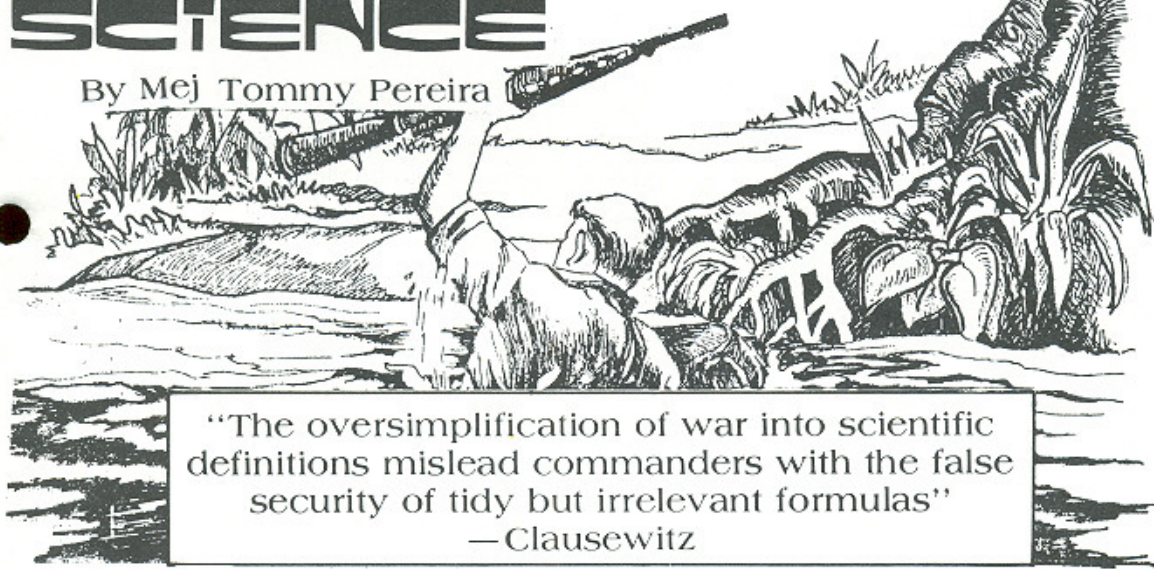


*Mej V Ramasamy graduated from the RMC in 1967 and was commissioned into the Ordnance Corps. He has held various command and staff appointments of the Ordnance Corps at Brigade, Division and Ministry levels. He holds a Diploma of the Institute of Purchasing and Supply Management UK. He graduated from the Armed Forces Staff College in 1985. His current appointment is Staff Officer Systemic with Tim Analisa dan Penilaian, Dept of Army, Ministry of Defence.*



# WAR - AN ART, NOT A SCIENCE

By Mej Tommy Pereira



"The oversimplification of war into scientific definitions mislead commanders with the false security of tidy but irrelevant formulas"  
— Clausewitz

## • INTRODUCTION

It is amazing that while few, including the great strategists, challenge that war has a large element of uncertainty and that it is waged and decided by a host of human emotions, there however is a group who insist that war is a science and not an art. Some may say that it does not matter whether it is a science or an art so long as those responsible for war know how to prepare for it and conduct it.

However, if one is not sure what war is, how is one to prepare for it. More catastrophic is the fact that if one believes in wrong premises, then one's preparations, command, control, judgement and every related action will be misguided.

In the business of war those involved are already in a high risk category. The risks will be greater if we wage war in a misguided fashion.

Those involved in the preparations for war belong to a profession where true practical experience is only attainable when involved in actual war. Thus they have to rely on theoretical study to a large extent, supplemented by simulated exercises which usually have a large number of restrictions and are seldom close to actual war.

Dependent as we are on the theory of war in our preparations for war, it is imperative that we are clear in our minds as to what war is. Only then can we study it correctly.

## UNIVERSAL DEFINITIONS

In order to be able to discuss the issue, it is first proposed to examine accepted definitions of the key terms as given in the Concise Oxford Dictionary.

- **War.** This is defined as "strife usually between nations conducted by force".



- **Science.** This is defined as "knowledge, systematic and formulated knowledge".
- **Art.** This is defined as "skill, especially human skill as opposed to nature; ability in skillful execution as an object in itself; cunning."

---

#### DEFINITIONS BY PHILOSOPHERS

---

Although there are innumerable publications on all aspects of warfare from the days of Sun Tzu, it is difficult to find any, apart from Clausewitz, in which war has been defined before embarking on theorising on war or explaining how it should be conducted.

It appears<sup>1</sup> that most, including Baron Jomini, Van Bulow and Moltke, approached war by assuming it is a science and proceeded to expound their theories under that assumption. Maurice de Saxe<sup>2</sup> in his book, *Reveries*, opens by saying "Every Science has its rules and maxims except that of war where everything is enveloped by darkness". His book was thus an attempt to remove that darkness. However, it is to be noted that he has already assumed that war is another of the sciences from the outset. It is said<sup>3</sup> that "Saxe assumed that war, like nature, operates in accordance with fixed regularities, and once they were discovered they could be encapsulated in rules, principles and maxims. To follow these rules would result in victory, whereas to violate them would lead to defeat."

Even modern day strategies like Liddell Hart and Fuller believed that war could be waged by merely adhering to certain principles of war. Fuller was in fact the originator of the principles of war which most countries, including ours, follow. Liddell Hart<sup>4</sup>, a firm believer of the indirect approach, went to great lengths to use military history to prove his belief which was that victory will only go to those who practise the indirect approach.

Sun Tze<sup>5</sup> on the other hand even called his essays on war "The Art of War". Although Sun Tzu did not define war he nevertheless said that "War is a matter of vital importance to the state — it should be thoroughly studied". He also expounded on "On Supreme Excellence in the Art of War".

Although Sun Tzu called his essays "The Art of War" he was nevertheless preoccupied with the fundamentals and principles of war. He has, for example said "It is the rule in war, if our forces are ten to the enemy's one, to surround him; if five to one, to attack him; if twice as numerous, to divide our army into two". While it is accepted that this numerical values are not meant to be interpreted literally he nevertheless stated as a rule courses of action which, he claimed will guarantee success. In fact some of Sun Tzu's principles are accepted as valid to this day and are accepted universally.<sup>6</sup>

Clausewitz appears to be the only writer who defined war though there may be many who may not accept his definition. In Chapter One of his first book he said "War is thus an act of force to compel our enemy to do our will". He also says "No other human activity is so continuously or universally bound up with chance. And through the element of chance, guesswork and luck come to play a great part in war". No wonder he is disdainful of attempts to compartmentalize wars into principles or maxims.

---

#### SCIENCE

---

Science is a subject which gives us definitive knowledge. The very existence of nature can be scientifically explained. The theory of the atom is an explanation of the wonders of nature. An atom of hydrogen would have behaved in the same way a billion years ago as it does today and will continue to do so for a billion years to come. Two parts of hydrogen and one part of oxygen (H<sub>2</sub>O) will always produce water. Any deviation to the formula will not produce water. Nature therefore was, is and will always be precise in the sense that it obeys eternal laws.

It is also self defeating to say that some things are sciences but not complete sciences. There are also phrases such as "scientific art" and "artistic science". If there are universal definitions it is better for the sake of clarity in communications to apply terminologies with the best fit. If science demands preciseness and war cannot be described in precise terms then war is not a science.

---

#### WAR

---

The German Army Regulations 1936 says



"War is a free creative activity resting upon scientific foundations". Anything a human does will have scientific foundations. An artist while needing the indefinable element of talent and creativity will nevertheless need to know the science of paints, the science of geometry, the science of nature and a variety of other sciences. But the final product, his painting, cannot be scientifically predicted or judged.

The form of war is very largely determined by the character both individual and collective, of the people who wage it, by the instrument through which it is waged, the environment in which it is waged and the circumstances under which it is waged. Clausewitz says that each of the above represents such a tremendous variety and complexity as to render any attempt to establish universal "maxims" or "rules" according to which wars proceed and should be waged almost entirely without value.

War differs from nature in that whatever regularities that may exist in it are confined to the very lowest, in other words purely technical level. Their application must be to a suitable place and time. Very often victory is due to the absence of their application.

In nature or science, regularities are fixed and unchallengeable. The same cause will always produce the same effect wherein a single exception is sufficient to invalidate any scientific law. War is different. Although it does rest on certain regularities — a man struck by a given force at a given spot always dies and a tank that has run out of fuel always stops — it neither consists of these only nor always obeys the same ones.

If war is indeed a science the thousands of conflicts of mankind should by now give us sufficient scientific principles to ensure victory in every outing. Although we, like the Americans, the British and many others have adopted 10 Principles of War can we be assured of victory by merely adhering to them. If that were to be so the Americans would not have lost in Vietnam. The Burmese government would have defeated insurgency a long time ago and the Russians would have successfully annexed Afghanistan without any resistance.

## COMBAT POWER

Combat power the decider in battles, which in turn make up wars, consists of fire power, manoeuvre and morale. It is said that the side with the higher combat power should be victorious.<sup>7</sup> All resolutions in war games are based on this principle. It is agreed that high combat power is essential to victory but high combat power alone will not guarantee victory. There are a host of other forces that will come into play at the time of conflict and there have been many incidents in history where these factors negated superior combat power and victory went to the force with the inferior combat power.

Examining the elements of combat power, about the only one that has some degree of regularity or science about it is fire power. Even then it is limited to the characteristics and capabilities of the weapons and their ammunitions. However, while under a certain set of conditions every round fired by a battery of guns should cover the size of a football field, can we guarantee this every time a battery fires. If not even the computation of fire power cannot be termed scientific. It is at best based on the law of averages.

Manoeuvre, another element of combat power, is nowhere near a science. While drills and movements can be practiced their execution cannot be guaranteed to be in conformity with the practices. There is no scientific definition of manoeuvre.

Morale is the most vital element of combat power because it and only it will define the effectiveness of the employment of the available fire power and the execution of manoeuvre. No matter how great a preponderance of fire power that is available nor how well manoeuvres have been practiced, at the time of conflict the moral of the men operating the weapons and manoeuvring will decide the outcome. The North Vietnamese a primitive force in comparison to the French, the Americans and even the Chinese defeated all three of them within a space of less than 20 years. Can there be a scientific explanation to that. While many experts have said that the American people, and thus their forces, lacked the will there is no guarantee that with the will they would have won. The entire German nation and its forces were



fired by a tremendous will but they still came unstuck, again defying scientific explanation.

### STUDY OF HISTORY

Fuller<sup>8</sup> is on record as saying that "It is imperative to study war with the methods of science so that the conditions of the next conflicts might be accurately forecast". He even criticized Clausewitz's "On war" as "little more than a mass of notes, a cloud of flame and smoke. To describe war as a terrible and impassioned drama, to deny the science of war and then to theorize on war as an art was the language of pure military alchemy". Liddell Hart said in 1935 "There is doubtless a science of war but we are a long way from discovering it.

Clausewitz on the other hand maintained that theory should be study, not doctrine; its role was to guide the commander in his self study, not for him to emulate wholesale.

Military History offers us volumes upon volumes of accounts of warfare. However, is there any account of a conflict that is complete. Even if we were to put together all the accounts, from different sources, of the same conflict there is still no guarantee that a complete version can be drawn up. How then can one draw up a set of scientific principles and claim that they are logical and complete.

Military History is an indispensable source of knowledge for commanders at all levels. However, the approach to its study must be correct. The scientific approach which will spur its practitioners to attempt to wean out principles and examples to emulate will be futile.

War is not a science but an art which lends vein to creative talent. This creative talent can be honed by the study of military history as an educational tool, something that describes and attempts to analyse past conflicts. The objective of the study of military history should be to expand the commanders memory bank with a wider range of knowledge which in turn will enable a wider range of responses and more important, a quicker and more analytical problem solving and decision making process.

### THE VALIDITY OF ASSERTIONS

Liddell Hart claimed that many writers on war could not produce anything of value because the authors were unscientific (in the sense of not establishing enough regularities or of propounding wrong ones because of bias or inattention), however the truth is most of them were too scientific in their approach. It is no wonder that Fuller even became emotional in his criticism of Clausewitz as they were on two diametrically opposite approaches to the treatment of war.

Most authors tried to study war scientifically and thus from the onset were blind to what war really was and its purpose. Modern science abandoned the "what is" and the "what for" in favour of the "how".

Clausewitz explained his objections to a scientific system of warfare as follows:

- It aims at fixed values, but in war everything is uncertain and calculations have to be made with variable quantities.
- It directs the inquiry exclusively towards physical quantities whereas all military action is intertwined with psychological forces and effects.
- It only considers unilateral action, whereas war consists of a continuous interaction of opposites. These objections have at their core Clausewitz' perception of the pervasiveness of chance and interaction of opposites. He asserts that the uncertainty in war defies simplistic attempts to apply mathematical techniques.

War is made up of strategy, tactics and logistics. While scientific means can be employed in the computation, planning and execution of logistics it finally will again be dependent on a large variety of circumstances to ensure effectiveness.

Strategy and tactics cannot be approached by scientific means alone. There can be no strategic science or tactical science as there will be no basis for the formulation of scientific formulae for both. Principles of war are at best a checklist. It would be desirable to attain them. But a commander cannot expect success by merely comply-



ing with "principles of war". He should at all times have an inquiring mind which is ever ready to give rein to a creative ability to take advantage of opportunities offered. As Sun Tzu said "To lift an autumn hair is not sign of great strength — a clever fighter is one who not only wins but excels in winning with ease."

## CONCLUSION •

War is a result of possibilities, probabilities, good fortune and bad, in which rigorous logical deduction often get lost.<sup>9</sup>

War has within it many aspects that are scientific in nature and can be computed and forecasted accurately purely on their own. However, the whole activity of warfare, which is determined by human emotions all the time, cannot be a science. There can be no definite forecasts on the outcome of war because there can be no definite rules, regulations or formulas to define the conduct of war.

War is therefore an art which requires rigorous study of previous wars, together with the mastering of other related subjects, to educate commanders for future wars.

## FOOTNOTES

1. As stated by Martin Van Creveld in "The Eternal Clausewitz".
2. Ibid.
3. Ibid.
4. See "The Decisive Wars of History" by Liddell Hart.
5. See "The Wisdom of Sun Tzu", by Colonel Arthur F. Lykke, Jr.
6. See "The Introduction of the Study of Military History in the Malaysian Army" Sorotan Darat Number 11.
7. See "Tempur Pertama"
8. See "Foundation of the Science of War" J.F.C. Fuller, pp 20 — 21.
9. Sir Julian Corbett as quoted by B.M. Simpson on "The Essential Clausewitz".



*Mejar Tommy Pereira was commissioned from Royal Military Academy Sandhurst, U.K. in December 1970, into the Regiment of Engineers. He has served all levels of command in a field squadron. He has also served the Engineer Branch in the Department of Army, Headquarters Malaysian Engineer, 1 Division and 2 Division and the Army Engineer School Kluang.*

*Currently Mej Tommy is attached to the Royal Military College, Sg Besi.*





# HUBUNGKAIT ANTARA PERTAHANAN DENGAN KETAHANAN NASIONAL

— masalah dan cabaran kepada Malaysia  
menghadapi ancaman luar

— Mej (B) Sabtu Jasin

## • BIDANG KUASA PERTAHANAN

Jadual Kesembilan Perlembagaan Malaysia memperuntukkan bahawa Pertahanan bagi Persekutuan (Malaysia) atau bagi mana-mana bahagiannya termasuk:

- a. Angkatan laut, darat dan udara dan lain-lain angkatan tentera;
- b. Mana-mana angkatan tentera yang bertugas atau menjalankan gerakan bersama dengan mana-mana angkatan tentera Persekutuan; angkatan tentera pelawat;
- c. Kerja pertahanan, kawasan-kawasan tentera dan kawasan-kawasan larangan; pangkalan-pangkalan bagi angkatan laut, darat dan udara; berek; padang terbang dan lain-lain kerja;
- d. Manuver;
- e. Peperangan dan keamanan; musuh dari

bangsa asing dan orang negara musuh; harta musuh; perdagangan dengan musuh; kerosakan perang; insuran bahaya perang;

- f. Senjata, senjatapi, ubat bedil dan letupan;
- g. Perkhidmatan negara; dan
- h. Pertahanan Awam.

Berdasarkan kepada peruntukan perlembagaan nyata sekali bahawa bidang tugas dan tanggungjawab pertahanan merangkumi aspek-aspek yang menyeluruh bagi menghadapi ancaman luar. Oleh kerana keadaan keselamatan negara dalam jangkamasa hampir dua dekad yang lampau agak tenteram, maka komponen a hingga f sahaja yang kerap tertonjol manakala aspek g dan h adalah kurang ketara.

Tajuk pertahanan dan ketahanan nasional tidak mungkin dapat diolah secara lengkap tanpa menunjukkan hubungkait antara pertahanan



dengan ketahanan nasional. Kedua-dua konsep mempunyai hubungan seperti isi dengan kuku. Oleh itu adalah mustahil satu-satu olahan mengenai pertahanan dan ketahanan nasional dapat memberikan gambaran yang realistik seandainya kedua-dua konsep ini tidak diambilkira sebagai satu entiti. Secara ringkas tetapi menyeluruh, ketahanan nasional dapat didefinisikan sebagai keupayaan sesebuah negara menghadapi cabaran-cabaran yang boleh menggugat keselamatan dan kedaulatan sesebuah negara.

Keupayaan ini menjadi pelengkap kepada keupayaan pasukan pertahanan. Ianya merangkumi aspek ekonomi, sosial, politik dan akhir sekali faktor penentu kepada timbul tenggelamnya sesebuah negara iaitu kesediaan setiap warganegara melibatkan diri dalam pertahanan apabila kedaulatan negara terancam. Konsep ini mirip kepada konsep pertahanan total kerana ianya merangkumi aspek ketenteraan, psikologi, ekonomi dan pertahanan awam.

Untuk membolehkan kita menilai kemampuan dan kesanggupan negara menghadapi ancaman keselamatan yang datang dari luar maka wajarlah diletakkan Malaysia dalam persekitaran strategik peringkat global dan juga peringkat serantau. Dengan cara ini mudahlah dinilai penting tidaknya Malaysia dari kaca mata dunia luar. Paling kurang kefahaman asas ini memudahkan kita untuk mengenalpasti potensi musuh jika ada apabila dinilai dari tiga jangka masa:

- Jangkamasa pendek — kurang dari lima tahun
- Jangkasama sederhana — melebihi lima tahun.
- Jangkamasa panjang melebihi sepuluh tahun.

#### KEDUDUKAN MALAYSIA DALAM PERSEKITARAN GLOBAL

Dari segi saiz Malaysia merupakan salah sebuah daripada negara terkecil jika dibandingkan dengan saiz negara-negara lain di peringkat global. Oleh itu Malaysia tidak mungkin boleh muncul sebagai salah sebuah daripada kuasa besar ataupun kuasa sederhana besar. Apa yang mungkin ialah Malaysia mempunyai potensi untuk muncul sebagai satu kuasa kecil yang lebih penting dari lain-lain kuasa kecil di muka bumi ini.

Potensi ini boleh menimbulkan kebimbangan lebih-lebih lagi apabila dikaitkan dengan kedudukan Malaysia sebagai satu unit geopolitik di rantau Asia Tenggara. Malaysia dari segi geografi terletak di persimpangan antara timur dengan barat. Selat Melaka yang memisahkan Malaysia dengan Indonesia memang telah lama menjadi laluan perairan terpenting antara Asia Timur dengan Asia Barat. Di samping itu Selat Melaka juga berperanan sebagai sumber rezeki kepada ribuan para nelayan yang tinggal di sepanjang pantai Malaysia Indonesia.

Menyedari dua peranan tradisional ini, ada tiga faktor yang membimbangkan kita. Pertama, menerusi proses pemendapan Selat Melaka kian hari kian cetek. Kedua, perairan penting ini kian hari kian sempit apabila diambilkira saiz dan bilangan kapal-kapal yang menggunakannya. Ketiga, dua kuasa besar dunia yang berseteru iaitu Amerika Syarikat dan Soviet Union semakin kerap menggunakan perairan Selat Melaka.

Persoalannya apakah ketiga-tiga faktor ini wajar dibimbangi. Pada hemat saya ketiga-tiga faktor ini tidak harus dipandang ringan kerana jika ditakdirkan berlaku kemalangan di laut maka sudah pasti pencemaran akan berlaku. Seandainya kemalangan itu melibatkan kapal-kapal tangki yang membawa minyak mentah ianya tidak boleh tidak akan menggugat sumber rezeki ribuan nelayan-nelayan kita.

Satu hal lagi yang membimbangkan kita berpunca dari persaingan hebat dua kuasa besar dunia iaitu Amerika Syarikat dan Soviet Union. Kedua-dua kuasa besar ini kian hari kian kerap menggunakan perairan Selat Melaka. Mereka juga tidak mengiktiraf tuntutan Malaysia — Indonesia hendak menjadikan selat Melaka sebagai perairan nasional. Selaku salah sebuah daripada negara terkecil dalam persekitaran global maka Malaysia tidak mampu dan tidak berupaya hendak menghalang apatah lagi hendak mengusir mereka dari perairan kita.

Memang tidak dapat dinafikan bahawa kehadiran mereka tidak bertujuan hendak mengancam keselamatan kita. Sebaliknya mereka hanya berhasrat hendak mengekalkanimbangan strategik dalam persekitaran global. Walau apa pun tujuan mereka, kita perlu khuatir kerana jika ditakdirkan gajah sama gajah berjuang di rantau ini, maka



Malaysia bersama-sama dengan lain-lain negara ASEAN selaku pelanduk, akan mati di tengah-tengah.

Selain daripada AS dan USSR selaku dua kuasa besar yang telah lama lalu lalang di rantau ini, kita juga berdepan dengan Republik Rakyat China (RRC) dan Jepun. Kedua-dua negara ini mempunyai kepentingan strategik di rantau ASEAN. Jepun selaku kuasa ekonomi dunia, memang telah lama bergantung kepada negara-negara di rantau ASEAN bagi tujuan mendapatkan bahan-bahan mentah dan juga untuk kemudahan laluan. Sementara itu RRC pula sedang giat melaksanakan program permodenannya. Seandainya program ini mencapai kejayaan, besar kemungkinan RRC juga akan bergantung harap kepada negara-negara rantau ASEAN bagi tujuan yang sama dengan negara Jepun.

Memandangkan kepentingan Jepun dan RRC di rantau ini kian meningkat potensi ancaman yang akan mereka bawa ke rantau ini agak membimbangkan. Malaysia sewajarnya berasa sangsi terhadap RRC kerana negara itu terus kekal dengan pendiriannya terhadap dua perkara pokok:

- Pertindihan tuntutan hak di Laut Cina Selatan
- Sokongan yang berterusan Parti Komunis Cina terhadap perjuangan Parti Komunis Malaya.

#### KEDUDUKAN MALAYSIA\* DALAM PERSEKITARAN SERANTAU

Rantau Asia Tenggara masakinī, terbahagi kepada tiga komponen strategik:

- ASEAN
- Negara-negara Indochina
- Burma

Jika dilihat rantau Asia Tenggara dalam konteks tiga komponen Strategik ini, maka ASEAN tidak perlu bimbang. Secara perbandingan ASEAN mengatasi lain-lain komponen dalam semua aspek fakta-fakta strategik. Fakta-fakta ini adalah:

- Dari segi keluasan 74.8% daripada keluasan Asia Tenggara terletak di ASEAN. Cuma 13.2% terletak di Indo-China dan 11.9% di Burma.

b. Dari segi keramaian penduduk 72% daripada penduduk Asia Tenggara tinggal di ASEAN, 17.9% di Indonesia, dan 9.9% di Burma.

c. Dari segi keluaran negara kasar (KNK) 93% daripada KNK Asia Tenggara terdapat di ASEAN, berbanding dengan 4.5% di Indochina dan 2.5% di Burma.

d. Dari segi pendapatan perkapita, (PPK) negara-negara ASEAN adalah jauh lebih tinggi jika dibandingkan dengan PPK negara-negara Indochina dan Burma.

e. Dari Segi Ketenteraan 34.5% daripada anggota tentera di Tenggara Asia terdapat di ASEAN, 57.52% di Indochina dan 7.9% di Burma (Sumber: ISIS. *The Military Balance 1984-85*).

Berdasarkan kepada perbandingan di atas nyata sekali bahawa ASEAN sebagai satu kelompok strategik mengatasi negara-negara Indochina dan Burma dalam semua aspek perkiraan kecuali tentera. Sebagaimana yang telah diterangkan kekuatan tentera sahaja tidak bermakna tanpa ketahanan nasional. Apabila dianalisis kedudukan Malaysia dalam persekitaran ASEAN maka secara perbandingan Malaysia menduduki tempat keempat dari segi saiz dan keramaian penduduk. Dari segi pendapatan per kapita (PPK) pula Malaysia menikmati PPK yang lebih tinggi jika dibandingkan dengan Indonesia, Thailand dan Filipina. Dari sini dapat dirumuskan bahawa antara negara di rantau ASEAN bagi tujuan mendapatkan dan lebih menarik kepada bakal seteru jika mereka berhasrat hendak mengancam kepentingan kita.

#### MENGENALPASTI BAKAL SETERU

Isu yang menjadi persoalan ialah, apakah Malaysia dapat mengenalpasti, siapa gerangnya bakal seteru yang boleh menggugat keamanan dan kedaulatannya sebagai sebuah negara. Pada hemat saya jika diletakkan persoalan ini dalam perspektif jangka pendek sehingga menjangkau tahun 1990, Malaysia tidak perlu bimbang. Setakat yang boleh diperhitungkan tidak wujud ancaman nyata dari mana-mana negara pun baik dalam konteks global maupun dalam konteks serantau.



Sebaliknya jika diperhitungkan dari perspektif jangka sederhana dan jangka panjang maka semua negara kuasa besar yang mempunyai kepentingan di rantau ini perlu dicurigai. Negara-negara yang wajar dicurigai termasuklah AS, USSR, RRC dan Jepun. Keempat-empat kuasa ini boleh menjejaskan kepentingan Malaysia baik secara langsung maupun secara tidak langsung. Negara-negara ini boleh mengancam kita secara tidak langsung dengan cara menjejaskan kepentingan ekonomi negara. Sementara itu mereka boleh mengancam secara langsung kerana mereka mempunyai kekuatan tentera yang di luar kemampuan kita hendak menyaingi mereka jika timbul satu-satu krisis.

### LANGKAH-LANGKAH KESELAMATAN

Selepas mengenalpasti bakal seteru, timbul persoalan, apakah tindakan yang perlu diambil untuk menghadapi ancaman masa depan? Sebagai sebuah negara kecil Malaysia perlu mengukur baju di badan sendiri. Atas rasional inilah maka kerajaan Malaysia telah membentuk Angkatan Tentera Malaysia (ATM). Sebagai ekornya boleh dipersoalkan untuk apa ATM itu dibentuk? Jika jawapannya untuk menjadi benteng pertahanan di barisan hadapan maka perlu pula dipersoalkan pertahanan untuk menentang siapa? Persoalan terakhir ini adalah penting kerana ianya menjadi garis panduan dalam menentukan saiz, bentuk, peralatan dan penempatan ATM.

Sebagai sebuah negara kecil yang buat masa ini terkecuali dari ancaman nyata, Malaysia menghadapi dilema dalam menentukan saiz ATM supaya pembiayaannya tidak membebankan ekonomi negara. Negara perlu mencari imbalan di antara perbelanjaan pertahanan dengan kemampuan ekonomi. Imbalan ini adalah salah satu daripada prasyarat ke arah kestabilan jangka panjang.

Negara akan pincang jika keseimbangan ini tidak tercapai. Perancang pertahanan harus peka bahawa pendapatan negara yang terhad perlu diagihkan secara seimbang supaya semua aspek pertumbuhan yang menjadi komponen ketahanan nasional mendapat perhatian yang saksama. Tidak ada faedahnya negara membentuk satu pasukan pertahanan yang sangat kuat tanpa mengukuhkan benteng pertahanan di barisan kedua, ketiga dan seterusnya.

Selaras dengan keperluan semasa maka kerajaan Malaysia telah merestui penubuhan satu pasukan pertahanan yang terbahagi kepada tiga perkhidmatan: darat; laut dan udara. Pasukan pertahanan ini telah dibentuk dengan kekuatan yang terhad bagi menghadapi ancaman luar yang terhad.

Ini bererti pasukan pertahanan Malaysia bukannya dibentuk untuk menghadapi ancaman langsung dari mana-mana kuasa besar. Walau bagaimanapun besar sekali pun sumber negara yang diperuntukkan bagi tujuan pertahanan Malaysia tidak mungkin berupaya menentang ancaman dari mana-mana kuasa besar. Ini merupakan hakikat yang tidak dapat dinafikan. Seperkara lagi yang perlu disedari adalah kenyataan bahawa kos menubuh dan menyelenggarakan satu-satu pasukan pertahanan masakini, adalah tersangat tinggi. Perhitungan yang wajar diambil kira adalah pilihan antara dua keinginan.

Pilihan pertama ialah keinginan hendak memiliki satu pasukan pertahanan yang besar tetapi tidak lengkap serta tidak kemas. Manakala pilihan kedua pula merupakan keinginan hendak memiliki satu pasukan pertahanan yang kecil tetapi lengkap dan kemas. Bagi negara kecil seperti Malaysia kita hendaklah pada setiap masa menitikberatkan pilihan kedua.

### PERANAN PERANCANG PERTAHANAN

Memang menjadi lumrah alam bahawa setiap perancang pertahanan akan cuba merancang satu organisasi pertahanan yang unggul. Dalam kehairahan hendak mewujudkan keunggulan kadangkala wujud persaingan yang kurang sihat sesama sendiri.

Tidak mustahil ujud keadaan yang mendakwa perkhidmatan tentera darat adalah lebih penting dari perkhidmatan laut dan udara ataupun dakwaan yang sebaliknya. Persaingan seumpama ini sangat ketara di kalangan negara-negara kuasa besar. Kesilapan seumpama ini sepatutnya tidak menjadi ikutan perancang-perancang pertahanan negara-negara kecil.

Adalah penting bagi perancangan pertahanan di negara-negara kecil untuk mengimbangi antara keunggulan dengan realiti. Ini bererti konsep



deteren yang diamalkan itu hendaklah berbentuk simbolik dan bukannya satu keupayaan hakiki. Dalam konteks ini pasukan pertahanan yang dibentuk itu merupakan satu lambang untuk mengingatkan kepada seteru kita bahawa Malaysia tidak rela kepentingannya dicerobohi. Jika dicerobohi maka mereka akan ditentang dengan kekuatan tentera sebagai lambang bahawa kita tidak rela dicerobohi.

Jika penceroboh fahami makna yang tersirat di sebalik lambang ini maka mereka akan berfikir panjang sebelum bertindak. Deteren yang berkesan bagi negara-negara kecil tidak terletak kepada kekuatan angkatan tentera semata-mata te-

tapi lebih penting adalah deteren yang tersirat di sebalik ketahanan nasional.

---

#### PENUTUP •

---

Malaysia sebagai salah sebuah daripada negara kecil berhak mempertahankan kedaulatan dan kemerdekaannya. Hak ini perlu dikekalkan. Untuk mengekalkan hak ini perlu ada keseimbangan antara pertahanan dengan ketahanan nasional. Mungkin kita akan terus mencari-cari formula keseimbangan buat beberapa ketika yang akan datang. Walau apa pun formula yang digunakan Malaysia tidak boleh lari dari hakikat ukur baju di badan sendiri. □



*Meja (B) Sabtu B Jasin telah mencebur diri ke dalam Kor Perkhidmatan Am (Pelajaran) pada Tahun 1974. Meja Sabtu, seorang graduan Maktab Perguruan Bahasa, Universiti Malaya dan Universiti Aberdeen telah juga mengikuti kursus keselamatan di Universiti Kiel pada Tahun 1986. Selain berkhidmat selaku Pegawai Pelajaran Tentera beliau juga telah berkhidmat di ISIS (Institut Strategik dan Kajian Antarabangsa) dari Tahun 1984 hinggalah beliau berhenti dari Angkatan Tentera pada Tahun 1987.*



# ARMS TRANSFER IN THE INTERNATIONAL ARENA



By  
Lt Kol Hj Abu Zahrin

## • GENERAL

**T**he transfer of arms and military technology operates at the interface of the international and national systems which influence development and security environment. Governments of both developed and developing countries play an important role in promoting the sales and the purchase of arms and military technology for political and strategic considerations. The changing geostrategic environments, such as the increasing significance of the maritime areas and the fundamental shifts in the balance of world resources, is a driving force behind the modification of major weapon systems. With the dynamic force of potential suppliers, the geopolitical situation that prevails, the active role of the recipient governments, all amount to the creation of the dynamics of arms race, and to curb arms transactions to crisis areas would be unacceptable to all concerned.

In Socialist countries, the political motive behind arms transfer are more dominant than the

economic considerations. Because of the planned economy, the emphasis is more on the achievement of political and military objectives. Nevertheless the impact of economic factors of the Soviet Union policy of arms transfer cannot be entirely dismissed, because there is evidence that both the production strategy of the military hardware and certain characteristics of the five-years plan tend to influence the allocation of arms deliveries abroad. Soviet capacity to transfer arms is relative to her foreign policy objectives. In a capitalist country the situation is different because of the more complicated character of the production systems and of the relationship between the economics, politics, and military subsystems of the society. The economic urge to export is much more dominant in a capitalist society. The arms manufacturers are determined to further export their product in order to alleviate the economic crisis existing at the present moment. However, arms transfers of Western powers are not solely determined by the economic consideration, the political and military motives play a fairly conspi-



cuous role. The economic factors lead to a general need to export, while political and military criteria are then in most cases, applied to determine the orientation of exports.

The provision of arms to the oil-rich countries has been no doubt partly encouraged by the willingness to guarantee the continued flow of oil to Western Europe and the United States. The arms export also played a significant part in the so-called recycling of the petro-dollars which enabled the western countries to preserve their dominance in the international financial and monetary system.

### CONFLICT FORMATION – THROUGH ARMS TRANSFER

While massive arms transfers are seldom the primary cause of regional conflict, their availability may easily lead countries to be involved with such a situation. The case of Iraq war on Iran was typical at the time when Iran was confronted with internal, political, economic, social and cultural maladjustments. The supply of arms also intensifies local conflict whether real or perceived. This is often closely related, partly through the balance of power consideration and the intensity of foreign competition in a particular region. These external determinants, together with the domestic political needs and the technological capacity to absorb modern weapon systems determine almost entirely the amount, the quality and the rhythm of the weapon supply to the Third World countries.

Arms transfers are almost invariably a means of influencing the condition of the local conflicts and extracting cooperation from the recipients of arms. The United States and the Soviet Union have tried, for more than a decade, to support their allies, old and new, to prevent the other side from achieving supremacy. This balancing, which naturally has a complicated political background, has been made more involved by the intra-Western competition between United Kingdom, France and the United States, especially during these Afghanistan/Russian and Iraq/Iran conflicts.

The policy of arms suppliers to support military of otherwise certain powers in the conflict region, such as the US military aid to Thailand, do not necessarily result in a local balance.

The military power of the Vietnamese far exceeds the powers of ASEAN combined together. Military expenditures, arms transfers and the development of the nuclear weapons capability for instance, are thought to have a demonstrative effect which will be manifested by various patterns of imitations. This sort of computation easily aggravates regional tension and leads to a vicious cycle in the arms race.

### ARMS TRANSFER AND STRATEGIC CONSIDERATIONS

That the recent level of arms transfer has been comparatively high is indisputable; and how far arms production develops its own momentum leading to a world-wide arms race and general global instability and insecurity is hard to assess. A certain level of armament may be necessary to maintain national security and to establish a local balance.

The motives of arms transfer are many. Some, but few transactions can be classified as purely commercial. Many are seen as enhancing either the security or the political influence of the producing countries. The recipients of arms regard arms acquisition as tools for liberation movement, such as in the case of South Africa. Frequently, the objectives of the vendor and the purchasers have been at odds: the Pakistani purchasers of arms from the United States were not perceived by the Americans as intended for use against India, and in Indonesia, Russian equipment was, in the end used against the communist forces, Partai Komunis Indonesia (PKI).

The escalation of arms transfer to the Third World is a general global phenomena, as part of the industrialised developed countries' strategy to market their products; irrespective of whether they contribute to further the instability and insecurity of the region concerned. But the main forces behind such ventures are political and strategic in nature, as part of a plan to expand the sphere of influence, thus maintaining the necessary political and economic leverage. However, disorder and conflict cannot be attributed wholly to the acquisition of arms. The politics of the use of arms in conflict and the ability to utilise arms in crisis management for a certain political objective are the deciding factors in many cases.



---

**CONCLUSION●**

---

Any Armed Forces of any sovereign nation have the means to determine the types and patterns of arms technology that are required to defend their national interest. What is most important is the ability to judge the wisdom between the purchase of unproven battle worthiness military hardware, as against the purchase of the appropriate weapon systems suitable to the type of warfare and doctrine that will be applied in the combat zone. The politics of arms purchasing

cannot overrule the true spirit of fighting the bloody war by all the members of the Armed Forces in general.

The nation and the general public have to bear the consequences of the decision taken on this very basic military requirement, when they are actually tested in war. The ultimatum will be either victory or defeat. Arms technology and the arts and sciences of war are one of the important criterias of determining the result. □



*Lt Kol Hj Abu Zahrin B Hj Abu Bakar telah ditauliahkan ke dalam Rejimen Askar Melayu Diraja pada tahun 1964. Beliau berkelulusan Sarjana Sains Politik dan Pengurusan dari Universiti Lancaster, England. Beliau jua adalah lepasan Maktab Turus Angkatan Tentera dan kini beliau menjawat jawatan Pegawai Staf, Bahagian Tadbir Markas 1 Divisyen.*