

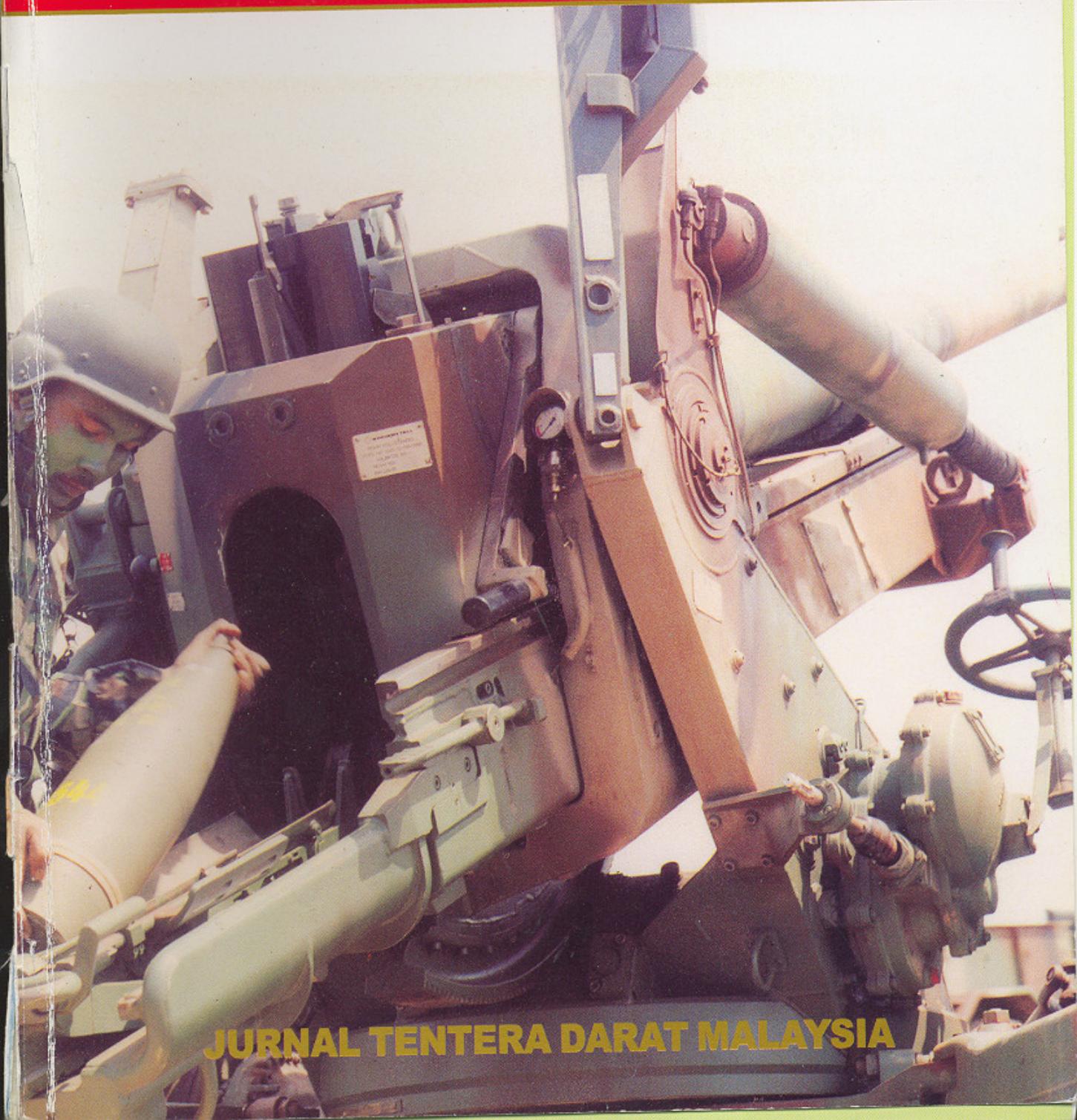
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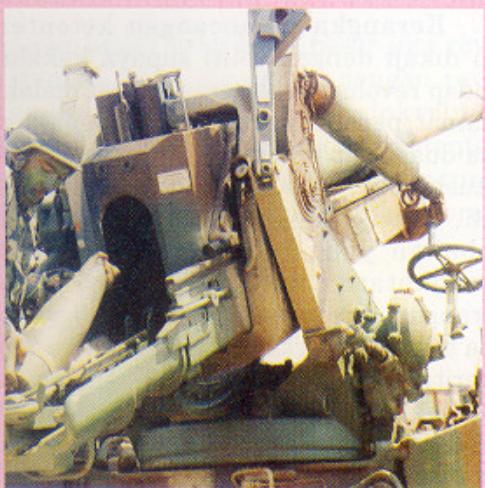
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Sememangnya ATM masih ketinggalan dalam satu dua aspek khususnya berkaitan pencapaian revolusi teknologi ketenteraan yang menuju ke era 'digital soldiers', namun itu bukan cerminan sebenar kepada keupayaan angkatan tentera negara¹.

*Jen Tan Sri Mohd Zahidi Zainuddin
Panglima Angkatan Tentera*

PENDAHULUAN


orak peperangan masa kini tiada jauh bezanya daripada apa yang dilakukan oleh Napoleon Bonaparte. Napoleon telah menggunakan kekuatan kombinasi sosial, teknologi dan politik mengubah ke arah revolusi teknologi ketenteraan terutama dari segi peranan ketenteraan dan juga corak pertempuran. Dengan kekuatan yang ada beliau telah berjaya menakluki hampir keseluruhan Eropah. Namun dalam era serba moden ini, cabaran yang kita hadapi sama seperti yang dihadapi oleh Napoleon iaitu mengambil kesempatan dalam pertempuran, agar ia memberi kebaikan dan tidak sebaliknya. Suasana anjakan paradigma revolusi yang

REVOLUSI TEKNOLOGI KETENTERAAN- *Menjurus Ke Arah Perancangan Ketenteraan*

Mej Ahmad bin Abdul Rahman

tertumpu kepada kemajuan sosial dan perubahan politik memberi nafas baru kepada organisasi dan teknologi ketenteraan. Perubahan-perubahan ini akan terus mengubah corak peperangan masa hadapan. Revolusi teknologi ketenteraan masa kini berkisar kepada revolusi maklumat, penderia (*sensor*) dan teknologi peperangan iaitu melancarkan serangan dengan cepat, tepat dan amat berkesan.

Secara amnya, revolusi teknologi ketenteraan ini berupaya menjuruskan kita kepada satu kerangka pemikiran bagaimana dan cara mana pertempuran masa depan serta dasar pertahanan sesebuah negara dapat dilaksanakan. Penulisan ini diharap dapat membentangkan bagaimana revolusi teknologi ketenteraan dapat menjana kerangka tersebut yang akan menjurus kepada perancangan ketenteraan.

REVOLUSI TEKNOLOGI TERHADAP KETENTERAAN

Dalam menangani perubahan-perubahan yang semakin pantas, sangat perlu

¹ Aziz Ishak, *Rakyat Tunggang Pertahanan Negara*, Mingguan Malaysia, 12 Sep 99, hal 9.

bagi kita bagi kita mengetahui dan mengkaji akan suasana peperangan dan politik sekeliling masa hadapan. Kajian mendalam terhadap cabaran-cabaran ini akan memberi kita persepsi awal terhadap tunggak kepada revolusi teknologi ketenteraan masa depan. Tunggak-tunggak tersebut ialah Dominasi Maklumat, Sinergi, "Disengaged Combat" dan "Civilianization." Setiap tunggak ini mempunyai hubung kait antara satu dengan lain yang memberi kesan kepada revolusi peperangan masa depan.

Apa yang perlu diperkatakan di sini, adakah revolusi ini akan merupakan revolusi teknologi ketenteraan terhadap pertempuran, persenjataan, doktrin atau penstrukturran? Jawapannya mudah. Teknologi ketenteraan terhadap pertempuran, persenjataan, doktrin atau penstrukturran saling berhubung kait antara satu dengan lain. Corak dan strategi semasa peperangan sentiasa berubah-ubah mengikut peredaran masa. Peperangan konvensional atau pertempuran rapat telah bertukar kepada pertempuran gerila, peperangan pasukan bersenjata tidak tetap, keganasan, konflik "non-state" serta peperangan maklumat. Peperangan masa kini bukan lagi pertempuran secara berdepan di sesuatu medan pertempuran. Pertempuran masa kini melibatkan serangan yang cepat, tepat dan berkesan ke atas sasaran-sasaran awam dan tentera untuk mendapatkan kesan yang tinggi terhadap strategi musuh. Perubahan corak peperangan ini merupakan revolusi yang kedua dalam bentuk persenjataan, doktrin dan juga penstrukturran yang dimiliki. Apabila kedua-dua revolusi tersebut menjadi sehaluan, teknologi peperangan maklumat boleh menukar corak pertempuran. Jika sebaliknya, tentera yang mempunyai pasukan perisikan yang terkini pun akan gagal melaksanakan operasi di dalam peperangan gerila.

"Keselamatan negara
bukan menjadi
tanggungjawab ATM
semata-mata, sebaliknya
ia harus dipikul bersama
oleh segenap lapisan
rakyat dan seluruh
organisasi dengan
menjayakan secara
komponen-komponen
ekonomi, pendidikan
sosial, kestabilan politik,
penguasaan teknologi
dan ketenteraan"

Kerangka perancangan ketenteraan perlu dikaji dengan teliti supaya kekaburuan terhadap revolusi ketenteraan dapat dielakkan. Matlamat perancangan ialah mengenal pasti kedua-dua tahap revolusi serta merancang satu institusi yang dapat mencakupi kedua-duanya sekali. Politik dunia sentiasa berubah; satu perubahan yang boleh membawa kepada persengketaan dan seterusnya kepada peperangan. Peperangan yang menggunakan segala teknologi terkini akan membawa kepada penderitaan dan kemusnahan. Adalah sukar bagi sebuah negara membuat sebarang ramalan terhadap musuh ataupun persengketaan yang akan dihadapi. Martin Van

Crewel dalam analisisnya menyatakan bahawa peperangan masa depan boleh dirangkum kepada hanya satu cara peperangan sahaja. John Muellar pula menyatakan bahawa peperangan secara besar-besaran adalah mustahil kerana faktor-faktor kebudayaan dan dunia kini telah menuju ke arah era geo-ekonomi. Keadaan dan suasana perhubungan antarabangsa serta corak peperangan masa kini amat menyukarkan para perancang ketenteraan untuk membuat perancangan terhadap doktrin, kekuatan, struktur, organisasi, peralatan dan persenjataan yang dapat memberi keupayaan kepada ketenteraan dalam setiap

corak peperangan. Tunggak-tunggak yang dibentangkan kelak akan cuba memberi garis panduan kepada kerangka perancangan ketenteraan.

TUNGGAK-TUNGGAK REVOLUSI TEKNOLOGI KETENTERAAN

Revolusi teknologi terutamanya terhadap peralatan dan persenjataan telah memberi kesan yang besar kepada ketenteraan. Secara keseluruhan evolusi revolusi ini akan

membawa kesan yang lebih besar jika revolusi ketenteraan dapat disatukan dengan revolusi pertempuran, persenjataan, doktrin atau penstrukturran. Revolusi teknologi ketenteraan ini adalah diasaskan kepada tunggak-tunggak berikut yang akan menjurus kepada kerangka perancangan ketenteraan.

DOMINASI MAKLUMAT

Maklumat merupakan faktor utama yang menentukan hala tuju strategi dan keputusan peperangan masa kini. Dalam era revolusi teknologi maklumat masa kini, maklumat dapat disalurkan dengan cepat, tepat dan berkesan kepada semua pasukan. Sesuatu misi itu sesungguhnya tidak akan berkesan sepenuhnya tanpa maklumat. Mengetahui lokasi musuh dengan tepat misalnya, adalah asas kepada sebarang perancangan dan tindakan ketenteraan terutama dengan adanya teknologi peluru yang dapat diarahkan ke sasaran dengan tepat. Peperangan masa kini semakin canggih dengan persenjataan dan peralatan yang berteknologi tinggi, penyaluran dan penerimaan maklumat terkini mudah diperolehi serta dengan darjah keselamatan yang tinggi, disamping wujudnya suasana serta sistem pemerintahan dan kawalan yang bersistematis. Untuk mencapai tahap ketenteraan yang sedemikian, tentera haruslah bersikap '**dominasi maklumat**' iaitu sentiasa mendapatkan maklumat kepada pasukan sahabat dan mengelakkannya daripada pihak musuh.

Maka bagi melaksanakan peperangan dalam era teknologi maklumat, perkara utama yang diperlukan ialah mewujudkan doktrin untuk '**peperangan maklumat**'. Kita mestilah mempunyai kefahaman yang tinggi bagaimana caranya maklumat dapat digunakan dalam peperangan dan bagaimana pula cara pengendaliannya yang paling berkesan. Doktrin ini perlulah menitik beratkan kepada strategi mendapat dan menyalurkan maklumat kepada pasukan sahabat dan mengelakkannya daripada jatuh pihak musuh.

Doktrin tersebut juga mestilah menekankan kepada perancangan untuk mengatasi, memintas serta membolosi ke dalam sistem maklumat tertinggi musuh seperti mana yang dilakukan dengan jayanya oleh tentera Amerika Syarikat semasa Peperangan Teluk. Namun begitu dominasi maklumat sebenarnya bukanlah hanya ditumpukan terhadap pasukan tentera sahaja; ia melibatkan beberapa sektor lain kerana seperti kata-kata Clausewitz, '*peperangan kini melibatkan operasi meluas dan serentak terhadap sasaran-sasaran tentera dan awam.*'²

Bagi memenuhi keperluan-keperluan di atas, doktrin peperangan maklumat hendaklah berupaya menangani beberapa isu seperti berikut:

* **Sistem Hierarki.** Sektor awam dalam mengamalkan '*Pengurusan Kualiti Menyeluruh*' (TQM) telah mengenal pasti akan saluran pemerintahan dengan melepaskan saluran-saluran yang tidak memberi kesan agar segala keputusan dapat dibuat dengan lancar. Sistem tersebut diakui amat berkesan jika diperaktikkan dalam organisasi tentera. Dengan "*powering down*" iaitu memberi kuasa yang terhad kepada setiap saluran pemerintahan, banyak masalah dapat diselesaikan dan dengan ini segala strategi dan misi dapat berjalan lebih lancar. Sistem hierarki juga amat berkesan terhadap pemerintahan dan kawalan. Kelancaran sistem maklumat membolehkan keputusan yang penting diperolehi dengan cepat dari pemerintahan formasi atasan.

* **Perisikan.** Maklumat tentang tujuan strategik atau kedudukan musuh lazimnya diperolehi oleh unit perisikan. Maklumat tersebut dikaji dan dianalisis sebelum dihantar semula ke unit-unit tempur hadapan. Semua ini akan

² Parkinson Roger, *Clausewitz, a Biography*, Wayland Publisher, London 1970, hal 127.

memakan masa yang lama dan kadangkala kesahihannya diragui. Contohnya seperti apa yang berlaku kepada Iraq ketika Peperangan Teluk. Prosesnya sahaja ada yang memakan masa sehingga 48 jam. Tentera masa kini memerlukan maklumat musuh yang paling terkini dan terbaru. Maklumat-maklumat ini akan dianalisis secara bersepada dan disalurkan kepada pasukan dengan seberapa segera berdasarkan strategi dan misi peperangan. Pegawai perisikan akan berperanan dengan lebih bersepada dalam peperangan yang berteknologi tinggi.

* **Media.** Doktrin peperangan maklumat akan berhadapan dengan isu-isu yang berkaitan dengan demokrasi dan kebebasan media. Era revolusi teknologi maklumat kini sedang membangun dengan pesat di bahagian tersebut. Stesen televisyen kelak akan mempunyai satelit sendiri dan pemberita-pemberita dengan kamera mudah alih mereka yang canggih bergerak di kawasan pertempuran untuk mencari berita. Kerajaan akan terpaksa mencari jalan untuk mengatasinya. Agensi ketenteraan yang paling ideal menangani perkara yang sedemikian adalah Bahagian Perhubungan Raya.

* **Perbezaan Doktrin.** Peperangan pasukan bersenjata tidak tetap memerlukan doktrin peperangan maklumat yang berbeza. Walau bagaimanapun pengawalan maklumat dalam peperangan gerila atau konflik intensiti rendah adalah sama penting dengan peperangan intensiti tinggi. Peperangan gerila pada asasnya adalah peperangan maklumat; di mana pemerolehan terhadap maklumat musuh dan kawalan terhadap polemik politik amat penting. Peperangan maklumat dalam persengketaan bukan konvensional bergantung kepada anggota perisikan, pasukan khusus dan penderia yang dapat mengesan kumpulan

gerila; berlainan sekali cara mendapatkan maklumat dalam peperangan konvensional.

* **Risiko.** Walaupun banyak perkara positif yang diperolehi dalam era teknologi maklumat, doktrin tersebut perlu juga mengambil kira perkara-perkara yang mempunyai risiko. Dengan pengumpulan maklumat yang terlampau banyak, kajian, analisis dan keputusan yang diperolehi ada kalanya akan melumpuhkan sistem komputer. Dalam Peperangan Teluk, tentera Amerika Syarikat telah mula kecoh dengan maklumat yang sama ada fakta atau perintahnya yang mengeliru dan mengecewakan. Dalam hal yang sedemikian fleksibiliti yang memberi kebebasan inisiatif kepada pemerintah sukar untuk dipraktikkan. Clausewitz berpendapat bahawa keadaan yang sedemikian adalah membahayakan. "*Things go wrong in war. Plans go awry, units fail to complete their assigned missions, commanders become confused*"³.

Perkara sedemikian boleh terjadi disebabkan oleh kecanggihan teknologi peralatan yang digunakan untuk membantu peperangan maklumat. Penggunaan satelit, komputer dan peralatan-peralatan lain yang sealiran dengannya adalah amat sensitif dan boleh dilumpuhkan oleh "hackers" dengan memasukkan virus elektronik. Alvin dan Heidi Toffler menyatakan bahawa "*pihak tentera masih belum dapat memonopoli teknologi komputer*"⁴. Pihak tentera haruslah menerima risiko ini dan mengambil tindak balas terhadap "*pendedahan maklumat*" yang sentiasa dilakukan oleh musuh melalui senjata anti-satelit, denyut elektro magnetik dan taktik gerila.

³ Parkinson Roger, Clausewitz, hal 135

⁴ Alvin and Heidi Toffler, War and Anti War, hal 149.

SINERGI

Sinergi merupakan keupayaan terhadap Perkhidmatan-Perkhidmatan, cawangan mahu pun senjata untuk berperang bersama-sama dengan berkesan; mengawal dan merangkum segala kebolehan bersama agar memberikan kesan yang lebih mendalam terhadap kebolehan sebenar individu. Keberkesanan revolusi teknologi ketenteraan akan teruji jika semua senjata yang digabungkan memberi kesan yang tinggi. Kecanggihan teknologi telah membuatkan sinergi satu kesan yang utama dalam revolusi teknologi ketenteraan.

Dengan kecanggihan peralatan dan persenjataan masa kini, kerjasama antara Perkhidmatan-Perkhidmatan merupakan kunci kejayaan. Kecanggihan dan ketepatan persenjataan misil berpandu tidak akan berguna tanpa data sasaran. Kapal terbang pengebom "Stealth" tidak akan setimpal dengan harganya jika bom yang digugurkan tidak menepati sasaran. Keupayaan pasukan untuk bergerak sepantas kilat sekalipun sama ada di daratan maupun di udara tidak dapat dipergunakan jika pusat sistem pemerintahan dan kawalan tidak dapat menangani kecanggihan tersebut. Sinergi mempunyai hubung kait dengan revolusi maklumat. Komunikasi pula adalah perhubungan sinergi di mana semua Perkhidmatan dapat bekerjasama sebagai satu unit. Sistem pemerintahan dan kawalan antara Perkhidmatan dapat meningkatkan lagi sinergi serta kesan teknologi peralatan dan persenjataan.

Konsep sinergi juga terdapat pada sifat-sifat pertempuran pasukan bersenjata tidak tetap. Peperangan tidak konvensional membabitkan kombinasi politik, ekonomi dan strategi elemen ketenteraan. Seperti mana yang terjadi di Vietnam, Sudan dan Somalia strategi ketenteraan sahaja tidak berupaya memenangi peperangan gerila tanpa wujudnya kombinasi-kombinasi lain seperti politik dan ekonomi.

"Peperangan boleh dimenangi tanpa pertempuran di medan peperangan. Taktik pergerakan, tipu muslihat dan serangan jarak jauh akan menjadi pilihan pemerintah ketenteraan daripada menyerang besar-besaran secara berhadapan"

Berdasarkan fakta-fakta di atas, tunggak sinergi memberi kesan yang men- dalam kepada perkara-perkara berikut:

* **K e b e r s a m a a n (*Jointness*)**. Sinergi akan meningkatkan persefahaman dan kerjasama keseluruhannya. Tentera perlu meningkatkan lagi tugas, institusi, latihan dan perbincangan bersama. Keperluan doktrin bersama dalam menghadapi evolusi amat diperlukan. Dengan kebolehan daya ubah tim kombat, semua Perkhidmatan merangkumi Darat, Laut dan Udara akan lebih bersatu pada masa hadapan. Latihan bersama

pada masa hadapan perlu diadakan selalu. Penubuhan markas pemerintahan tertinggi yang terdiri daripada Darat, Laut dan Udara akan dapat melaksanakan operasi dan latihan bersama secara berterusan.

* **Kerjasama Awam**. Apabila menjalankan tugas Pengaman Bangsa-Bangsa Bersatu atau tindak balas pemberontakan, sinergi antara politik, ekonomi, sosial dan faktor ketenteraan amat diperlukan. Koordinasi antara tentera dan negara, organisasi bantuan nasional, penganalisan politik dan kepakaran diperlukan. Latihan berterusan atau hubungan diadakan dengan organisasi lain perlu agar sinergi dapat diterapkan kepada semua anggota terutama dalam peperangan pasukan bersenjata tidak tetap.

Perancangan terhadap sinergi mestilah sealiran dengan pemerolehan tetapi tidak seharusnya pula kedua-duanya sama. Namun begitu semua Perkhidmatan mestilah bekerjasama dalam satu projek di bawah arahan pemerintahan program bersama yang sasaran utamanya ialah integrasi pemerintahan, kawalan dan sistem komunikasi.

"DISENGAGED COMBAT"

Pertempuran masa hadapan dilihat sebagai "*disengaged combat*" kerana operasi-operasi dilancarkan dari lokasi yang jauh dari kedudukan musuh. Pertempuran sedemikian akan mengakibatkan implikasi terhadap struktur dan teknologi ketenteraan. Kebanyakan negara masih lagi mempraktikkan strategi pertempuran secara rapat yang mana tentera akan menghadapi tembakan langsung musuh dan mempunyai risiko kecederaan yang amat tinggi. Sejarah-sejarah pertempuran sedemikian telah banyak kita pelajari dari negara-negara yang agresif seperti Korea Utara, Iraq, Iran dan banyak lagi, yang mana strategi serangan mengharapkan ketumbukan armor dan artileri beroperasi secara berdepan atau rapat dengan menggunakan tembakan secara langsung dan tidak langsung bertujuan untuk melemahkan musuh.

Senjata-senjata nuklear dan kimia yang ditembak dari senjata artileri dan kapal terbang pejuang mempunyai radius membunuh yang amat luas dan ini memberi satu 'mimpi ngeri' dalam pertempuran-pertempuran secara berdepan atau rapat. Dalam perperangan yang berintensiti tinggi di kalangan negara-negara yang berteknologi tinggi, pertempuran secara rapat akan menjadi begitu hebat. Revolusi teknologi peralatan dan persenjataan ketenteraan kini memudahkan untuk mengenal pasti kedudukan musuh dan memusnahkannya, seperti di Peperangan Teluk. Dalam pertempuran cara rapat ini, terdapat implikasi perperangan terutama kepada pemerintah kerana pasukan-pasukan yang dalam keadaan tertekan akibat serangan, sukar diatur gerak; kekeliruan akan berlaku, sistem komunikasi diganggu dan perintah-perintah sukar dipatuhi. Hal-hal sedemikian sukar berlaku dalam "*disengaged combat*". Oleh kerana faktor-faktor inilah, Amerika dilihat telah memilih strategi "*disengaged combat*" dalam Peperangan Teluk dan di Kosovo.

Tunggak '*disengaged combat*' ini telah membawa kepada kesan-kesan berikut yang akan dihadapi dalam era revolusi teknologi ketenteraan:

* **Mengurangkan Kasualti Di Pihak Sendiri.** Politik memainkan peranan penting dalam menentukan hala tuju serta strategi perperangan yang mana seboleh-bolehnya mengelakkan pertempuran cara rapat. Dalam era satelit dan media elektronik yang canggih, pemerintah tentera perlu mengelakkan kasualti di pihak sendiri. Amerika Syarikat bagaikan telah meletakkan satu standard terhadap setiap misi mereka iaitu mengurangkan kasualti di pihak mereka seperti berlaku di Peperangan Teluk. Strategi sedemikian telah memberi kelebihan untuk mereka bertindak seterusnya, satu kesan yang mendalam melalui "*disengaged combat*".

* **Sasaran Dimusnahkan Dari Jarak Jauh.** Dengan segala kecanggihan peralatan dan persenjataan, "*disengaged combat*" akan menjadi norma perperangan masa depan. Kelebihan dalam teknologi penderia dan persenjataan serta kedudukan markas pemerintahan dan kawalan yang jauh dari senjata efektif musuh, Amerika Syarikat telah berjaya menyebabkan kasualti yang tinggi kepada pihak lawannya. Dalam Peperangan Teluk misalnya, kereta-kereta kebal dan helikopter Apache Amerika Syarikat yang berada pada jarak lebih daripada 3,000 meter dilihat memusnahkan kereta kebal Iraq dengan sewenang-wenangnya. Kapal terbangnya pula yang terbang setinggi 10,000 kaki, di luar dari jarak keberkesanan meriam penangkis kapal terbang, telah mengebom dengan tepat dan berkesan ke atas sasaran-sasaran di Iraq. Admiral David Jeremiah menyatakan bahawa "*dengan kelebihan jarak persenjataan, ketepatan sasaran serta integrasi yang kukuh maklumat perisikan semasa, sasaran senjata masa depan dapat memusnahkan dari jarak yang jauh*". Beliau tidak menolak bahawa "*perperangan hanya dimenangi apabila kawasan dikuasai secara fizikal oleh*

tentera, tetapi tidak semestinya tentera mendekati musuh untuk memusnahkannya”⁵.

Dalam serangan Amerika Syarikat ke atas Yugoslavia pula, strategi “*disengaged combat*” dipraktikkan sepenuhnya. Medan pertempuran terletak jauh dari markas pemerintahan dan kawalan mereka. Kapal-kapal perangnya melancarkan serangan udara dan misil ke sasaran. Manakala kapal terbang pengebomnya beroperasi dari pangkalan udara negara-negara sahabat dan jauh dari negara sendiri. Sasaran-sasaran strategik mereka ialah markas pemerintahan dan kawalan, pusat komunikasi dan tenaga elektrik dan peralatan kemudahan pengangkutan musuh.

Secara taktikal, musuh diserang tanpa meletakkan kekuatan tentera sendiri dalam jangkauan tembakan musuh. Dengan ketepatan, kepantasan dan keberkesanan persenjataan serta jauh dari jangkauan senjata musuh, sasaran-sasaran yang mempunyai jangkauan jauh seperti kapal terbang dan misil akan dimusnahkan dahulu, diikuti dengan sasaran artileri, unit mekanis dan seterusnya pasukan kombat infantri. Setelah segala keupayaan musuh dimusnahkan, barulah tindakan serangan tentera darat dilakukan.

*** Industri Persenjataan dan Peralatan.** Doktrin terhadap “*disengaged combat*” akan menentukan serta menetapkan jenis-jenis persenjataan yang akan digunakan kelak. Berdasarkan dari pertempuran-pertempuran masa kini, peralatan dan persenjataan jarak jauh telah digunakan dengan meluas. Implikasinya di sini ialah industri-industri peralatan dan persenjataan akan berkurangan. Ketepatan dan keberkesanan adalah kriteria yang utama mengurangkan angka kecederaan dan kematian dalam peperangan.

*** Mudah Alih dan Mudah Gerak.** Dalam Peperangan Vietnam ada dikatakan “*no such thing as a front line*”⁶. Pertempuran secara rapat akan lebih memberi kesan kepada kedua-dua pihak. Pelaksanaan atur gerak angkatan tentera yang besar akan memberi risiko yang tinggi kerana status pemerintahan yang berasingan serta kedudukan pasukan yang berbeza. Angkatan tentera memerlukan peralatan dan persenjataan yang mudah alih, mudah dan pantas digerakkan, sukar dikesan seperti Pasukan Udara Tentera Darat dan pasukan mekanis. Keadaan dan kedudukan atur gerak sebegini akan mengaburkan mata musuh sama ada secara berhadapan ataupun menyusup dari belakang.

*** Serangan Terhadap Satu Titik Sasaran.** Revolusi teknologi ketenteraan dalam “*disengaged combat*” akan mengubah formasi serangan secara besar-besaran kepada satu titik sasaran. Formasi serangan masa kini adalah kombinasi kepantasan, ketepatan dan keberkesanan persenjataan jarak jauh dan sistem pemerintahan dan kawalan yang canggih supaya memberi keupayaan kepada semua pasukan yang berada di lokasi yang berbeza menumpukan serangan dan tembakan ke arah satu-satu sasaran. Pasukan artileri dan misil yang berada berpuluhan-puluhan batu antara satu sama lain, pasukan khusus jauh dari medan pertempuran, kapal perang pula berada jauh di lautan dan kapal terbang pejuang dan pengebom yang datang dari beribu-ribu batu jauhnya, semuanya mempunyai misi dan sasaran yang sama. Semua pasukan ini digabungkan dalam satu serangan ke atas satu sasaran dengan tepat dan berkesan seperti sasaran-sasaran divisyen kereta

⁵ Martin Van Grewel, *The Transformation of War*, The Free Press, New York, 1991, hal 47.

⁶ Micheal J. Mazarr, *The Revolution of Military Affair*, April 1991, hal 19.

kebal, instalasi serta markas pemerintahan dan kawalan musuh.

* **Kerjasama.** Pengimplementasian strategi "*disengaged combat*" untuk peperangan konvensional memerlukan doktrin yang menyeluruh. Anggota tentera perlu dididik dan dilatih supaya memahami keperluan "*disengaged combat*" terutama dalam latihan-latihan bersama yang menggunakan peralatan dan persenjataan canggih. Sinergi amat penting kerana kerjasama yang efisien antara angkatan Darat, Laut dan Udara menjadi tunggak agar "*disengaged combat*" dapat diperaktikkan. "*Disengaged combat*" memerlukan peralatan dan persenjataan yang memberi keutamaan kepada keberkesanan seperti penderia jarak jauh, peluru jarak jauh, peralatan yang dapat memberi ketepatan ke sasaran; dan secara keseluruhannya peralatan dan persenjataan yang dapat mengesan dan memusnahkan musuh dari jarak yang jauh.

* **Peralatan Dan Kenderaan Ringan.** Pembangunan teknologi peperangan telah juga membawa perubahan kepada reka bentuk kenderaan pengangkutan darat, kapal pengangkutan besar serta kapal terbang. Kenderaan pengangkutan persenjataan perlu dikecilkan supaya mudah diatur gerakkan di samping mempunyai keupayaan yang setanding atau lebih daripada kenderaan-kenderaan yang lebih besar. Dalam perancangan strategik dan taktikal "*disengaged combat*", pasukan darat, laut dan udara mestilah mempunyai keupayaan untuk diatur gerakkan dalam sekilip mata. Robot dan kenderaan tanpa pemandu dicipta untuk menggantikan manusia dalam pertempuran-pertempuran di kawasan berdekatan dengan musuh. Dengan demikian, strategi "*disengaged combat*" dapat dilaksanakan dengan anggota tentera berada jauh dari kawasan musuh. Seterusnya struktur

dan organisasinya hendaklah berinovasi di mana kepentasan dan mudah gerak diutamakan seperti pasukan yang berasaskan "*middle weight*"⁷, terdiri daripada pasukan armor dan mekanis dan mengutamakan kekuatan briged yang serba boleh sebagai pasukan kombat asas kepada Tentera Darat.

* **Pasukan Khusus.** Pasukan khusus dapat memainkan peranan yang penting di dalam strategi "*disengaged combat*". Pasukan khusus boleh diatur gerakkan di kawasan-kawasan "*no man's land*" ataupun menyusup ke belakang kedudukan musuh, mengarahkan panggilan tembakan serta melakukan serbuan ke atas kedudukan musuh. Di tahap strategi pula, pasukan khusus ini dikhaskan untuk memusnahkan pusat atau markas tentera, instalasi, depot dan lain-lain.

"CIVILIANISATION"

Tunggak terakhir dalam revolusi teknologi ketenteraan adalah "*civilianisation*" di mana peperangan di masa hadapan akan melibatkan teknologi awam. Kecanggihan teknologi ketenteraan dalam melaksanakan pertempuran, kekuatan struktur organisasi, industri pertahanan akan diambil alih oleh teknologi awam yang lebih berkeupayaan dan canggih. Panglima Angkatan Tentera Malaysia menyatakan bahawa "*keselamatan negara bukan menjadi tanggungjawab ATM semata-mata, sebaliknya ia harus dipikul bersama oleh segenap lapisan rakyat dan seluruh organisasi dengan menjayakan secara seimbang komponen-komponen ekonomi, pendidikan sosial, kestabilan politik, penguasaan teknologi dan ketenteraan*"⁸.

Dalam peperangan pasukan bersenjata tidak tetap, faktor-faktor utama untuk

⁷ Micheal J. Mazarr, *Ibid*, hal 21.

⁸ Aziz Ishak, *Rakyat Tunggak Pertahanan Negara*, Mingguan Malaysia, 12 Sep 99, hal 19.

operasi tindak balas pemberontakan dan operasi keamanan merupakan peranan orang awam bagi menangani masalah sosial, politik dan ekonomi. Kegagalan Amerika Syarikat di Vietnam adalah kerana mereka menganggap perang di Vietnam adalah perang tentera sahaja. Terdapat banyak persengketaan masa kini berpunca dari faktor-faktor bukan ketenteraan dan ini diperkuatkan lagi oleh faktor keadaan sekeliling serta persengketaan-persengketaan tanpa atau kurang penglibatan tentera.

Seterusnya tuggak ‘civilianisation’ akan lebih memberi kesan dan kejelasan kepada perancangan bersama dengan kecanggihan teknologi awam:

*** Kecanggihan Teknologi Awam.** Kerancakan pembangunan teknologi terhadap peralatan sesuai akan membuatkan sistem komputer, enjin, optik dan sistem-sistem awam yang lain mengatasi keupayaan dan kebolehan sistem peralatan dan persenjataan ketenteraan. Produk peralatan awam juga didapati lebih murah. Industri-industri awam telah mula mengambil kesempatan dengan mengadakan peralatan dengan teknologi yang dapat digunakan dalam ketenteraan.

Apabila fokus utama perang ialah memusnahkan musuh, maka persenjataan dan peralatan sesuai telah direka untuk kegunaan tentera bagi tujuan tersebut. Teknologi persenjataan dan peralatan dengan sendirinya berkembang. Tetapi kini keadaan adalah berbeza, sub-struktur perang yang berasaskan dominasi maklumat memberikan keutamaan

kepada peralatan-peralatan seperti sistem komputer, komunikasi, satelit dan penderia. Perang masa hadapan yang berasaskan perang maklumat dengan segala peralatan dan persenjataan yang dibuat akan berlandaskan teknologi awam. Alvin dan Heidi Toffler di dalam buku “*War and Anti-War*”, menyatakan “apabila peralatan dan persenjataan perang bukan lagi kereta kebal dan artileri, virus komputer, robot mikroskop dan kuman yang mengaburkan pandangan akan digunakan disebaliknya, maka era ketenteraan dan “nation state” akan kehilangan kekuatannya”⁹.

* **“Citizen Soldier”.** Selain daripada tentera sebagai benteng pertahanan negara, anggota-anggota simpanan ialah “citizen soldier” juga berperanan bagi menghadapi cabaran dan ancaman negara. Pengelilan struktur kekuatan anggota tentera memberi ruang kepada “citizen soldier” ini terlibat dengan konsep pertahanan awam¹⁰. Konsep pertahanan awam ini akan diperkuatkan lagi dengan kebolehan dan kecekapan di bidang teknologi oleh anggota awam. Penceroboh komputer dapat menghuru-harakan pasaran saham musuh dengan virus; pakar dalam komputer juga dapat memprogramkan semula mesin mikro atau mesin nano untuk menyerang dan memusnahkan komunikasi radio musuh; operator satelit pula memberi perisikan terhadap pergerakan musuh dan juga menyekat komunikasi radio musuh. Kemungkinan pada masa hadapan, pakar komputer awam dapat melaksanakan segala tindak balas ancaman musuh yang merbahaya hanya melalui terminal komputer.

“Peperang hanya dimenangi apabila kawasan dikuasai secara fizikal oleh tentera, tetapi tidak semestinya tentera mendekati musuh untuk memusnahkannya”.

⁹ Alvin and Heidi Toffler, *Ibid*, hal 152.

¹⁰ Micheal J. Mazarr, *Ibid*, hal 24.

* **Senjata "Non-lethal".** Peperangan masa hadapan juga akan menyaksikan kemalangan jiwa sama ada tentera mahupun awam dan kemasuhan harta benda berkurangan. Teknologi-teknologi yang berupaya merosak atau memusnahkan peralatan dan persenjataan musuh diklasifikasikan sebagai "*non-lethal weapon*"¹¹. Generator gelombang mikro yang berkebolehan melemahkan keupayaan terup musuh, pancaran laser yang dapat membutakan sementara pandangan musuh, gel yang licin dapat mengelakkan musuh daripada menggunakan jalan raya atau jambatan serta keseluruhan peralatan peperangan elektronik dapat membantu tentera melaksanakan operasi-operasi yang berkemungkinan tanpa kehilangan sebarang nyawa. Teknologi ini juga mampu menawan lokasi-lokasi strategik musuh seperti pusat pemerintahan dan kawalan serta mengucar-ngacirkan musuh di medan perang tanpa sebarang tembakan dilakukan.

Teknologi-teknologi yang sedemikian walaupun ada, namun peperangan terkini masih lagi menggunakan senjata untuk memusnah. Di abad ini peperangan menggunakan senjata "*non-lethal*" belum lagi dilaksanakan. Selagi pihak musuh masih lagi menggunakan senjata menembak ke arah kita, selagi itu lah senjata juga digunakan untuk bertindak balas. Peperangan masa kini masih lagi menggunakan persenjataan "*lethal*".

Namun begitu taktik, peralatan dan persenjataan "*non-lethal*" dilihat akan boleh digunakan pada masa hadapan. Ini berdasarkan perkara-perkara berikut:

* **Media.** Media memainkan peranan yang penting dalam menentu-

kan kestabilan sebuah negara dan juga hala tuju strategi peperangan. Berita-berita dari media akan memberi kesan yang mendalam kepada rakyat jika kemasuhan dan kerosakan di medan perang disiarkan. Kerajaan juga pasti tidak mahu perkara ini berlaku seperti mana terjadi dalam Peperangan Teluk. "*Highway of Death*" melibatkan ribuan tentera Iraq terkorban. Media juga dapat memberi kesan terhadap persenjataan "*non-lethal*" yang mana keberkesanannya akan meluaskan lagi kebebasan tentera untuk melaksanakan tugas.

* **Kebolehan Dan Keupayaan "Non-lethal".** Kebolehan dan keupayaan "*non-lethal*" tidak dapat dipertikaikan lagi terutama dalam peperangan pasukan bersenjata tidak tetap. Kecanggihan peralatan deria serta sistem pemerintahan dan kawalan akan memberi kesan revolusi yang sebenar terhadap taktik misi keamanan dan tindak balas pemberontakan. Kumpulan-kumpulan demonstrasi dapat dilemahkan tanpa dicederakan. Minyak gris yang licin dapat mengelakkan musuh menggunakan jalan raya dan jalan keretaapi tanpa menggugurkan bom ke atas mereka. Pancaran laser dapat membutakan sementara pandangan pengganas waktu malam. Rangkaian radio dan komputer musuh dapat dimusnahkan dengan merosakkan sasaran elektromagnet mereka¹².

RUMUSAN

Fakta-fakta di atas semuanya menjuruskan kita bahawa revolusi teknologi dalam perancangan ketenteraan berdiri di atas tuggak-tuggak tertentu iaitu dominasi maklumat, sinergi, "*disengaged combat*" dan "*civilianization*". Setiap tuggak mempunyai implikasinya sendiri. Apa yang menarik

¹¹ Micheal J. Mazarr, *Ibid*, hal 26.

¹² *Ibid*. hal 26.

terhadap semua tuggak tersebut ialah hubung kait antara satu sama lain yang seakan-akan "puzzle"; saling bantu membantu antara satu sama lainnya. Tuggak dominasi maklumat memberi ruang kegunaan sinergi yang akan melibatkan dasar pertahanan awam. "*Disengaged combat*" pula bergantung kepada ketepatan dan maklumat sasaran yang terkini untuk mencapai kejayaan dan dilaksanakan oleh anggota awam dan melalui penggunaan peralatan "*non-lethal*". Untuk mencapai kejayaan sepenuhnya, setiap tuggak hendaklah diguna dan dihubungkaitkan antara satu sama lain. Walaupun semua tuggak tersebut boleh digunakan kepada peperangan konvensional dan tidak konvensional, namun tidak semua kesan dapat digunakan pada kedua-dua peperangan dengan mengutamakan prinsip-prinsip yang sama. Isu-isu tersebut memerlukan dua doktrin yang berbeza bagi menghadapi kedua-dua bentuk peperangan tersebut.

Dominasi maklumat dalam peperangan konvensional berbeza daripada peperangan gerila walaupun menggunakan prinsip yang sama. Strategi dan perancangan "*disengaged combat*" tidak boleh dilakukan dalam peperangan gerila, oleh yang demikian "*sifat-sifat keperwiraan*" iaitu kekuatan, keberanian dan kerelaan berkorban untuk negara, akan terus menjadi keutamaan dalam peperangan pasukan bersenjata tidak tetap.

Apakah revolusi teknologi ketenteraan akan menukar corak asas peperangan? Clausewitz dan Jermies menyatakan bahawa "*model peperangan adalah dengan mengatur gerakan kekuatan bala tentera yang besar di kedudukan musuh yang kritikal dan menyerang ke arah pusat graviti musuh*"¹³. Ada yang menyatakan bahawa era revolusi teknologi ketenteraan akan membuktikan ketidak benaran model peperangan tersebut; kekuatan tentera akan diperkecilkan, kedudukan musuh tidak lagi ditembak secara langsung, pasukan tentera tidak lagi bertempur secara fizikal. Ada pula yang berpendapat bahawa kedua-dua konsep di atas boleh digunakan tetapi caranya

sahaja berbeza. Satu pasukan akan menyerang dengan tembakan besar-besaran dan satu pasukan lagi akan menyerang pusat graviti musuh. Sun Tzu berpendapat bahawa "*peperangan boleh dimenangi tanpa pertempuran di medan peperangan. Taktik pergerakan, tipu muslihat dan serangan jarak jauh akan menjadi pilihan pemerintah ketenteraan daripada menyerang besar-besaran secara berhadapan.*"

Menghadapi peperangan pasukan bersenjata tidak tetap mestilah berdasarkan faktor-faktor politik awam dan sosio-ekonomi. Dalam hal ini, strategi yang baik ialah dengan menyatukan tenaga keupayaan serta kebolehan sinergi dan awam selain daripada elemen politik, militeri dan ekonomi. Perkembangan yang sedemikian menyebabkan seolah-olahnya revolusi teknologi ketenteraan telah memberi gambaran yang kurang jelas tentang peperangan. Persefahaman dan hubungan baik antara teknologi ketenteraan dan awam dan usaha antara strategik dan operasi taktikal, antara peperangan konvensional dan tidak konvensional, antara peperangan dan penguasaan, semuanya kini telah berpecah; tiada persefahaman. Persoalan apakah peperangan tersebut menggambarkan era baru peperangan.

Berdasarkan fakta-fakta yang dibincangkan di atas, revolusi teknologi ketenteraan akan membawa ke satu era peperangan medan. Beberapa pengajaran dan pelajaran dapat dicungkil dan dianalisis daripada perbincangan di atas:

- * **Kualiti Anggota Tentera.** Suasana peperangan masa depan memerlukan setiap anggota tentera mempunyai kepintaran yang tinggi, cukup tertib, mempunyai peralatan secukupnya, bermoral tinggi serta berpengalaman luas. Kualiti anggota tentera yang sedemikian amat diperlukan dalam peperangan konvensional, dalam keadaan peperangan yang semakin pantas dan kompleks dan peperangan pasukan bersenjata tidak tetap; peperangan-peperangan yang memerlukan

¹³ Parkinson Roger, *Ibid*, hal 149.

keunikan kebolehan anggota dan lebih sensitif terhadap sosioekonomi. Dengan mempunyai anggota tentera yang berkualiti tinggi, kesilapan akan dapat dikurangkan.

Perancangan untuk pengambilan anggota baru, melatih dan mengekalkan kualiti yang tinggi di kalangan anggota di setiap Perkhidmatan mesti dijadikan agenda utama dan keutamaan di masa hadapan. Hal-hal kebijakan anggota hendaklah diambil berat oleh pihak atasan; mengadakan latihan pada masa aman secara intensif dan realistik, mengadakan kemudahan simulasi dan kelengkapan-kelengkapan lain yang berteknologi tinggi dan sedaya upaya mengadakan peralatan secukupnya untuk menyaingi peralatan dan sistem moden.

* **Pembaharuan Pemerolehan (*Acquisition Reform*)**. Sistem peralatan dan persenjataan masa kini sukar untuk menandingi teknologi serta kehendak-kehendak peperangan masa depan. Teknologi ketenteraan kini tertinggal jauh di belakang teknologi awam; peperangan masa depan akan berdasarkan teknologi maklumat awam dan ini akan memberi petanda yang kurang menyenangkan kepada pihak tentera. Jika kita mempunyai perisian untuk mencegah virus komputer yang tiga ke empat tahun terkebelakang daripada virus yang dipunyai penceroboh komputer musuh, strategi kita akan mudah terdedah.

Bagi menghadapi masalah sedemikian, negara perlu diperbaharui sistem pemerolehan dengan mengubahsuaikan peralatan canggih awam agar menepati keperluan ketenteraan. Dalam jangka masa panjang, negara tidak perlu lagi membeli peralatan dan persenjataan yang besar dan sukar diatur gerak. Dengan kemajuan teknologi, sumber alam semula jadi kita boleh

menjadikan negara ini sebagai pusat industri pertahanan. Pusat industri pertahanan tersebut bukan sahaja berupaya mengeluarkan kapal terbang pengebom atau kapal selam, bahkan peralatan penderia, senjata dan peluru berpandu yang tepat ke Sasaran, peluru dan sistem pemerintahan dan kawalan. Industri yang sedemikian akan lebih mudah diurus daripada membeli peralatan dan persenjataan secara besar-besaran dari negara luar.

* ***Totalitarian States***. Akibat daripada revolusi teknologi ketenteraan masa depan tentera mungkin berada dalam keadaan '*totalitarian states*'. Organisasi ketenteraan akan menghadapi keadaan yang tegar, sistem terpusat, struktur pemerintahan cara hierarki yang memakan masa, cara inovasi teknologi boleh diramal dan keadaan organisasi tidak berupaya menggalakkan pegawai-pegawaiannya mengamalkan sikap serta kualiti yang tinggi. Tentera di dalam golongan '*totalitarian states*' tidak dapat mengamalkan elemen-elemen yang terdapat di dalam revolusi teknologi ketenteraan.

* **Pembaharuan Organisasi**. Kewujudan revolusi teknologi ketenteraan memerlukan perubahan terhadap organisasi. Doktrin dan pemerolehan hendaklah dikawal bersama dalam satu organisasi. Sistem hierarki dikecilkan untuk mempercepatkan inovasi, tanggungjawab dan keputusan. Pasukan-pasukan khusus mesti kecil, mudah diatur gerak, berkebolehan melakukan sebarang misi, cukup terlatih dan bermotivasi serta dapat membuat keputusan sendiri. Mereka menggunakan "*stealth and guide*" untuk mencapai objektif, tidak menggunakan "*bruteforce*". Prinsip-prinsip yang sedemikian akan mendominasi doktrin kita pada masa hadapan.

Berasaskan rumusan-rumusan di atas, kerangka awal perancangan ketenteraan dalam ~~era revolusi teknologi ketenteraan dapat~~ diklasifikasikan mengikut keutamaan semasa dan kemampuan dalam menangani ancaman musuh. Keupayaan dan kebolehan sistem persenjataan dan struktur ketenteraan akan menjadi asas kepada pembentukan kerangka perancangan awal ketenteraan. Keutamaan-keutamaannya adalah seperti berikut:

- * Mengadakan doktrin bersama yang baru untuk:
 - ~ Peperangan Maklumat.
 - ~ "Disengaged Combat".
 - ~ "Civilianisation".
- * Keupayaan dan kebolehan asas:
 - ~ Angkatan tentera yang berkualiti tinggi.
 - ~ Sistem pemerintahan, kawalan dan komunikasi bersama.
 - ~ Institusi, sekolah, pusat doktrin dan organisasi pemerolehan bersama.
 - ~ Kebolehan mendominasi maklumat, sistem pintas, mengumpul dan menyalur.
 - ~ Bertahan dari serangan kimia dan biologi.
 - ~ Mempunyai keupayaan penderian.
 - ~ Strategi tangkas.
- * Sistem Persenjataan:
 - ~ Utamakan senjata jarak jauh.

- ~ Sistem persenjataan yang tepat, cepat dan berkesan.
- ~ Kurangkan persenjataan berat.
- ~ Penggunaan senjata "non-lethal".
- ~ Penggunaan kendaraan tanpa pemandu.
- ~ Kapal terbang pejuang yang canggih.

* Struktur Ketenteraan:

- ~ Ketumbukan pasukan khusus.
- ~ Angkatan darat mekanis.
- ~ Kekuatan formasi-briged.
- ~ Markas pemerintahan bersama masa aman.

PENUTUP

Persengketaan, konflik dan perperangan sentiasa bertukar mengikut peredaran zaman, berasaskan kebolehan serta teknologi terkini sama ada dari segi peralatan, persenjataan, struktur ataupun pemikiran. Adalah sukar untuk mengikuti rentak konflik metafosis. Sama ada perperangan konvensional ataupun perperangan pasukan bersenjata tidak tetap, revolusi teknologi ketenteraan akan tetap mengubah cara-cara perancangan, pemikiran, pemerolehan dan pertempuran. Perubahan dan inovasi yang sedemikian memerlukan kerangka, perkara-perkara prinsip asas bagi membantu dalam membuat keputusan di masa hadapan.

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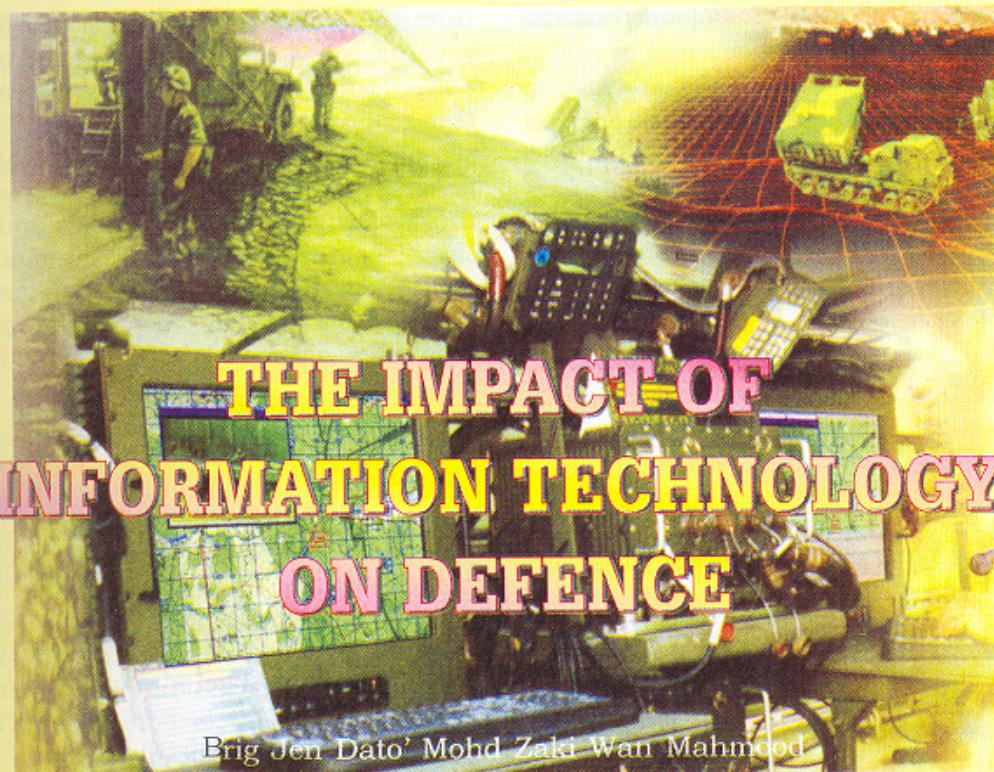
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Mej Ahmad bin Abdul Rahman adalah bekas Putera, ditauliahkan pada tahun 1976 dalam Kor Artilleri Diraja. Beliau telah menghadiri kursus di dalam dan di luar negara. Sepanjang perkhidmatannya, beliau telah menyandang beberapa jawatan penting di pasukan, pusat latihan dan Markas formasi. Berkelulusan MTAT pada tahun 1995 dan pemegang Diploma Strategic Study (UM) dan Masters in Management (UM). Mej Ahmad kini bertugas sebagai PS 1 Doktrin Artilleri di Markas Latihan Tentera Darat.





FASTEST GROWING TECHNOLOGY

The most frequent and most talked about topic of modern amenities is the application of information technology (IT). It is the latest technological development discovered to have the greatest impact on our life. IT is also the fastest growing technology ever known to mankind. The influence it has on mankind has no equivalence. Our way of life will never be the same again and we are becoming more dependant on this technology. Many governments, Malaysia included, have introduced initiatives and policies to encourage its application and to influence commercial involvement in IT. In fact Malaysia has chosen IT as a vehicle towards achieving the nation's 2020 Vision of being a developed nation.

The impacts of IT on individuals as well as on private and public organizations are so great. It is difficult to imagine the survival of life without IT. Its applications have been entrenched in military forces too. The applications of IT and the use of equipment and systems which are controlled by computers and microchips have been in service with the defence forces since the 60s. It is believed that the rapid growth of IT technology was mainly due to the demand for defence applications. Many IT and computerised defence systems have been installed in military forces of the world and many more will be introduced in the future. These systems keep getting better and better all the time. It is most likely that defence forces of the future will be relying a great deal on IT and computers in defence operations and management. Without proper precautions, failures of IT and computers will render defence forces ineffective.

The factor of IT and computer dependence by the defence forces has given rise to a new dimension in modern warfare - the information warfare (IW). IW has a serious impact on defence. By being superior in IW, a defence force can at will, reduce the effectiveness of its opponents by manipulating the opponent's defence IT system as well as surveillance, air defence and command and control systems. The paper will look at the development, effects and roles of IW and what are some possible measures that can be taken by defence forces as to be prepared for it in the next millennium.

REVOLUTION OF INFORMATION TECHNOLOGY

The development of IT evolves from the development of communications and computer. The birth of this modern communications was the invention of telegraphy by Samuel Morse of USA in 1845. Further improvement on line communications was done by Alexander Graham Bell of USA in 1876 with the introduction of the telephone. However, the invention of radio communications by Guglielmo Marconi of Italy in 1894 widened the coverage and reduced the cost of communications. These three inventions are sometimes termed as the first modern IT revolution.

The second IT revolution, as mentioned in some books, began with the invention of the television in 1920 by P Farnsworth, V Zworykin and A Dumont of USA. With the discovery of the computer in 1939 by John V Attanasoff of USA, the progress in IT development then became more rapid. The applications of IT globally through the use of computers and satellites as known today was first introduced by the military of the USA in 1958, when the first communications satellite was launched into orbit.

The development of computer technology on the other hand, may be traced

from those of the first generation which used vacuum tubes (or valves) first introduced in 1939, to those which used transistors (semiconductors) in the 50s and 60s in the second generation computers. The third to the fifth generation of computers are respectively those of the integrated circuits and printed circuit boards of the 70s, of the multilayered printed circuit boards of the 80s and of the multiple and parallel processing of cray super computers and super personal computers of the 90s.

As discussed, IT revolution was a result of the development in the applications of communications and computers. The characteristics of computers such as high speed and high volume in processing, and compact in storage of information are attractive to wide applications by the military, government, commerce and industry. Information processing and transmission by computers are not expected to have errors and initially believed to be in utmost secrecy, until smart intruders were known to have intercepted information during transmission as well as to have extracted information from storage. The characteristics of computers are favourably applied by the military for the calculations and processing of data in their defence systems such as surveillance, air defence, target acquisition, weapon control and threat assessment. The reliability of computer systems as a management tool is further proven in a networking environment and in a client-server arrangement. Sharing of information through speedy communications in multimedia modes is the latest application of IT. Similar applications are widespread in business world as well within government agencies.

Most military forces have in service command, control, communications and intelligence (C³I) systems as well as other defence management systems, such as for logistics, finance and personnel. Apart from these systems utilising workstations, servers, minis and main frames, nearly every equipment

and system on board every platform of land, sea and air forces are computer or microprocessor controlled. However, such a widespread applications of microprocessors, computers and IT in defence forces may cause the latter to be exposed to threats from IW.

DEVELOPMENT OF INFORMATION WARFARE

Dependence on IT has its disadvantages. In a networking of C³I or defence management systems they are targets for attacks by IW activities of opposition forces. Without adequate protections they are vulnerable to information being stolen, destroyed or manipulated while in storage or on transmission. Systems and computers which have access to internet are the easiest to be penetrated by intruders. There had been cases, as reported in the news media, where the Pentagon IT systems being accessed by unauthorised individuals from thousands of miles away by only using off-the-shelf ordinary personal computers. Hundreds and thousands of such cases occur every day; to commercial, banking, credit card, defence and other systems. Many cases are undetected and many detected ones are unreported for reasons best known to the affected owners.

Apart from stealing and the manipulating of data, intruders may destroy the data in a system at a critical time. The effect can be devastating to defence forces when data in the crucial defence IT systems are destroyed. There are weapons known to have the capability to destroy data or to destroy electronics which may render the defence systems ineffective. Some of these weapons are planted as embedded chips during equipment or system development, especially those supplied by unreliable vendors. For defence equipment and defence systems all vendors are to be suspected as potential offenders. It is known that since late 80s some western defence suppliers have planted embedded chips in defence equipment.

Entries by intruders into the IT systems are done through telecommunications networks. Globalisation of these networks makes entries easy, especially via the internet. Those systems which have no internet access can still be interfered with by wire tapping activities. With the use of fibre optics cables, wire tapping is more difficult, but not impossible to the experts. Unauthorised access to information while being processed or on transmission may be effected even without physical interference to telecommunications cables. Terminals and cables do emit radio energy that can be monitored and read. There are organizations and nations which are known to be doing these monitoring activities every day. Those information transmitted via radios are of course the easiest to be intercepted or manipulated. There are organizations which are ever ready to snatch these information en route to distant recipients. When IT systems utilise radios for their communications, the threats from electronic warfare (EW) activities have to be taken into consideration. Apart from interceptions, jamming can reduce the efficiency of communications links.

These activities discussed thus far are within the ambit of the IW activities. Defence forces of the world are developing these activities. Some Departments of Defence have issued directives as early as in 1995, giving definitions and instructions to establish IW capabilities within their defence forces as well as within the single services. These directives are all aimed at achieving information superiority by having capabilities to affect adversary information, information-based processes and information systems, while defending those of their own.

It is assessed that defence forces of all major and super powers have developed their IW capabilities. Reports and articles written in books and periodicals have indicated that defence forces of some countries have high energy frequency guns that shoot at equipment to

destroy electronic circuits. Some defence forces are said to have purchased from Russia and some countries are developing their own high power microwave bombs. Some defence forces are reported to have applied IW during field exercises.

CHARACTERISTICS OF IW THREATS

From the definition, IW mounted by any defence force would aim at being superior in information. IW threats to be expected by a defence force are therefore in the form of threats to the safety of data, either those in databases - while being processed or in transmission - as well as safety to defence equipment and defence IT systems. These threats exist all the time and are aimed to strike at high value systems. Their information superiority objectives are either stealing, manipulating or destruction of the opponent's information. These objectives may be achieved by unauthorised access to hardwares or softwares of the IT systems. IW experts are able to perform these activities. However, the most common cases of compromises of IT systems known are through the collaboration of own staff. Thefts of classified or proprietary information may likely be done through planned operations by organizations, or by hackers on opportunity basis. Threats may come from major and super powers, from neighbours, terrorists as well from members of public at large. Planned operations are aimed at specific IT systems, while activities of common hackers are without specific targets. They peep into the systems and extract information when they stumble onto something of value.

In other cases, especially in a tactical environment, military forces may apply destructive measures against the IT and defence systems of the opponents. By doing so they still maintain being superior in information. Some of the known weapons commonly used in IW activities are listed below. Some of those listed are embedded during development stage, some

are inserted through communications links, while others are best applied against systems deployed in the field.

- * **Chipping.** Embedded chip that fails, blows up or steals information.
- * **Covert Channel.** Channel inserted into the system to get information undetected.
- * **Electronic Jamming.** Powerful transmissions to block radio communications.
- * **EMP Bomb.** Detonates pulses to destroy electronics.
- * **HERF Gun.** Shoots high radio energy to destroy electronics.
- * **IP Spoofing.** To gain access to computer system by fooling the server.
- * **Logic Bomb.** Destructive instruction based on specific parameters.
- * **Nano Machine & Microbe.** Robot that shuts down electronic circuits.
- * **Network Sniffing.** Programme or device to tap line to steal information.
- * **Time Bomb.** Destructive instruction based on specific time.
- * **Trap Door.** Embedded in cipher to circumvent protection.
- * **Trojan Horse.** Hidden function in a programme to copy or destroy files.
- * **Virus:** Programme that copies itself into other programme.
- * **Worm:** Covertly inserted programme that overwrites data.

TPYES OF IW

The definition of IW varies from nation to nation and author to author. Similarly, the scope and types of IW too differ from doctrine to doctrine. One common view is that IW may be further divided into various types of specialization of activities. Each of these types reflects the extent of IW activities as well the limitation of targets. The most popular IW type is the **command and control warfare**, whereby the opponent's command, control and communications (C³) systems are primary targets. During peace time information gathered from these systems will allow the opposing forces to have ample warning to be prepared to counter any eventuality. In a war environment a disruption to C³ systems of the opponent through IW activities will be at a time when it is most critical to the forces' operations. The next type of IW, the **electronic warfare (EW)**, is the disruption of targets of IT and computer controlled systems through the use of electromagnetic (radio) energy. It is commonly accepted that EW as part of IW under this environment.

The next subset of IW is **psychological warfare**, which is to influence the mind of target audience through the use of IT. Planned fabricated information is transmitted to target terminals by the use of internet or by penetrating a network. Currently this aspect of IW is very active and numerous international organizations are known to be actively involved. Nations which subscribe to "*open information highway*" concept have no control over information arriving at their masses. This is similar to the next subset of IW, the *intelligence based* IW. However, in the latter case it is

targeted at the opponent's C³I system, either to steal information of intelligence value or to feed false intelligence or to manipulate intelligence to influence the opponent's decision.

In the case of **hacker warfare**, attacks are normally targeted at specific IT systems, either to steal, falsify or destroy data. Weapons known to be used for these attacks are virus, logic bomb and Trojan Horse. Whereas **Economic Warfare** is the use of IW for economic advantage, by manipulation and blockage of information from reaching a target nation. **Netwar** is the application of IW in a conflict between nations. The last subset of IW is the **cyberwarfare**. It is a terminology used to cover IW in a broad sense, to include all forms of attacks which are not covered in earlier subsets. Such attacks are information terrorism carried out by terrorists, semantic and simulated attacks initiated by the military.

IW THREATS

During peace time a nation may face some or all of those types of IW **attacks** discussed earlier. In the chart given below at figure 1, different groups attack different targets to achieve different objectives and goals. Nations are to take stock of these attacks and precautionary measures are to be exercised. These attacks are not necessarily immediately felt by the targeted systems, until it is too late. Systems belong to public and private sectors are equally susceptible to attacks. These attackers are regular offenders who would most likely have performed in the past, through some other form of activities other than IW activities, to achieve their similar set of objectives and goals. With the widespread applications of IT, their tasks now are made that much easier.

Ser No	Attackers	Specific Targets	Specific Obj	Ultimate Goals
1.	Foreign military	C ³ I network	Disrupt C ³ I, obtain int	To prepare for military offensive
2.	Foreign national orgs	Govt IT, foreign svc, stock exchange, power supply, tele system & banking	Interrupt functions business, financing, transaction & flow of info	Political, econ and diplomatic mileage
3.	Terrorists orgs & criminals	same as above	same as above	Support demand & black mail
4.	Private corporation	Competitors R & D & business strategy database	Access to proprietary info	Gain a competitive advantage
5.	Disgruntled & dishonest employee	Company's accounting & financial system	Transfer to bogus account	Financial gain or revenge

Fig. 1. Examples of IW Attacks

Military IW activities may be further divided into those applied in strategic, regional and tactical areas. The chart in figure 2 shows

different targets are for different objectives and goals.

Ser No	Warfare Level	Possible Targets	Immediate Obj	Overall Goals
1.	Strategic	Government IT, def, foreign svc, national financial, banking, telecomms, stock exchange, air tfc	Stop national & defence administration & commerce, to create fear & uncertainty	Political, diplomatic, mil, economic & hold nation at ransom
2.	Regional	C ³ I, regional power grid, surveillance, early wng & AD	Severe comms link, disable cen computer & nat def sys.	Disrupt regional mil commanders' C2 & destroy regional mil def
3.	Tactical	Tactical C ³ I, surveillance, wpn & AD sys	Severe C2, disable def sys & eqpt	Target specific sys, isolate en forces, soften en for conv attk

Fig. 2. Military IW Attacks

Defence command, surveillance, weapon and management systems using IT, computers, microprocessors and integrated chips are likely targets to enemy IW offensives. Some attacks are unnoticeable until the effects are felt, whilst some offensives activities are with some notice of warning. Again it can be seen here that technology that makes destructive attacks simple but effective.

STRATEGY FOR DEVELOPMENT

Having taken notice of possible effects of IW attacks on national and military systems, it can be expected then national organizations, especially military forces, will develop IW capabilities. Military forces will be establishing policies, strategies, doctrines, concepts, tactics and organizations. Policy guidelines will be formulated at the highest level of command to indicate clear divisions of responsibilities and levels of capabilities to be achieved by separate IW organizations. These organizations are to support military operations, as well as to meet national needs. Research and development organizations too will be established to support IW organizations. The most important development plan to support the IW organizations is the human resource development (HRD) plan. Capable staff members are normally not readily available nor easily obtainable to perform functions in IW organizations. Personnel with IT experience and appropriate aptitude are trained on their jobs. Normally the turnover of military personnel is fast. Experienced ones tend to leave military service for better paid jobs in the private sector. HRD plan will ensure that IW organizations continue to function with sufficient staff.

To enable IW strategy to be developed for implementation, an IW objective has to be set. If the military objective of IT is technology

as a tool for defence management and operation, then the objective for IW is likely to be one of superiority in IT as a deterrent. Once the objective is established, then the approach to IW development must be in a formal way, similar to that of IT development. Project teams and funds are to be made available to pursue the objective as set at the highest level of defence command. Concepts and doctrines are to be developed at earliest possible opportunity to cater for long lead time necessary in the development of capabilities. IW response centers will have to be established first to cater for IT system breakdown, either caused by an intruder or due to technical weaknesses of the system.

Some military forces recognise that there is a need to revolutionise military thinking to enable IW to be acceptable to top commanders. As has been experienced in the past some senior officers have difficulties in accepting the roles of electronic warfare in battles. In the case of IW, probably more officers will have negative attitudes towards its roles in battles. Defence forces therefore need to develop programmes to have a widespread knowledge in IT and IW. Short courses and seminars will guide the senior officers towards accepting technology as a tool as well as a weapon in defence functions. The most important aspects of knowledge to these officers are the fact that defence forces can never be without IT, computers and microprocessors and that these systems and equipment that use them can easily be rendered ineffective through the application of IW. Once they understand the need for IW capabilities, they will then support for IW centers and units to be established.

These IW development activities will have to be guided by IT and IW strategies. Possible IT strategies are to apply IT for the efficiency of command and control as well as for defence management. In the case of IW, one can expect its strategy to be one of having the ability to conduct IW attack and defence at all times.

METHODS TO COUNTER IMPACTS OF IW

The most important of the criteria in countering the impacts of IW activities by opponents is the awareness by superiors of its effects, for they will provide guidelines and support towards being superior in IW. It has to be understood that to counter the impacts of IW, a defence force has to be superior in IW, at least at a level to that of potential opponents. Organizations, staff, funds and all other necessities of IW development will be forthcoming once the superiors support the IW idea.

Support and supervision from superiors will ensure policies, strategies, doctrines, concepts, tactics, directives and instructions are formulated. Superiors will be immediately notified of failures and rectifications are immediately done. Those policies, strategies and directives mentioned will be assured of being adhered to by all concerned. They are to be regularly reviewed by qualified teams, for these technologies are for ever rapidly changing. The IW organizations will not be effective if they are unable to cope with technological changes in computers, microprocessors and communications. These changes are both in hardwares and softwares. In all these activities, in-house local expertise is a must. Own staff must be trained to do all IT and IW projects from the onset. IT projects having equipment with security features developed by firms, especially foreign contractors, are susceptible to being embedded with unwanted chips and software which will cause the systems or equipment to collapse when you need them most. Equipment supplied by vendors are to be thoroughly checked to eject these embedded items. Thoroughness and effectiveness of these measures depend on directions set by the superiors.

Security equipment and softwares sold are never reliable. Those available off-the-shelf are those of the lowest security value. The better ones, which are not easily tampered with, are not approved for sales by the manufacturers' governments. Some governments have

regulations that encryption systems approved for exports are only those their security or intelligence agencies can analyse. In some countries for any system sold, one set of equipment and algorithm are then deposited to the intelligence agency, making their code breaking job that much easier. These equipment producing countries may not have a direct interest with the purchasers, but they may have affiliates and alliances which are interested with the encryption systems of the purchasing nations.

A few countries do not have such regulation in the sales of crypto products. Only in extremely few cases where governments of exporting nations do provide security protection to purchasing nations. Even if there are laws and regulations to protect buyers, no one can guarantee the safety of algorithm in purchased equipment. Leakages and illegal sales of documents and equipment can take place at the foreign factories. However, the likelihood of such incidents to take place at own defence forces' manufacturing laboratory is very slim, though it is not impossible. Most respectable defence forces of the world do not use imported encryption in their IT and communications equipment and systems.

CONCLUSION

While admitting that the applications of IT and microprocessors by defence forces are on the increase, it must also be realised that these applications do have their weaknesses. The efficiency of the defence forces relies on these applications and it will be more so in the future. Defence planners and commanders have to take stock of the impacts these applications have on their defence systems, especially if they are too dependent on foreign suppliers. Failure to consider these impacts will have serious implications on the defence systems ability to function in times of war. The defence systems and equipment state of affairs have to be reviewed regularly by qualified staff so that their strength and efficiency are not reduced due to being obsolete or their security features being compromised.



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"Apa yang saya takut berlaku kepada kamu adalah tiga perkara:orang munafik membaca al-Quran tanpa memahami tapi menganggap lebih pandai daripada orang lain, ulama terpesong, pemimpin sesat."

"Saidina Umar Al-Khattab"

MANAGEMENT OF MALAYSIAN ARMY

TRAINING SYSTEM AT ARMY TRAINING ESTABLISHMENTS

Mej Gurcharan Singh

SYNOPSIS

It has been 14 years since the Malaysian Army Training System was introduced. However its implementation is still below expectation especially in the Army Training establishments. A survey on nine randomly selected Army Training establishments to identify the actual implementation level was conducted and thus it reveals certain shortcomings like lack of understanding on MATS and its implementation, shortage of training development officers, the uncertain roles of Training Advisers to conduct external validations and the non existence of a Training Development Wings in some training establishments...

THE MANAGEMENT OF MALAYSIAN ARMY TRAINING SYSTEM (MATS) AT ARMY TRAINING ESTABLISHMENTS



Training which is defined by Oxford Dictionary as bringing to desired state of standard by instruction and practice is an integral part of any organisation be it small or large. It is mostly by training that the ability of the employees can be further enhanced and give them a chance to optimise their performances in the pursuit of organisational goals. In the Army, in particular, soldiers and their leaders need to continuously train to retain and enhance the ability to perform their jobs especially during war time. In the present adverse economic situation and rapid technological development it is prudent to ensure that a huge organisation like the Army conducts its training in the most effective and efficient manner so as to provide the right training for the job with minimum expenditure and maximum results. The Malaysian Army Training System (MATS) is one system that ensures this is done. MATS have been introduced to the Army since 1984 and it was adapted from the Australian Methods.

There are at present 24 Army training establishments and most of these establishments have adopted MATS since then while some later. After almost 14 years of its introduction MATS is still under-implemented in most Army training establishments and therefore its total benefits of ensuring effective and efficient training are yet to be realised. The question here is will this lukewarm response to implement MATS remain as it is now or are there any constructive plans to exploit its fullest benefits? It is also necessary to determine why the implementation of MATS in training establishment is rather slow so that effective remedial measures could be taken. This paper will identify its adoption aspect by the Army training establishments and will recommend means of enhancing the use of MATS in these establishments.

THE MALAYSIAN ARMY TRAINING SYSTEM (MATS)

MATS is a system characterised by its interdependence of components, result

oriented, adaptable to changes and have extensive applications. If modules of training were done in isolation before, MATS has brought about the related aspects of integrated training. The ultimate aim of this system is to ensure that each soldier is most capable of performing his job under operational conditions. MATS also ensures that training is conducted in an effective and efficient manner in that trainings both for individuals and groups (collective training) are conducted effectively and money, manpower and time spent for training are always optimised. MATS evolves from job analysis and the conditions to standards under which a job is done. The analysis involves identifying the knowledge, skills and aptitudes required in performing a task and from all these information we determine the nature of training required.

MATS comprises five phases shown diagrammatically in Figure 1 below:

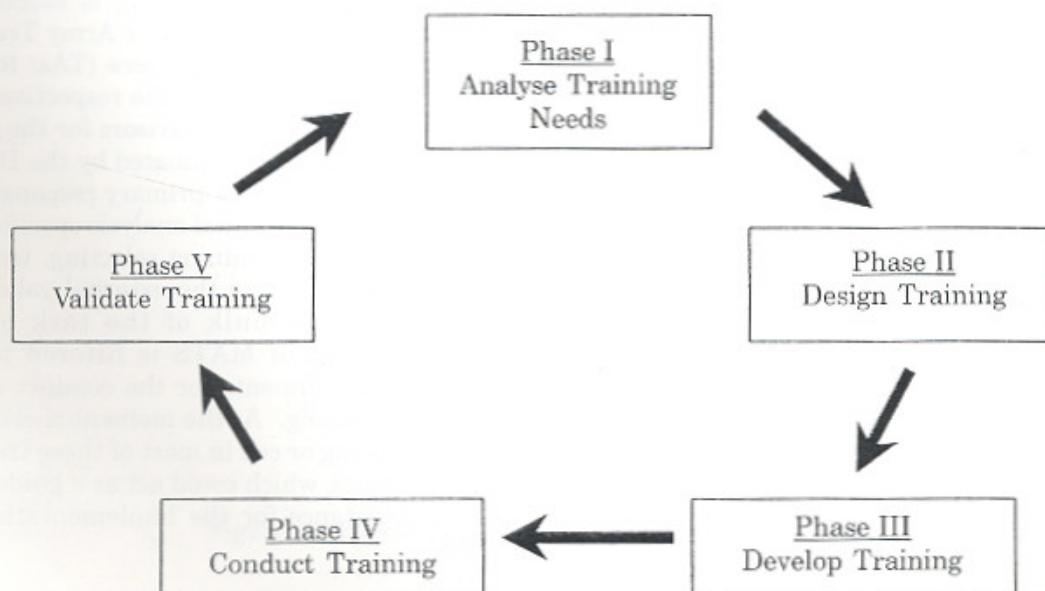


Figure 1 : The Phases of MATS

In Phase I, **Training Needs** are determined for the Army and this is done by examining in details the jobs or trades of a soldier. Here the entire tasks needed to be performed by the soldier under certain conditions and standards are examined. In **Design Training** phase, we are to ensure that training is directed towards clearly stated objectives and as measurements of achievements before a test is designed. The next phase that is Phase III - **Develop Training** is to determine how to train. This phase, concerned with the development of specific training procedures, instructional materials and aids is to provide the best possible means of training without wasting training resources. The subsequent **Conduct Training** phase is the stage where the Training Management Plan (TMP) is implemented. A TMP is required for the conduct of all individual trainings. The TMP is the result of a progressive compilation of materials produced in each of the earlier analyses - the design and develop training phases of the MATS. The plan details who does what, when it should be done and what resources are required. The conduct of training covers the presentation of lessons and the conduct of training exercises. This phase also includes the evaluation procedures, the recording and the reporting of results. The final phase that is Phase V is on **Validation of Training**. Here information is gathered from trainers, trainees, ex-trainers and units commanders by means of internal and external validations to identify changes needed to keep training efficient and effective that is job relevant and resources used to the best advantage. For training establishments, the conduct of internal and external validations is the key to periodically review their TMPs. Internal validation should be conducted at the end of every course and the feedbacks must be consolidated to provide confirming evidence that actions have to be taken to further modify or improve the course. External validation provides valuable feedbacks on the suitability of the training conducted to the requirements of the job. Consolidated feedbacks should be used to review courses that is by adding what is not taught but requires a trainee to perform on

the job and to remove what is taught but not required for job performance. Validation also covers assessments of instructors at training establishment. The assessments are to identify the effectiveness of the trainers and are conducted qualified assessors. The trainers' assessment is also to improve the standard of trainers and to allow a unit to grade its instructors for record and task allocation purposes.

MANAGEMENT AND DIRECTIVES OF TRAINING

The management of training in the Army is broadly divided into two parts that is the management individual training and the management of collective training. The responsibility for meeting the Army's individual training needs lies with the Army Training Command whilst the responsibility for meeting the Army's collective training is that of the Field Command's. Other organisations like the Corps Directorates and formation headquarters have certain responsibilities too in the achievement of the required levels of training. Individual training is essentially conducted at all the Corps and Army Training Centres. The training advisers (TAs) for the Corps Training centres are the respective Corp Directors whilst training advisors for the Army Training Centres are nominated by the Deputy Chief of Army. The TAs' primary responsibility for the job or occupational analysis specifies the tasks and levels of training selecting, training setting and conducting the external validation of courses. The bulk of the task of the implementation of MATS is filtered to the training establishments for the conduct of the individual training. At the moment there is no designated wing or cell in most of these training establishments, which could act as a guide or to provide assistance for the implementations of MATS.

The hierarchy of individual training responsibility is shown diagrammatically at Figure 2 below:

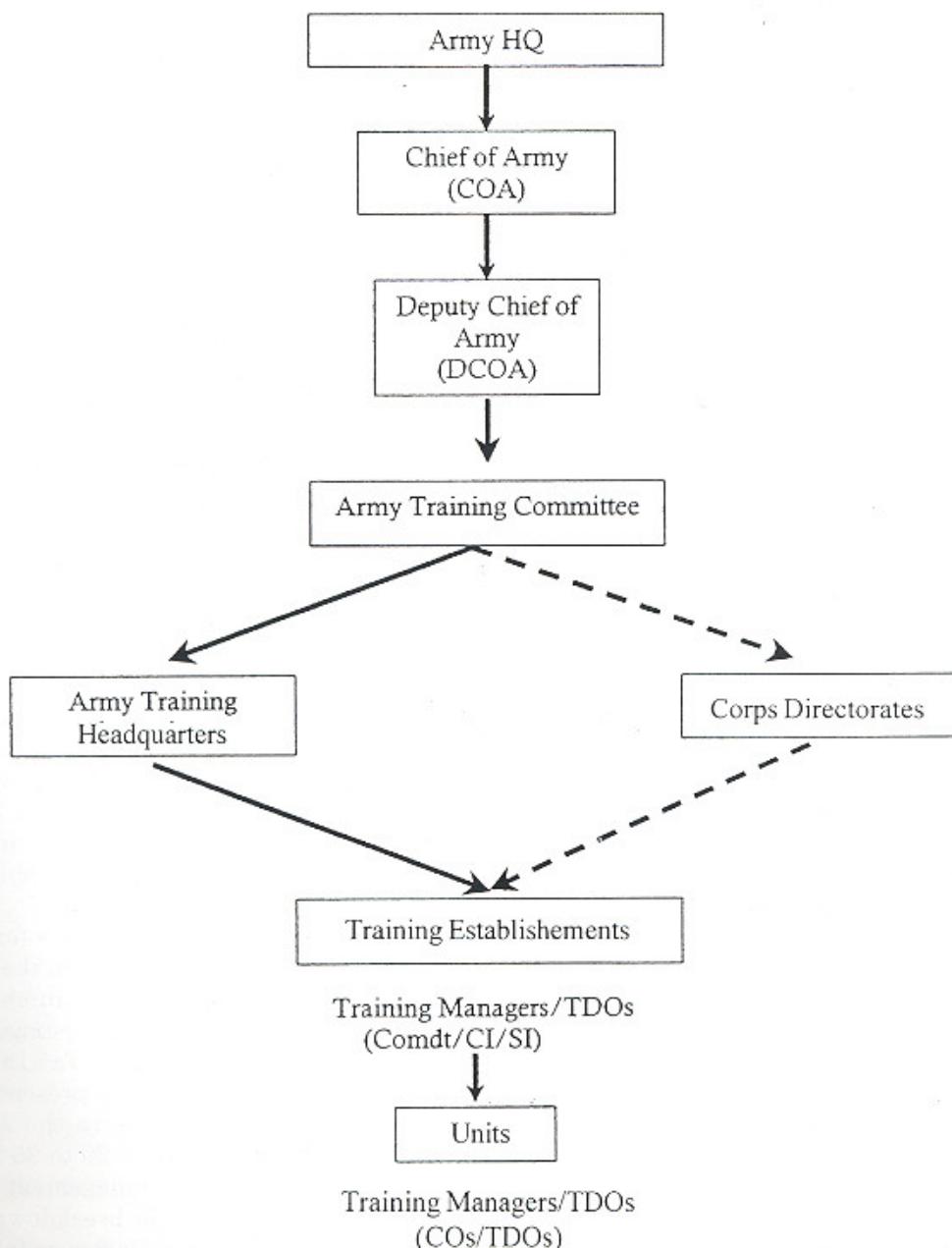


Figure 2. Hierarchy of Individual Training in the Army

The diagram clearly shows the importance given to individuals starts right from the Chief of Army and moves down the line to training establishments and units. In compliance with MATS, training establishments are responsible for conducting task analysis, designing and developing training, conducting individual training, conducting internal validation and assisting in the conduct of external validation by the respective TAs. The successful implementation of MATS in training establishments will require the service of Training Development Officers (TDOs); an indication of how well the training establishments have set-up the Training Development cells to monitor, implement and review its content periodically.

Currently the training establishments solely shoulder the implementation of MATS themselves with occasional requests on returns pertaining to MATS by the Army Training Headquarters. The role played by the TAs of these schools is still small and the progress seems to be either slow or has come to a standstill. Training establishments are instructed through the Army Training Committee (JKLTD) to fully implement the MATS completely. Therefore it is the responsibility of the respective Directors as TAs to ensure that MATS is fully implemented at Corps schools, while for PTD schools, the responsibility lies with the Director of Army Training Management (PPL).

THE PRESENT IMPLEMENTATION OF MATS IN TRAINING ESTABLISHMENTS

Although conducting training at training establishments is costly, the availability of selected instructors and related training aids ensure the most suitable training for individuals. Thus the importance of implementing the systematic approach to training in these establishments needs no further emphasis. Since 1984 these establishments have embarked on adopting the system by developing Training Management Plan (TMP) for all the courses

conducted. As at 1998 the success of Army Training establishments was solicited through a questionnaire survey. A total of nine Army Training establishments were selected randomly for this survey. The answers to the questionnaires were later consolidated and collated for subsequent analysis.

Generally the survey indicates that the implementation of MATS is still slow and training establishments are not exploiting the enormous benefits that can be derived by fully adhering to MATS' requirements. The understanding of MATS is still low and this could be attributed to the limited number of TDOs in these establishments. Many of the courses in these training establishments are still conducted without TMPs or with incomplete TMPs. Most of the available TMPs are in since the past ten years and practically no review has been done since then. It was revealed that the compiled TMPs are not much used for the conduct of courses but were mainly kept at the training offices and are rarely referred. When properly and completely compiled, MATS have a wealth of knowledge for all training instructors. Largely the proper implementation of MATS will require commitments from the top and the understanding of its process by all involved in the running of training at these establishments.

One of the biggest setbacks for MATS is the limited availability of TDOs in the Army. At training establishments their number is also limited and some training establishments do not have TDOs heading the Training and Development Wings. At the present moment there are about 611 TDOs in the Army and annually a small number of 20 to 25 TDOs are trained at the Army's Management Institute based at Port Dickson. The breakdown of TDOs by corps as at the end of 1998 is as follows:

* RMR	-	197
* RRD	-	62
* Royal Armour	-	50
* Royal Signals	-	27
* Royal Engineers	-	34
* Royal Artillery	-	45

* Special Forces	-	36
* GSC	-	26
* Royal Military Police	-	17
* Royal Medical Corps	-	8
* Royal Intelligence Corps	-	18
* Royal Service Corps	-	33
* Royal Ordnance	-	16
* Royal EME	-	20
* TA	-	16
* KAGAT	-	6
		611

Most of these TDOs are not being employed as TDOs. Ideally there should be one TDO for every unit of a company strength. As for the training establishments there should be a minimum of three, including the chief instructor who must be a TDO - trained.

The Training Development Wing of a training establishment is a vital organisation to ensure the proper implementation of MATS including the periodic reviews of courses. Currently most of these wings are established on an '*ad hoc*' basis with limited staffs. The conduct of internal validation and planning for the conduct of external validation are among the core functions of this wing. Findings from the survey revealed that internal validation was conducted for only a limited number of courses while external validation was almost rarely done in 1997. The consolidated feedbacks from internal validations are necessary to ensure training efficiency in terms of time, manpower or materials usage and it is current. The feedbacks from external validation are necessary to ensure training is job-relevant or effective while irrelevant training is omitted.

Training establishments must be prepared to process validation data with the use of computers as the amount of data collected is large. Without the aid of computers the large amount of data would just remain in storage and to manually process them is a tedious job. The processed data and its analyses should also be stored in the computers or on computer disks for future retrieval.

The other areas of concern is the assessment of instructors, the lack of liaison between units and training establishments to identify training problems and the setting up of question banks by training schools. Those schools, which conducted trainers' assessment, did not take subsequent actions like conducting remedial training to improve the ability of weak instructors. Trainers' induction course is also seldom conducted by training schools. The training establishments also do not have clear guidelines on the selection of instructors. The Chief Instructor frequently does selection after gathering information from the existing trainers. Training schools constantly require information from job incumbents either by having liaison with units or through external validations. The absence of this information has resulted in schools being isolated from the real job environment and thus training tends to be stagnant or obsolete. The setting up of question banks at training schools ensures the proper monitoring and conducts of examinations as examination are set by an independent body that have no affiliation with the trainees.

CONCLUSION

Training establishments are yet to realise the full potentials of implementing MATS progressively at a rapid pace in order to ensure trainings conducted at their institutions are effective in terms of cost and efficient in terms of meeting job requirements. This is very relevant in fulfilling the Army's operational requirements and keeping up with the current requirements. Training establishments however, are saddled with various problems, which inhibit the smooth implementation of MATS. The proper establishment of Training and Development wings coupled with at least two TDO - trained officers will provide the much-required impetus. Serious thoughts should be given to increase the number of TDOs in the Army, as these officers are the essential catalysts to the implementation of MATS. Training establishments would also need much

support and commitment from the top management to ensure smooth implementation of MATS. As we are moving into the next millennium a stimulus is definitely required by training establishments to change the way a training is planned, conducted and controlled in line with MATS requirement.

RECOMMENDATIONS

After considering the matter and discussed above the recommendations are:

- * All Army Training establishments should have a training and development wing in their organisation and this wing must be manned and equipped as follows:

- | | |
|---|---|
| ~ TDO | - 1 x Maj |
| ~ Assistant TDO | - 1 x Capt. |
| ~ Training Development Warrant Officers | - Number of TDWOs with one TDWO assigned to each training wing. |
| ~ Clerk/Typist | - 1 x Cpl/LCpl with knowledge of computer. |
| ~ Equipment | - Minimum 1 x computer complete with printer. |

- * The implementation of MATS must be monitored, guided and assisted by the higher command like the Army Training Headquarters and the respective Corps Directorates.

- * The number of TDOs in the Army must be significantly increased and this could be done by having more than one course per year at the Army Management Institute (IPDA).

- * Internal validation must be conducted for all courses and its findings should be the basis for the review of the Training Management Plans (TMP).

- * Training establishments must work closely with their directorates to plan external validation for all courses conducted yearly.

- * All training establishments must conduct instructor Assessment at least once in three months and take necessary steps to improve weak instructors.

- * There must be proper guidelines on the selection of instructors and the selected instructors must undergo an 'in-house' instructor performance programmes.

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"The MAF's modernisation strategy focuses on achieving a capabilities-based force, which can operate and contribute across wide-ranging military operations. Maintaining its capabilities today and tomorrow while transforming to a 21st Century Armed Forces requires a long-term cumulative effort. It takes time and resources to build a trained and ready force with the technological edge for decisive victory".

Jen Tan Sri Dato' Seri Mohd Zabidi bin Hj Zainuddin
Asian Defence Jurnal September 1999

ARMED FORCES ACADEMY:

*Centre of
Excellence In
Defence
Technology,
Research And
Teaching?*

Lt Kol Shohaimi bin Abdullah and Mej Norazman bin Mohamad Nor

Abstract

The formation of the Armed Forces Academy (ATMA) is timely and an excellent move towards producing professional military officers with proficient knowledge in the entire spectrum of military expertise. The step is in line with the aspiration of the Malaysian government towards achieving a developed nation status by the year 2020. It provides an ideal institution to train and educate military leaders in their professional fields. Future expansions of ATMA may possibly lead the organisation to be the centre of excellence in defence technology and also military studies in the region. The paper highlights the needs and the requirements of ATMA to achieve this aspiration.

INTRODUCTION

 alaysia's Vision 2020 was aimed at developing the nation to become a fully developed nation¹. The Malaysian Army Chief's Vision of Army 2000 is one that will be "more versatile, able to operate in a variety of environments, and more lethal so as to act as a reminder to the would-be aggressors of the heavy price of aggression". Such a force must at the same time be able to

respond to crisis rapidly, or at least develop an adequate portion of the force that can be rapidly deployed². To fulfill this vision, Malaysia needs reliable and effective armed forces as a deterrent to unforeseeable threats from internal and external enemy. Hence the existence of the Malaysian Armed Forces is justifiable to defend the sovereignty and integrity of the country as well as in protecting its strategic interests. A military organisation's daily routine consists of trainings for war. The trainings and education should be able to develop and sustain a combat-ready force

¹ Perspektif Wawasan 2020, Jabatan Perdana Menteri, and Dr Mahathir Mohamed, Dato' Seri. Vision 2020 Target on Track, STAR 20 Dec 1998.

² Muhammad Shuhud Saaid. The Army Aviation Corps, Sorotan Darat, Jilid 2, Bil 30, 1996.

prepared to be mobilised, be deployed in a short notice, fight, and defeat enemies as directed by the political masters.

Military personnel are increasingly involved in the use of highly sophisticated weapon systems. The role of a technological soldier assumes a growing importance. Operational and maintenance activities involve not only the use of developed technological skills but also the employment of highly skilled officers in sophisticated logistical and engineering tasks. The development of military skills justifies and necessitates the provision of equally sophisticated programmes of technical education³. The skills and expertise on systems related fields require a complex training organisation. Meanwhile, the military must consider the human goal. Leaders must see that their soldiers are serving loyally to the nation in rewarding careers. Training and education strategy must incorporate both military training goals and personal development in order to have able and willing personnel who can use and maintain high technology equipment and able to fight in modern warfare.

EDUCATING MILITARY PERSONNEL

CONTINUING EDUCATION

Technologically sophisticated hardwares do not mean much if people cannot operate or maintain them. The deployment of low-technologically oriented soldiers to operate and maintain high technology equipment presents a host of unsolved educational and training problems. Military trainings and education emphasise on procedural learnings; based on the

ATMA will create "an officer and gentlemen" with high level of discipline, highly motivated, patriotic and with unique creativity. ATMA graduates must believe nothing is impossible, until proven so. Even once proven impossible, they will work to prove that it was wrong.

mastery of predetermined sets of military performance tasks, including their conditions and standards. These types of learnings may be insufficient to prepare soldiers to be able to think and reason under tremendous stress. Often soldiers are required to act creatively, timely and forcefully, in circumstances not covered in this type of procedural learning. Additional learning, to include hypothetical deductive reasoning, may be required through which a soldier can quickly synthesise technical data and other information in order to be able to act effectively and accomplish his military missions. If free to operate as a responsible, rational and autonomous person within a group, a technically competent soldier may be able to learn to function more effectively in this manner.

Manpower availability problems, coupled with increased training requirements, may even expand the need for education both as for military job performance and also as incentives for recruitment and retention. The military offers in-service continuing education programmes tailored to meet both the organisational and the individual soldier's need. However, the fundamental assumptions upon which the system is based are; firstly, that an individual can improve both skill and knowledge through education, secondly, that the process of learning is continuous and progressive, and thirdly, that education opportunities should include a wide range of programmes and activities⁴. The types of educational programmes that are available in the military can be classified as follows:

*** Pre Service.** It provides basic education needs for potential military candidates. The level of education can be at secondary school

³ Gwyn Harries-Jenkins. *The Education and Training of Military Elite*, Maxmillian Press Ltd, 1989.

⁴ Clinton L Anderson. *Educating the United States Army*, Maxmillian Press Ltd, 1989.

level such as the Armed Forces Apprentice Trades School at Port Dickson and the Putera's Wing of the Royal Military College. Another scheme is the Reserve Officer Training Unit (ROTU) programmes in the institutes of higher learning. The school army cadets also provide a source for potential military candidates where they have been exposed to military environment as part of their extra-curricular activities in their schools.

* **Improvement of Basic Education for Soldiers.** This scheme is aimed at improving the basic education level of soldiers. Facilities are provided by the units or formations in the forms of classrooms, books and teachers to prepare soldiers to take their examinations, normally at SPM level.

* **Undergraduate Scheme for ORs and Officers.** This scheme provides serving personnel to further their studies at local and foreign universities at diploma or first-degree levels in the relevant fields. Soldiers are accepted into the universities based on their individual academic achievements.

Another means of studying at local university is through a memorandum of understanding between the military and local universities such as the existing ones with ITM, UTM and UKM.

* **Advanced Academic Courses.** This scheme provides highly specialised courses for soldiers to gain in-depth knowledge in various fields. Experienced officers at postgraduate level normally attend the courses. Such courses

include Masters in Business Studies, Masters in Defence Administration, Masters in Strategic Studies, Masters in Military Operational Research, Masters in Military System Engineering etc. Officers are also sent for PhD level studies.

DEVELOPING MILITARY OFFICERS

Military officers are its uniformed leaders. They must be educated, trained and inspired to lead courageously and loyally, contributing a career of selfless service. Parallel to the highly technological development of military hardwares, the military needs to identify the optimum mix of education, and physical, military and moral ethical preparation for its future leaders. These leaders must be effective in peace time to develop the right doctrine, acquire the right equipment, instate the right structure and troop level, and conduct the right training to ensure high preparation standard to fight and win. They need to be highly committed, courageous and compassionate. The military also identifies integrity, honour, respect, selflessness, service, loyalty, courage and duty as core values to winning wars.

Military leaders must be sophisticated users of advance technologies and comfortable employing scientific, mathematical and engineering concepts to solve national security problem. They must be leaders in character, loyal to values of the nation and possess the wisdom to know what is right and demonstrate the courage and commitment to act accordingly.

In the modern military, leadership must be based on respect and cannot be built through harsh treatment or abuse. As leaders, military officers will serve in an environment of joint and coalition operations, both domestically and abroad. They will lead people, organise resources, interact with local and foreign cultures and maintain high state of readiness. To succeed, they must understand the context of their social world, what motivates human behaviour and how to influence such motivations.

They must be creative in thought and decisive in action under conditions of uncertainty.

Military leaders must be sophisticated users of advanced technology and comfortable employing scientific, mathematical and engineering concepts to solve national security problems. They must be leaders of character, loyal to the values of the nation and possess the wisdom to know what is right and demonstrate the courage and commitment to act accordingly. They must be inspirational leaders who, by earning respects and trusts of the subordinates, receive willing and enthusiastic support. To gain the trusts and respects of the subordinates and members of joint forces, military officers must lead by example, with high integrity and genuine respect for others. Success in action demands leaders to think clearly and communicate effectively. The reality of rapid changes will require officers to self directed learning who update and expand their knowledge through self-study, continued formal education and experience.

STAGES OF CAREER DEVELOPMENT FOR MILITARY OFFICERS

Career development for officers is aimed at preparing them to function effectively throughout the progression of their career in the armed forces. Besides that it also serves as incentive to retain officers in the service and attract potential officer candidates to join the service. Career development of the officers in the future will be based on the following principles:

- * Education must be a continuous process throughout the service.
- * Education in the armed forces must be able to prepare officers for their current and future appointments.
- * All newly commissioned officers will have a minimum academic qualification at first-degree level.

* The armed forces will provide the facilities to those officers already in service without first degree qualification to study for their degrees. Flexibility for studying for their degrees in terms of entry qualifications and course attendance will be provided to matured student officers.

* All officers must be exposed to the latest system and technology related to their fields of duty to prepare them for their daily work.

* Advanced postgraduate study will be provided for officers with high aptitude on various specialised fields.

* The armed forces must develop its own expertise and research groups in various fields for its own interest.

With the above principles in mind, career development of military officers can be planned as follows:

Age	Rank	Course Type	Aim
(a)	(b)	(c)	(d)
18-30	Officer Cadet - Capt (or equivalent)	1 st degree	To educate cadets and officers at BA, BSc and BEng level.
26-30	Lt-Capt	Basic defence technology courses	Provide officers without first degree, with an understanding of basic defence technology.

(a)	(b)	(c)	(d)
26-40	Capt-Lt Col	Career courses: Technical and specialist	Provides professional career education that requires technical competencies
30-45	Capt-Lt Col	Advance defence technology and post graduate courses	Provide advanced defence technology and defence management courses; Lead to Post-graduate Diploma/Masters Degree.
32-45	Capt-Col	Research group	Selected officers within the groups involve in the advance research programmes for defence.

ROLES OF ATMA TO DEVELOP MILITARY LEADERS

ATMA as the one-off institution to develop the nation military leaders must take the responsibility to handle the challenges stated. It requires intellectual, military and physical development and a firm grounding in the values that have made the nation and its military great. Like any other higher learning institutions, ATMA will produce well-educated graduates with high level of educational standard. In addition ATMA will create '*an officer and a gentlemen*' with high level of discipline, highly motivated, patriotic and with unique creativity. ATMA graduates must believe nothing is impossible until proven so. Even once proven impossible, they will work to prove that

it was wrong. Early in the 17th Century, Sir Francis Bacon paused to reflect: "*By far the greatest obstacle to the progress of science and to the understanding of new tasks therein, is found in this - that men despair and think things impossible*"⁵.

Unlike others, ATMA will certainly be the only choice to pursue the inspiration to be the centre of excellence in defence technology. The design of the curriculum that ATMA needs to implement is based on the military needs. It must not only stress on the acquisition of knowledge but also the development of higher order cognitive skills. The curriculum needs to offer interdisciplinary opportunities for analysing, problem solving, and decision making that is fundamental to successful performance of duty as commissioned officers. ATMA academic curriculum must not be separated from the military world. Existing military technology can serve every technological quest to link with the curriculum. Science and technology courses must utilise examples in the military field. This will make ATMA graduates ready to progress comfortably from the academic world into the real military world with minimum adjustments.

ACADEMIC GOALS

To produce highly skilled military leaders, who are ethical, innovative, versatile, self-directed and effective communicators, ATMA must educate its graduates to anticipate and to respond effectively to the uncertainties of a changing technological, social, political and economic world. Among the attributes ATMA must seek to develop from its graduates are:

- * Think and act creatively.
- * Understand and apply mathematical, physical and computer sciences to reason scientifically, solve quantitative problems and use technology.

⁵ Neil Armstrong. *Something More Was Needed*, Website Cranfield University, 1998.

- * Draw on appreciation of culture and history to understand in a global context of human behaviour, achievements and ideas.
- * Understand the patterns of human behaviour, particularly how individuals, organisation and societies pursue social, political and economic goals.
- * Recognise moral issues and apply ethical considerations in decision making.
- * Demonstrate the capability and willingness to pursue progressive and continued educational development.

SCOPE OF LEARNING

Mathematics, Science and Technology. The aim is for graduates to understand and apply mathematical, physical and computer sciences to reason scientifically, solve quantitative problems and use technology. A strong foundation in mathematics, physical sciences, and in understanding technology directly, supports the goal of learning and using engineering thought process to serve human purposes. As junior officers, they can employ technologically advanced equipment and systems and lead those who use these equipment. As they become more senior, they apply their understanding to manage the development, acquisition, and implementation of technologically advanced systems and equipment and lead organisations and people involved in these efforts.

Engineering Thought Process. Graduates should use engineering thought process by which mathematical and scientific facts and principles are understood and applied to serve the needs of the military. The military needs leaders who are able to conceive and implement technological improvements and to respond to technological changes in our world. As junior officers they employ a well-reasoned problem solving process to define, model out and solve real world engineering problems through

quantitative and qualitative techniques. As they become more senior, they apply concepts from mathematical, sciences, and engineering to lead in the creation and development of components, systems and processes that meet specific purpose.

Historical Perspective. Graduates are to draw on appreciation of history to understand in a global context human behaviour, achievements and ideas. They must gather facts, evaluate conflicting evidence, determine possible causes for the events and establish a link between cause and effect. Graduates who achieve the goal draw on their appreciation of history as they address issues in the military pertaining to leadership, administration, policy, operations, planning and decision making at all levels. Such understanding enables them to discern broader patterns of continuity and change, particularly in the era of increasingly rapid changes.

Understanding Human Behaviour. Graduates must understand patterns of human behaviour, particularly how individuals, organisations and societies pursue social, political and economic goals. They have to understand various motivations behind human behaviour and apply that understanding to achieve effective leadership in a variety of situations. As junior officers, they draw on that understanding in leading subordinates to achieve a specific mission. As they advance through their positions of increasing responsibility, they use their understanding of the individual and organisational behaviour to help shape organisational goals. The decisions they make as leaders are informed by the understanding of broader social, political, and economic contexts. They have a sound foundation for the assumptions of progressive leadership responsibilities in helping to develop, plan, and implement national security policies. Studies in physiological, psychological, philosophical, economic, political, and legal branches of learning provide alternative perspectives on human behaviour.

Communication. Graduates are to communicate, especially in writing, in precise language, correct sentences, and concise,

coherent paragraph - each communication evincing clear, crystal clear. Given the fundamental contribution of the military to joint operations is the ability to conduct prompt and sustained operations throughout the entire spectrum of the crisis, military officers must be able to convey written and oral thought in a logical sequence. Graduates, knowing that faulty thinking leads to unsatisfactory communication, rely on clear and critical thinking as the basis for their writing and speaking.

Moral Awareness. Graduates must recognise moral issues based on Islamic teachings and apply ethical considerations in decision making. ATMA will attend to the moral development of cadets, a process integrated throughout all activities and integral to the intellectual programmes. The goal calls for an academic curriculum in which cadets recognise moral issue, account for the applicable ethical considerations, and produce justifiable responses.

Continued Educational Development. Graduates should also demonstrate the capability for a willingness to pursue progressive and continued educational development. In the ever-increasing utilisation of modern highly technological war machines, graduates will be faced with a variety of missions, which they must be prepared on short notice for deployment. Graduates must be able to anticipate, and respond effectively to the uncertainties of a changing technological, social, political and economic world. As they consider new issues, they know how to assess new ideas and information and know how to obtain, evaluate and use these information effectively. Such capabilities will enable them to continue their education after leaving the academy and enhance their ability to function effectively in a rapidly changing world.

Creativity. Creativity is developed in every discipline over the entire cadets' years. The curriculum demands cadets to develop new ideas and to create new products. Some of the elements of the core curriculum that make significant contributions to this goal are:

- * The core-curriculum that sparks the cadets' imaginations and develops their curiosity by exposing them to a wide variety of challenging subjects.

- * The various academic programmes that contain courses wherein reasoning, writing, and problem solving require cadets to use imaginations and innovations.

- * Academic projects and laboratory requirements which demand that cadets cope with ambiguities and explore alternatives to discover solutions or produce new products.

- * The art and structure of technical problem solving which are learned by cadets in a variety of disciplines including computer science, mathematics, science, engineering, and social sciences.

- * Inter-disciplinary projects and activities which demand the application of intellectual versatility and curiosity to transfer the cadets' learning from one context or discipline to another.

- * The humanities which specifically teach critical thinking and logics through the study and analysis of the different view-points of major philosophical, historical and cultural issues.

- * Engineering-designed projects and research papers that are often open-ended and require significant creativity and provide massive potential for expansion.

- * Experiences in each of the core curriculum programmes, which require cadets to think and act creatively.

Creativity is an indispensable element of an active classroom. One way to establish an interactive and engaging classroom is to encourage questioning and discussion. When an answer generates further questions, important thinking and problem solving occur.

ATMA AND RESEARCH IN DEFENCE TECHNOLOGY

The current situation of industries in Malaysia is the lack of expertise in scientific and technological fields at all levels: technicians, engineers, and scientists⁶. It is dependent on specific fields and it lacks the ability to improve the quality and the productivity rate of the products. It also is very much dependent on the technology importer even in technical services due to the lack of own ability to develop the technology⁷. The industry in the field of defence is still in its infancy stage. Among the reasons for this shortage of developments are; firstly, the lack of technological ability in the local industries i.e. the ability to select, acquire and absorb, develop and trade modern technology; secondly, the slow process of technology transfer besides having low level technology transfer, and thirdly is the lack of human resources in the scientific and technical fields.

The industry in the field of defence is still in its infancy stage. Among the reasons for this shortage of developments are; firstly, the lack of technological ability in the local industries, secondly; the slow process of technology transfer besides having low level technological transfer and thirdly is the lack of human resources in the scientific and technical fields.

Using the '*lack of expertise*' as an excuse is like saying we lack plan. Expertise grows with involvements and intensifications, therefore, with laid-down plans, the required expertise can and will be developed. Defence technology is the tip of the technology, therefore it can serve other sectors as well and the effort will pay back. The fields of research that ATMA can possibly handle as compared with similar fields in the civilian applications are:

Defence Fields	Related Civilian Fields
(a)	(b)
Defence management	Management and administration.
Military vehicles and weapon systems	Mechanical, aerospace, and electrical engineering.
Ammunition and explosives	Chemical engineering.
Communications and information system	Communications and IT.
Surveillance and control systems	Radar and remote sensing.
Operational analysis, simulation and design	Management science, computer science, and statistics.
Nuclear, biological and chemical defence	Environmental science and engineering. Medical.
Defence related medicine	Civil engineering and architecture.
Defence infrastructure and protection	

LOOKING AHEAD: ROLES OF ATMA

Undergraduate Studies. It is to provide education at first degree level to military officer candidates (cadets) of the three Services. The curriculum will be concurrent with military subjects. Academic curriculum will cover various subjects related to defence such as engineering, management, applied sciences, sociology, law etc. Graduates will be able to serve effectively in their working environments to lead soldiers into battles and also in the case of technical corps, will be effective to solve technical and logistical problems in their various units. Suggested fields of study are as

⁶ Pelan Induk Perindustrian Negara. Pengumuman Menteri Perdagangan dan Perindustrian, 3 Feb 1986.

⁷ Dasar Sains dan Teknologi Negara. Jabatan Perdana Menteri.

listed in Annex A. On completion of the academic and military courses, cadets will be awarded Bachelors Degrees either in Arts, Science or Engineering. Courses may be offered in the forms of part-time or full-time to matured students or military officers who did not have the chance to take their academic degrees previously. It may provide places for non-military students from the defence industry, civilian personnel in the Ministry of Defence and foreign students.

Post-graduate Studies. It provides specialised education at postgraduate level for serving military personnel and civilian personnel in the Armed Forces at such as the Postgraduate Diplomas, Masters Degrees and Doctorates. The level of study will prepare officers to hold the more demanding senior specialised posts. The products of the courses will have in-depth management, logistics or scientific and technical skills to use and to maintain existing systems or organisations and to influence the procurement and design of future system. The courses also will be able to meet the needs of those working in the defence industries. Suggested courses are listed in Annex B.

Technical and Specialist Courses. It provides technical and specialist modular education for serving military personnel and civilian personnel in the Armed Forces. These courses provide general understandings and backgrounds for various technologies and also management and logistical tools to prepare officers, non-commissioned officers (NCOs) and engineers in the defence industries as part of their career development and also to prepare them for their next postings. It gives them a sound grounding to move into their daily work environment. These courses may also be conducted in modular forms from parts of the post-graduate studies curriculum. Suggested courses are listed in Annex C.

Research in Defence Technology. ATMA research capability should be developed to fulfill the aim of becoming the centre for new ideas and concepts that it disseminates through

out the military community and defence related society. It should be able to provide commercially viable research and consultancy facilities to the Ministry of Defence (MINDEF), Defence Science and Technology Centre (DSTC), defence industries, and other research establishments. It should be able to cover the complete scope of defence spectrum of land, sea and air from the highest level of operational studies and analysis through the various categories of basic and applied research, to consultancy advice on the procurement process.

It must plan and be able to develop highly experienced scientists, engineers, and project managers to the level of experts. These are the groups who will provide a full range of research services from concept and feasibility studies to design and hardware constructions. The products of the research must be able to compete in the international market to provide competitiveness to the nation's export. ATMA needs to have a broad range of skills, which can be exploited for research, development and consultancy inclusive of analysis, modelling studies and experimental support. It must be able to cover all aspects of defence technology; aviation, land systems, sea systems, weapon systems, command and information, electronic, structural and material, operational analysis, chemical and biological defence, human sciences and information management among others.

The future roles defined above will need tremendous developments in the forms of teaching expertise, research personnel, infrastructures and equipment. Priorities on courses and research areas must be determined within the earlier part of the planning stage. Lecturers, researchers and selected graduates should be sent for specialised courses and attachment locally and, whenever necessary, abroad to obtain the expertise required. Where expertise are hard to obtain, the possibility of acquiring outside expertise should be thought of to boost training capability. Facilities and infrastructures should be developed in line with research activities.

CONCLUSIONS

ATMA as the nation's one-off type of military higher learning institution has the potential in producing quality graduates and military leaders. The needs to produce officers with military-based degrees and scientists in the area of defence technology are a real challenge to the institution. The structure of the courses offered must be tailored to the needs of the military and defence industry. The syllabus taught in study programmes must relate to the military applications. It must also enhance the current capability to offer introductory and advanced courses in various specialised fields of study to all levels of military personnel. It must seek to educate military officers and defence related expertise with in-depth management, logistics, scientific and technical skills at postgraduate level to enable them to use and to

maintain existing systems or organisation and to influence the procurement and design of future systems. Ultimately, ATMA may seek to enhance its research spectrum in order to develop and improve defence capability of the nation.

ATMA must be flexible and open its way for part-time and distance learnings to ensure maximum utilisation of resources and time, while maximising opportunity. ATMA must groom candidate without fear. Expertise in teaching and research must be built from now on a massive number of essential specialisation. The building up of research capability must be achieved in due time. Then ATMA will be invincible and expandable in the borderless world. With pride, ATMA will succeed as a centre of excellence in defence technology research and teaching.

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"Tiga perkara yang sesiapa mempunyainya di dalam diri maka ia adalah munafiq. Apabila bercakap ia dusta, apabila berjanji tidak dikotakan dan apabila diberi amanah ia khianat".

Riwayat Bukhari dan Muslim

Annex A**SUGGESTED UNDERGRADUATE COURSES**

Aerospace Engineering	BEng
Electrical Engineering	BEng
Civil Engineering	BEng
Command & Control (Communications and Information System)	BSc
Computer Science and Engineering	BEng/BSc
Electronics Engineering	BEng
Geography	BA
Mechanical Engineering (With Management)	BEng
Mathematical Science	BSc
Medical	MBBS
Transportation/ Logistics Management	BSc
Physics	BSc
Chemical Engineering	BSc
Environmental Engineering	BSc
Architecture	B Architecture
Law	LLB
Behavioural Science and Leadership	BA/BSc
Social Science	BSc/BA
Military History	BA
Other military related degrees	

SUGGESTED POST GRADUATE COURSES

Courses	Award	Contents
(a)	(b)	(c)
Guided Weapon Systems	MSc/ PgDip	Part 1- Control, guidance, airframes, propulsion, and computers systems. Part 2 - Warhead design directed energy weapons, operational analysis, acquisition and management.
Military Vehicle Technology	MSc/ PgDip	Numerical methods, propulsion and dynamics, power-plants, control, terra-mechanics and performance, materials and terminal ballistics, drive lines, gun and ammo systems, reliability, guided weapons.
Design of Information Systems	MSc/ PgDip	Information systems, mathematics and statistics, applied probability, system theory. Organisations, human factors, goals and objectives.
Gun Systems Design	MSc/ PgDip	Numerical methods, materials, ballistics, dynamics, control, propulsion, design, ammunition, guided weapons, thermodynamics, explosives, structural design, reliability, rocket motors. A vehicle/weapon system study.
Explosives Ordnance Engineering	MSc/ PgDip	Explosive science, propellants, ballistics, thermodynamics, pyrotechnics, manufacture, ammunition systems, materials, shaped charges, sensing systems, rocket motors, detection guided weapons, forensics.
Weapons Effect on Structures	MSc/ PgDip	Structural design and failure, blast loading, design TM5 1300, numerical methods, materials and terminal ballistics, ground shock, penetration and protection overlays, damage assessment, repair and demolition, explosives.
Military Electronics Systems Engineering	MSc/ PgDip	Electronics and electronic engineering, communications, sensor science, radar, software engineering, linear systems and control, signal processing and simulation. Intercept, decision and statistical estimation, direction finding and antenna systems, stealth, ECM, IR etc.

(a)	(b)	(c)
Medical Ultrasound	MSc/ PgDip	Highly competent and safe practitioners with a substantial core of theoretical knowledge able to critically analyse their professional practice and execute research and implement appropriate responses.
Military Operational Research	MSc/ PgDip	High Level military operational research techniques: statistical analysis and trials; logistics modelling, weapon assessment; war gaming and combat modelling; decision analysis and strategic analysis.
Masters of Defence Administration	MDA	Effective learning, Defence management environment, management science, organisational behaviour, economic and financial principles, operations and logistics management. Management of information, strategic and change management. Human resource management, marketing.
Defence Technology	MSc	To prepare military officers for the appointments of staff officer in technical appointments at higher formations.
Defence Simulation	MSc/ PgDip	Modelling and Simulation, programming with F90 and C, war gaming and combat modelling, software engineering, systems in science engineering and management, graphics, surface and solid modelling, neural networks, parallel processing, algorithms and architecture, system dynamics, analysis and trials, network and distributed systems, simulation in engineering.
Defence Logistics Management	MSc/ PgDip	To prepare military officers for the appointments of staff officer in logistics appointment at higher formations.

Annex C**SUGGESTED TECHNICAL AND SPECIALIST COURSES**

Courses	Output
(a)	(b)
Combat Arms Fighting Systems (CAFS)	Output – Junior Officers able to conduct equipment trials at unit level; fill appointments at trials establishments and manage military vehicle projects.
Ammunition Technical Officers (ATO)	Output: Officer and NCO with the basic grounding the sciences underlining the design of explosives and ammunition.
Petroleum Chemistry and Technology	Output: General and organic chemistry, petroleum chemistry, hydraulics and electrical engineering
Officer's Long Aero Engineering Course	Output: To prepare officers for their aircraft related engineering posting.

WEAPONS STAFF OFFICERS

Guided Weapon Technology	Output: Officers with an understanding of the requirements of guided weapons, their underlying technology and current and future systems.
Defence Electro Optics and Imaging Systems	Output: An introduction for weapon staff officers to the principles and potential defence applications of a range of contemporary Electro-optical imaging devices and processing techniques.
Military Communications	Output: A broad view of some of the problems and techniques of military communications.
Military Operational Analysis / Research	Output: An introduction for weapon staff officers to operational research techniques: statistical analysis and trials; logistics modelling, weapon assessment; war gaming and combat modelling; decision analysis and strategic analysis.
Military Operational Analysis – Appreciation	Output: An introduction for weapon staff officers to the techniques of operational research in military decision making.

KUASA DALAM STRATEGI PEPERANGAN VIETNAM

(Kupasan secara kritis peranan kuasa dalam perperangan yang melibatkan tentera Amerika Syarikat dan tentera Vietnam Utara)

Mej Che Bakar bin Mohd Arifin

PENDAHULUAN

Rantau Asia Tenggara merupakan satu kawasan rebutan yang menjadi idaman setiap kuasa besar di dunia, malahan sebelum era Perang Dingin sebahagian besar negara-negara di rantau ini telah dijajah oleh bangsa Eropah seperti Perancis, British, Belanda dan Sepanyol. Peninggalan mereka dari rantau ini sama ada akibat dari perjuangan peribumi demi untuk membebaskan negara dan seterusnya mencapai kemerdekaan dari cengkaman penjajah atau akibat dari kekalahan dalam perperangan seperti yang telah berlaku ke atas Perancis semasa perang Indo-China Pertama.

Era Perang Dingin memperlihatkan dua kuasa besar iaitu Amerika Syarikat (AS) dan Uni-Soviet muncul mempengaruhi arena politik antarabangsa. Mereka telah memperluaskan pengaruh masing-masing terutamanya ke atas negara Dunia Ketiga yang kebanyakannya terdiri daripada negara miskin yang masih memerlukan bantuan berbentuk ekonomi dan ketenteraan untuk terus maju dalam sistem hubungan antarabangsa. Fenomena ini tidak terkecuali terhadap negara Indo-China yang telah dijadikan sebagai medan utama untuk meluaskan kuasa dan pengaruh Perancis pada peringkat awal, dan kemudiannya telah diambil

alih oleh AS dalam perperangan Indo-China Kedua.

Perang Indo-China Pertama telah memperlihatkan kekuasaan Perancis yang mempunyai arsenal persenjataan serba lengkap, akhirnya tunduk dan ditewaskan oleh kekuasaan bangsa Vietnam yang serba kekurangan yang hanya berbekalkan semangat juang yang tinggi dalam menghadapi lawannya. Perang Indo-China Kedua yang merangkumi "Offensive Tet" pada tahun 1968 dan "Offensive Spring" pada tahun 1972 telah memberi peluang dan kesempatan kepada AS untuk menguasai dan mengambil alih "power vacuum" yang telah ditinggalkan oleh Perancis.

Hakikat utama penglibatan AS di bumi Vietnam adalah untuk membina "Tembok Besar Cina" di Vietnam Selatan agar pengaruh komunis tidak merebak ke garisan lintang 20 darjah yang membahagikan kedua-dua negara. Ia bukan setakat ke negara Vietnam Selatan tetapi ke negara-negara lain di Asia Tenggara yang banyak memberi kepentingan kepada AS. Justeru itu, AS telah memperkenalkan "Doktrin Truman" yang pada asasnya ialah untuk memerangi tentera Vietnam Utara dan Vietcong bagi menyekat ideologi komunis merebak ke negara-negara tersebut. Akibat kepentingan doktrin ini, AS telah menghantar beribu-ribu tenteranya ke Vietnam Selatan untuk

memerangi tentera Vietnam Utara bagi menguatkan rejim pemerintah Vietnam Selatan di bawah pimpinan Ngo Dinh Diem. Esei ini akan membuat analisis bagaimana peranan kuasa ditonjolkan oleh kedua-dua negara khususnya dalam peperangan Indo-China Kedua.

KONSEP KUASA

Sebelum melihat apakah peranan kuasa yang dimainkan oleh AS dan Kerajaan Hanoi, adalah bertepatan sekiranya dilihat apakah yang dikatakan kuasa? Mengikut Ray S. Cline, beliau menjelaskan, kuasa di peringkat antarabangsa boleh didefinisikan sebagai berikut, "*The ability of the government of one state to cause the government of another state to do something which the latter otherwise would not choose to do, or to cause the government of another state to refrain from doing something it wants to do whether by persuasion, coercion or outright military force*"¹. Bagi Hans J. Morgenthau, beliau mengatakan "*power on the international scene may therefore comprise anything that establishes and maintaining some form of control of state over state*"².

Dalam mengkategorikan kuasa, mengikut Harold J. Kearsley, beliau membahagikan kuasa kepada tiga kategori iaitu kuasa politik (merangkumi aktiviti politik, inovasi, falsafah, ideologi dan pendekatan sains dan teknologi), ekonomi dan akhirnya kuasa tentera³. Sebelum melihat bagaimana peranan kuasa dipamerkan oleh AS dan Kerajaan Hanoi semasa perang di Vietnam perlulah dilihat bagaimanakah strategi yang digunakan oleh AS dan Hanoi dalam memerangi peperangan di Vietnam. Sehubungan itu juga, strategi merupakan salah satu unsur penting apabila membicarakan konsep kuasa.

STRATEGI AMERIKA SYARIKAT

Strategi AS dalam Perang Vietnam Kedua amat mengelirukan sejak dari awal penglibatan tenteranya di negara itu lagi. Sesetengah penganalisis AS berpendapat ia adalah peperangan ala konvensional untuk menawan tentera tetap Vietnam Utara melalui kekuatan tentera (*military force*). Ada sesetengah pemerhati pula berpendapat strategi AS ialah untuk mengalahkan gerila awam yang berkekuatan seramai 150,000 di pedalaman. Ini menyerlahkan yang strategi AS tidak jelas dan konkret kerana gagal mengenal pasti siapakah lawannya dan apakah jenis peperangan yang akan dilaksanakan. Mengikut Henry Cabot Lodge, AS menghadapi tiga jenis lawan dalam peperangan itu. Pertama Tentera Tetap Vietnam Utara sejumlah 50,000, kemudian Tentera dari Selatan yang dipimpin oleh Tentera Vietcong seramai 50,000 hingga 75,000 dan musuh utama atau "*the real cancer*"⁴ ialah gerila awam yang berkekuatan seramai 150,000 bergerak di pedalaman dan perkampungan Vietnam Selatan.

Strategi kedua AS ialah dengan menggunakan strategi defensif demi untuk mencapai "*containment policy*" yang telah digariskan yang bersesuaian dengan Dasar Nasional AS. Seperti kata Colonel Hoang Ngoc Lung dari Tentera Republik Vietnam "*The Americans had designed a purely defensive strategy for Vietnam. It was a strategy that was based on the attrition of the enemy through a prolonged defence and made no allowance for decisive offensive action*"⁵. Selain strategi di atas, mengikut Ketua Strategik dan Ketua Pemerintah Pasifik (CINCPAC), Admiral U.S.G. Sharp, tujuan utama tentera AS ialah untuk mewujudkan suasana keselamatan di Vietnam supaya semua jentera kerajaan dapat berfungsi dengan baik tanpa dieksplotasi, dan di tekan oleh pihak lawan. Bagi mencapai tujuan ini, AS telah menggariskan tiga⁶ strategi. Pertama

¹ Ray S. Cline, *World Power Trends and US Foreign Policy for the 1980s*, 1980, Westview Press Inc, hal 12.

² Han J. Morgenthau, *Politics Among Nation, The Struggle for Power and Peace*, 1973, New York hal 28

³ Harold J. Karsley, *Maritime Power and 21st Century*, 1992, Darmouth Publishing Company Limited, U.S.A, hal 21.

⁴ Theodore Drapper, *Abuse of Power*, 1967, The Viking Press Inc, hal 108.

⁵ Colonel Hoang Ngoc Lung, *Strategy and Tactics*, 1980, U.S. Army Centre of Military History, hal 71.

⁶ Harry G. Summers, Jr. *On Strategy, A Critical Analysis of the Vietnam War*, 1982, Presidio Press, hal 117.

melaksanakan Perang Darat dan Udara di Vietnam Selatan, kemudian diikuti dengan program "pasification" untuk membangunkan Vietnam Selatan dan akhir sekali melancarkan tindakan ofensif udara dan laut ke atas Vietnam Utara.

Setelah peperangan berlalu, ternyata ketiga-tiga strategi yang digariskan oleh Admiral Sharp menemui kegagalan. Tindakan untuk memusnahkan tentera Vietnam Utara (*main force*) sebagai musuh utama⁷ tidak kesampaian dan AS hanya berjaya memusnahkan tentera Vietcong (*secondary force*). Begitu juga untuk membangun negara dan rakyat Vietnam Selatan (*pasification program*), telah gagal, hanya selepas tahun 1967 apabila AS terlibat secara langsung, barulah 'Vietnamisation' menjadi realiti. Tindakan ofensif melalui kuasa udara ke atas Vietnam Utara ini didapati memberi kelebihan kepada AS, namun sekiranya ia dilakukan secara berterusan, tindakan ofensif ini akan lebih berjaya. Ini amat jelas seperti apa yang dipersetujui oleh Ketua Staf Bersama (*Joint Chiefs of Staff*) yang bercanggah pendapat dengan Penolong Setiausaha Pertahanan, John T. Mc Naughton yang mahukan strategi "*slow squeeze*" dilaksanakan. Ketua Staf Bersama mahukan pengeboman dilakukan secara:

"Hard and fast to obtain maximum impact with minimum loss. To start lightly and escalate slowly, they held, would be like pulling a tooth bit by bit rather than all at once and getting it over with. If the purpose were to affect Hanoi's will, then the Joint Chiefs said the United States would have to hit hard at vital points and demonstrate a willingness to apply unlimited force".⁸

Dari hasil kajian yang dilakukan setelah tamatnya perang Vietnam, strategi sebenar AS hendak mengelakkan pertempuran berlaku di Vietnam Selatan (*limited*) dan melancarkan tindakan ofensif ke tempat penumpuan dan

perlindungan tentera tetap Vietnam Utara iaitu dari Dong Ha di Vietnam Utara sehingga ke Savannakhet di sempadan Laos – Thailand. Sekiranya tindakan pengeboman dilakukan di kawasan tersebut, ternyata ia dapat menyekat "*the physical capability to move men and supplies through the Laos corridor*".⁹ Manakala strategi Hanoi adalah jelas dengan melancarkan peperangan revolusi berbentuk "*Maoist model*"¹⁰ seperti yang digunakan semasa Perang Indo-China Pertama yang menekankan kepada tiga tahap.

STRATEGI HANOI

Strategi Hanoi untuk melawan AS seperti yang disebutkan di atas, ialah dengan melancarkan Perang Revolusi ala '*Maoist*' seperti yang telah dilakukan ketika mengalahkan Perancis dahulu. Walau bagaimanapun oleh kerana menghadapi lawan yang berlainan, mereka telah membuat sedikit perubahan agar bersesuaian dengan kekuatan dan kecanggihan persenjataan yang dimiliki oleh AS. Strategi utama Hanoi ialah menghalang AS mencapai objektifnya dengan melibatkan peperangan secara berlarutan yang mementingkan "*cost tolerance*".¹¹ Hanoi sedar, AS memiliki banyak kelebihan dalam peperangan ini. Oleh yang demikian, Hanoi telah menggunakan "*cost tolerance*" sebagai sebahagian daripada unsur utama kuasa seperti yang diutarakan oleh Walter S. Jones "*The party inferior in strength and yet superior in cost tolerance may paradoxically be more powerful than a strong opponent less willing to suffer*".¹² Strategi ini juga merupakan sebahagian daripada unsur kuasa dalam "*power equation*" yang diutarakan oleh Ray S. Cline iaitu:

$$\text{Perceived Power} = (\text{Population} + \text{economy} + \text{military capabilities}) \times (\text{strategy} + \text{will})$$

$$\text{Pp} = (\text{C} + \text{E} + \text{M}) \times (\text{S} + \text{W})$$

⁷ Op Cit, Harry G. Summers, Jr, hal 121.

⁸ Ibid, hal 116.

¹¹ Walter S. Jones, *The Logic of International Relations*, 1985, Little Brown Ltd, hal 259.

¹² Ibid, hal 259.

Dapat dilihat Vietnam Utara telah menggunakan "Will" (W) untuk mencapai strategi nasionalnya dalam melawan kekuasaan AS. Selain itu juga, unsur di atas telah membawa kejayaan kepada Hanoi dan melemahkan semangat tentera AS kerana perang yang berlarutan telah melibatkan kos yang tinggi, menghakis kesabaran dan menghabiskan sumber. Keadaan ini memberi kesan kepada kekuatan kuasa politik dan tentera AS.

Di samping itu, strategi utama Hanoi lebih menjurus kepada bentuk psikologi kerana matlamat utamanya untuk melemahkan "aggressive will" (*y chi xam luoc*)¹³ AS. Hanoi telah menitikberatkan aktiviti tentera dan politik di setiap kawasan atau zon yang mereka kuasai. Pada mereka, model strategi ala Maoist perlu diubahsuai kerana semasa Perang Dinh Bien Phu, Jeneral Giap walaupun berjaya mengalahkan Perancis, beliau terus menumpukan ke tahap ketiga iaitu "*Counter-offensive*" (*positional warfare*) tanpa melalui tahap pertama dan kedua. Dalam perang ini Kerajaan Hanoi telah membuat persiapan yang rapi dari tahap pertama sehingga ke tahap ketiga. Hanoi telah menggunakan model strategi¹⁴ berikut untuk melawan AS:

- * Tiga jenis perang (*Three types of War*).
- * Tiga kawasan strategik (*Three strategic zones*).
- * Tiga titik serangan (*Three points of attack*).
- * Tiga jenis pasukan (*Three types of forces*).

Bagi Vietnam Utara, strategi tiga jenis perang meliputi strategi-strategi berikut; pertama, melancarkan perang khas (*special war*) yang menekankan kerjasama kerajaan Saigon dan tenteranya. Sekiranya peringkat ini

tidak berjaya, ia akan diikuti dengan perang terhad (*limited war*) di kawasan Vietnam Selatan. Jika kedua-duanya juga gagal, perang am (*general war*) akan dilancarkan yang melibatkan Republik Rakyat Cina (RRC) dan Uni-Soviet.

Bagi menjayakan tiga jenis zon atau kawasan pula, tumpuan akan dipusatkan di kawasan pergunungan (*rung nui*) kerana kawasan ini amat sesuai untuk angkatan besar (*main force*) bergerak bebas. Di kawasan ini aktiviti berbentuk ketenteraan sepenuhnya dapat dilaksanakan. Ia kemudian bergerak ke kawasan muara sungai (*delta*) yang mempunyai ramai penduduk dengan menjalankan aktiviti ketenteraan dan politik; dan seterusnya mereka akan bergerak ke bandar-bandar untuk melaksanakan aktiviti politik secara menyeluruh¹⁵.

Manakala tiga titik serangan ialah untuk melemahkan moral dan semangat tentera Saigon melalui aksi ketenteraan, politik dan psikologi. Akhir sekali strategi tiga jenis pasukan pula mengandungi angkatan utama (*main force*), barisan tempatan (*local force*) dan unit gerila (*guerilla units*)¹⁶. Bagi kerajaan Hanoi, angkatan utama merupakan yang terpenting daripada ketiga-tiga unit tersebut kerana tugas mereka ialah untuk memberi perlindungan kepada barisan tempatan dan unit gerila menjalankan aktiviti memerangi tentera Saigon dan AS. Pada keseluruhannya apabila dianalisis antara kedua-dua strategi iaitu AS dan kerajaan Hanoi, ianya berpihak kepada strategi Hanoi yang mempunyai tujuan strategi (*strategic purposes*) yang kukuh dan konkrit berbanding strategi AS. Ini amat bertepatan kerana unsur strategi merupakan sebahagian daripada "*power equation*" yang diutarakan oleh Ray S. Cline.

DIMENSI KUASA POLITIK

Dalam memperkatakan kuasa politik adalah amat bertepatan jika dirujuk kepada apa

¹³ David W.P. Elliott, *Hanoi's Strategy in the Second Indo China War*, 1993, Yale University Press, hlm 70.

¹⁴ *Ibid*, hal 71.

¹⁵ *Ibid*, hal 71.

¹⁶ *Ibid*, hal 71.

yang diungkapkan oleh Han J. Morgenthau. Beliau menjelaskan kuasa politik ialah "*The mutual relations of control among the holders of public authority and between the latter and the people at large. Political power is a psychological relation between those who exercise it and those over whom it is exercised*". Dari definisi di atas, empat perkara penting perlu dilihat iaitu kuasa dan pengaruh, kuasa dan kekerasan, kegunaan dan kebergunaan kuasa dan akhir sekali kuasa sah dan tidak sah (*legitimate and illegitimate*)¹⁷. Peranan kuasa di Vietnam dilihat sebagai merangkumi ruang lingkup kuasa, kekerasan, kuasa sah dan tidak sah. Komitmen utama kuasa AS di bumi Vietnam ialah mengenai Teori Domino (*domino theory*).

Teori ini menjadi isu utama semenjak diperkenalkan pada tahun 1954 oleh Presiden Eisenhower kemudian diteruskan oleh Presiden Kennedy sehingga ke Presiden Nixon. Dalam satu temuramah, Presiden Kennedy menguatkan hujah Teori Dominonya dengan berkata "*The war in Vietnam was not between the South Vietnamese and the Vietcong, not even between the United States and North Vietnamese, but between the United States and Communist China*"¹⁸. Setelah Nixon menjadi Naib Presiden pada 1965, beliau seterusnya menekankan dengan jelas "*we can never negotiate surrender, retreat, neutralisation or partition of Vietnam, the only cause acceptable to him was to end the war by winning it in South Vietnam*"¹⁹. Kenyataan yang disuarakan oleh ketiga-tiga Presiden tersebut jelas menunjukkan kegunaan kuasa politik mereka untuk mengancam dan mempengaruhi "will" Vietnam Utara khasnya dan negara komunis amnya sebelum melakukan kekerasan (*use of force*).

Bagi pemimpin-pemimpin politik AS, penglibatan tenteranya di Vietnam ialah untuk menghalang kuasa komunis daripada berkuasa di Selatan, dan pada pandangan pemimpin negara-negara komunis pula, mereka

dikehendaki mempertahankan kuasa komunis daripada dimusnahkan oleh kekuasaan AS. Dengan ini masing-masing begitu optimis seperti kata Theodore Drapper dalam bukunya "*The Abuse of Power, that each sides is trying to prevent the other from winning too much and itself from losing too much*"²⁰. Jelaslah kedua-dua pihak menggunakan kuasa politik terlebih dahulu untuk menegakkan perjuangan mereka sebelum menggunakan kuasa ketenteraan sebagai opsyen terakhir.

Mengikut kajian, selain daripada untuk menghalang ideologi komunis berkuasa di Vietnam Selatan, keputusan yang diambil oleh pemimpin Rumah Putih untuk terlibat di Vietnam kelihatan berbelah bagi. Ini adalah kerana mengikut ramai penggubal dasar AS di Pentagon berpendapat isu utama ketika itu (1964) ialah isu Goldwater²¹ (kawalan ke atas senjata nuklear) berbanding penglibatan AS di Vietnam. Walaupun pada perang awal di Vietnam, AS telah membelanjakan sebanyak US\$3.3 juta bagi membantu Perancis namun ia tidak menjadi isu utama bagi Presiden Lyndon Johnson dan pemimpin-pemimpin politik negara itu.

Ini memperlihatkan kepentingan nasional yang merupakan tunjang utama dalam pendekatan kuasa sentiasa berubah dan goyah dalam polisi AS. Pada awalnya pengaruh komunis memang merupakan perkara pokok untuk menghalang penguasaan Vietnam Utara, tetapi apabila isu Goldwater timbul, kepentingan di Vietnam sudah menjadi soal kedua. Berlainan dengan kerajaan Hanoi kerana "*unification of all Vietnam under its sovereignty*"²² tetap merupakan matlamat utama dalam kepentingan nasional mereka. Ini telah diperkatakan oleh Richard dan dipersetujui ramai oleh pemerhati AS. Beliau menjelaskan:

"The North Vietnamese were very clear about their national interest and were willing to

¹⁷ Op Cit, Hans J. Morgenthau, hal 29.

¹⁸ Op Cit, Hans J. Morgenthau, hal 29.

¹⁹ Ibid, hal 113.

²⁰ David S. McLella & William C. Olson, *The Theory & Practise of International Relations*, 1974, Prentice Hall U.S.A., hal 177.

²² Richard Henry Foster, *Viewing International Relations & World Politics*, 1985, New Jersey, hal 160.

pursue it with a single-mindedness that always astounded Americans"²³.

Apabila merumuskan objektif jangka panjang dan kepentingan AS, Presiden Eisenhower telah meluluskan bantuan-bantuan berbentuk politik, ekonomi dan ratusan penasihat pertahanan kepada Vietnam Selatan. Penasihat-penasihat ini ditugaskan untuk memberi latihan dan nasihat kepada tentera Vietnam Selatan agar menjadi satu angkatan tentera yang kuat bagi memerangi tentera Vietnam Utara. Apabila Presiden Kennedy mengambil alih teraju pemerintahan AS, beliau telah meningkatkan program ekonomi dan menambah ribuan lagi penasihat pertahanan dengan tujuan tentera Vietnam Selatan berupaya mengalahkan lawan tanpa bantuan AS. Semasa Presiden Lyndon Baines Johnson memerintah AS, (arkitek keseluruhan dalam Perang Indo-China Kedua), beliau telah menunjukkan penguasaan politik dengan meningkatkan dan meluluskan kegunaan kuasa udara²⁴ dan menghantar ribuan tentera AS untuk memerangi Vietnam Utara.

Pada bulan April 1965 semasa rapat umum di John Hopkins, Presiden Lyndon Johnson telah memperlihatkan penonjolan kuasa yang begitu signifikan sekali dengan menjelaskan bahawa "We have the power and now the opportunity, for the first time in centuries, to make nations stop struggling with one another"²⁵. Katanya lagi, komitmen utama AS di Vietnam ialah untuk mengadakan perisai (*shield*) bagi menghalang merebaknya pengaruh dan ideologi komunis ke Vietnam Selatan dan negara yang berhampiran seperti katanya; "American power was the only shield available to fragile and newly independent nations in non-Communist Asia"²⁶.

Keterlibatan AS ini tidak kurang pula mengundang masalah dalaman. Pemimpin-pemimpin politik mereka telah dipersalahkan kerana gagal untuk mempengaruhi masyarakat

umum bagi mendapat sokongan padu sebelum melibatkan tentera mereka di luar negara. Di sini saya ingin menghubungkaitkan kuasa sah dan tidak sah yang ditonjolkan oleh Hans J. Morgenthau. Beliau menerangkan "*a better chance legitimate power which can invoke a moral or legal justification for its exercise, is likely to be more effective than equivalent illegitimate power, which cannot be so justified. That is to say, legitimate power has to influence the will of its objects than equivalent illegitimate power*"²⁷. Fenomena ini begitu jelas berpihak kepada kerajaan Hanoi kerana AS sendiri telah mendapat kecaman hebat dari masyarakatnya, ditambah pula oleh peranan media yang tidak menyebelahi perjuangan di Vietnam. Hanoi telah mengambil kesempatan dari keadaan ini bagi menguatkan perjuangan untuk mencapai kemenangan.

Di samping penyebab di atas, perjanjian South East Asian Treaty (SEATO) pada tahun 1954 yang menggariskan polisi berikut, "*In the event of an armed aggression against one of the signatories or any danger to the peace of the area, its operative section merely obligated them to the peace of the area, its operative section merely obligated them to consult immediately in order to agree on measures of common defence*"²⁸, memperlihatkan krisis politik telah berlaku di kalangan pemimpin-pemimpin AS dan negara-negara anggota. Mengikut Henry Cabot Lodge, komitmen di Saigon adalah kerana di atas kemahuan dan '*realpolitik*' pemimpin AS sendiri untuk melibatkan dalam kancang peperangan itu tetapi berlainan pula dengan negara-negara anggota yang lain. Negara-negara lain seperti Perancis, Great Britain dan Pakistan telah mengambil jalan selamat dengan tidak mahu terlibat dalam peperangan tersebut. Dalam konteks ini sekali lagi saya merujuk kepada tiga jenis corak kuasa politik yang diutarakan oleh Hans J. Morgenthau iaitu untuk mengekalkan kuasa (*status quo*), perubahan perimbangan kuasa (*policy of imperialism*) dan peningkatan kuasa (*policy of prestige*). Dari tindakan di atas, AS dilihat telah memilih "*policy of prestige*".²⁹

²³ Ibid, hal 160.

²⁴ Op Cit, Theodore Drapper, hal 160.

²⁵ Ibid, hal 160.

²⁶ Ibid, hal 161

²⁷ Op Cit, Hans J. Morgenthau, hal 30.

²⁸ Op Cit, Theodore Drapper, hal 157.

²⁹ Op Cit, Hans J. Morganthau, hlm 41.

dengan menunjukkan kekuasaannya tanpa menghormati negara-negara lain yang sama-sama menganggotai pertubuhan itu.

Percaturan kuasa dan politik oleh sebahagian pemimpin AS dalam perperangan di Vietnam begitu jelas sekali. Selepas kejatuhan Rejim Ngo Dinh Diem, Setiausaha Agung Pertubuhan Bangsa-Bangsa Bersatu (PBB), U Thant telah memberi cadangan kepada AS supaya kerajaan baru Vietnam Selatan terdiri daripada kerajaan campuran namun ia ditolak bulat-bulat oleh AS. Kemudian Setiausaha Agung PBB itu sekali lagi mengemukakan cadangan berbentuk "neutralisation" sebagai jalan keluar negara Vietnam dari kancah perperangan. Namun cadangan dan syor ini juga ditolak oleh Presiden Johnson. Apabila Jeneral Duong Van Minh mengambil alih tumpuk pemerintahan Saigon pada 31 Disember 1963, beliau telah awal-awal lagi diarahkan oleh AS bahawa jalan utama adalah mencapai kemenangan ke atas komunis.

Setelah inisiatif pertama dan kedua gagal meyakinkan Presiden Johnson, sekali lagi pada bulan Januari 1965, U Thant mencadangkan untuk diadakan berapa siri rundingan. Beliau sanggup mengadakan rundingan di negaranya iaitu di Rangoon, tetapi AS tetap angkuh dengan pendiriannya dengan meletakkan beberapa syarat tertentu ke atas Rejim Hanoi. Bagi Presiden AS, sekiranya Vietnam Utara bersetuju menghentikan keganasan terhadap Vietnam Selatan, beliau akan menerima pelawaan dari U Thant. Tetapi pada bulan Februari 1965, keganasan oleh Vietnam Utara masih berterusan, maka tanpa ragu-ragu AS telah membuat keputusan memerangi Vietnam Utara dan sekaligus membuktikan bahawa ia mempunyai kuasa untuk melakukan dan memenanginya.

Pada bulan Mac 1965, sekali lagi Setiausaha Agung PBB mencadangkan kepada masyarakat antarabangsa bahawa keamanan boleh dicapai melalui tiga cara. Pertama AS hendaklah menghentikan pengeboman ke atas Vietnam Utara, kedua mengurangkan aktiviti tentera oleh semua pihak yang terlibat di Vietnam Selatan dan ketiga kehadiran Vietcong

diperlukan semasa rundingan bersama diadakan, seperti katanya:

"First of all in my view, it is absolutely necessary that the bombing of North Vietnam must stop without conditions I still feel very strongly that there will be no move towards peace so long as the bombing of North Vietnam is going on"³⁰.

Tetapi ia tidak diendahkan oleh AS; pengeboman ke atas Vietnam Utara tetap diteruskan. Tindakan ini begitu jelas menunjukkan keangkuhan dan keyakinan pemimpin AS yang mengamalkan polisi percaturan politik berprestij dengan penggunaan kuasa tentera yang mengabaikan kepentingan nasional dan hanya mementingkan pemimpin.

DIMENSI KUASA TENTERA

Setelah melihat kuasa politiknya kurang berkesan dalam *"changing the other side's will"*³¹, AS telah mengambil opsyen terakhir iaitu dengan menggunakan kuasa ketenteraan (kekerasan) untuk memerangi Vietnam Utara. Ini diikuti pada awal tahun 1965, AS telah melancarkan *"Operation Rolling Thunder"*³² bagi meyakinkan pemimpin-pemimpin Vietnam Utara bahawa kemenangan tidak mudah untuk mereka capai apabila menghadapi kekuasaan dan kekuatan tentera AS. Kemudian pada musim panas 1965, AS menghantar seramai 185,000 anggota tentera ke Vietnam Selatan; menandakan penglibatan Angkatan Tentera Darat negara itu sepenuhnya. AS telah menggunakan kuasa tentera melalui pesawat pengebom B-52, pesawat taktikal udara (*air tactical*), artileri dan kereta perisai (*armor*).

"Operation Cedar Falls" dan *"Operation Junction City"* yang memindahkan penduduk luar bandar yang tinggal di pinggir-pinggir hutan ke kawasan lain dan membiarkan

³⁰ Ibid. hal 173

³¹ Ibid, hal 30.

³² Op Cit, Richard Henry Foster, hal 150.

kawasan yang ditinggalkan oleh pendudukan itu dikuasai oleh tentera Vietcong. Ini telah memberi kejayaan kepada tentera AS untuk memerangkap Vietcong. Begitu juga beberapa strategi lain seperti "Strategy of Denial" telah dilancarkan dan diikuti dengan strategi "Open area target of scorched earth tactics" dengan menggunakan keupayaan tembakan senjata meliputi zon kemusnahan yang luas. Di sini AS menggunakan bahan kimia jenis "napalm" dan "white phosphorous" ke atas penduduk Vietnam Utara. Jika dilihat secara umum, penentuan kuasa (*determinance of power*) memihak kepada AS berbanding Vietnam Utara dan Vietnam Selatan, namun tentera Vietnam Utara yang terkenal dengan kelebihan "staying and will power" sebagai salah satu unsur penting dalam "power equation" seperti pandangan Ray S. Cline, telah membawa perang secara berlarutan dan sukar ditundukkan oleh tentera AS.

DIMENSI PSIKOLOGI

Dalam aspek ini, semasa perang di Vietnam, AS bukan sahaja gagal mendapat sokongan padu dari masyarakatnya sendiri bahkan juga mendapat kecaman hebat dari negara-negara Eropah yang lain. Negara-negara yang menyokong tindakan AS hanyalah negara-negara Asia dan Pasifik Barat. Akibatnya, AS telah hilang pengaruh dalam dan luar negara. Di samping tindakan di atas, pengeboman ke atas Vietnam Utara juga turut menerima kritikan hebat negara-negara tertentu yang mengatakan ia adalah satu tindakan membuli negara kecil walaupun perancangan dan tindakan yang dilaksanakan secara terperinci dengan tidak memusnahkan dan membina sasaran awam.

Perang ini juga memperlihatkan sifat terlalu yakin pemimpin-pemimpin AS dengan "superior technology" yang dimiliki dalam berbagai aspek seperti industri, organisasi tentera dan taktik. Ini telah menimbulkan sifat angkuh di kalangan pemimpin AS untuk memerangi tentera Vietnam Utara seperti kata J. William Fullbright, "*it is the arrogance of power of the US in military and economy towards Third*

World peoples that produced fatal impacts on their societies and brought Americans into conflict with other nations"³³. Walaupun AS sedar dan melihat sendiri akan kegagalan Perancis dalam Perang Indo-China Pertama namun mereka beranggapan bahawa Perancis dikalahkan semasa perang Dien Bien Phu akibat daripada kekurangan peralatan perang berbanding AS.

Seperkara lagi ialah komitmen masyarakat AS terhadap penglibatan negara itu dalam perang di Vietnam. Dalam setiap penglibatan AS dalam perang, ia perlu diluluskan dan mendapat sokongan dari Kongres dan rakyat Amerika sendiri berdasarkan perlembagaan³⁴ negara itu. Kelulusan ini perlu diperolehi bersandarkan kepada dua tujuan. Pertama; sokongan padu dari masyarakat negara itu diperlukan di peringkat awal perang dan keduanya; setelah mendapat kelulusan, pemimpin tentera sedar objektif untuk terlibat dalam perang adalah jelas³⁵. Pengiktirafan untuk melibatkan dalam perang merupakan satu nilai yang tinggi kepada masyarakat Amerika. Kegagalan untuk mendapat "national will" merupakan salah satu faktor strategik yang membawa kegagalan AS dalam perang di Vietnam. Ini jelas seperti kata Clausewitz:

*"We must emphasize that nothing obliges us to limit this idea to physical forces: The moral element must be also considered"*³⁶.

KESIMPULAN

Bagi AS, kegagalan menggariskan objektif yang jelas dalam dasar penglibatannya di Vietnam telah mengakibatkan kegagalan strategi yang telah digariskan. Melihat dalam

³³ Op Cit, *J. William Fulbright*, 1990, McGraw Hill Inc, hal 108.

³⁴ Op Cit, *Harry G. Summers, Jr*, hal 14.

³⁵ David H. Petraeus, *Military Influence And the Post Vietnam Use of Force*, Armed Forces and Society, Vol 15, No: 4 Summer 1989, hal 496.

³⁶ Carl Von Clausewitz, *On War*, 1976, Princeton University Press, hal 97.

peperangan ini jelas AS mempunyai segala aspek kuasa berbanding Vietnam Utara dan Vietnam Selatan. Namun setelah menganalisis peranan kuasa dalam peperangan ini, jelas AS memiliki sebahagian daripada unsur-unsur kuasa yang digambarkan oleh Ray S. Cline mengenai "power equation". Sebahagian unsur-unsur kuasa seperti 'strategy' (S) dan 'will' (W) telah dapat digunakan secara berkesan oleh kerajaan Hanoi. Di sini dapat dirumuskan bahawa "will" yang dimiliki oleh tentera Vietnam Utara dan Vietcong telah membawa peperangan secara berlarutan dan kemenangan berpihak kepadanya. "Legitimate power" yang ditonjolkan oleh Han J. Morgenthau yang sepatutnya dimiliki oleh AS telah berpihak kepada Hanoi kerana tindakan pemimpin politik AS sendiri yang telah kehilangan sokongan padu masyarakat sendiri, dan sekutunya akibat tindakan pengeboman yang dikategorikan sebagai tindakan membuli negara kecil.

Kegagalan AS di Vietnam juga dilihat atas dasar kelemahan kepentingan nasionalnya yang sentiasa berubah-ubah, tetapi tidak pada kerajaan Hanoi, kerana kepentingan nasional

mereka adalah untuk menyatukan Vietnam (*unification of Vietnam*) sebagai negara berdaulat. AS juga lebih mengamalkan percaturan polisi politik berprestij dalam setiap tingkah laku kuasa politiknya sebelum kuasa ketenteraan digunakan. Ini seperti dipertuturkan oleh Presiden Kennedy pada 20 Januari 1961:

"Lets every nation know, whether it wishes us well or ill, that we shall pay any price, bear any burden, meet any hardship, support any friend, oppose any foe to assure the survival and success of liberty."

*"This much we pledge ... and more To those people in the huts and villages of half the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves, for whatever period is required ... not because the Communist may be doing it, not because we seek their votes, but because it is right. If a free society cannot help the many who are poor, it cannot save the few who are rich"*³⁷.

³⁷ Op Cit, Richard Henry Foster, hal 162.

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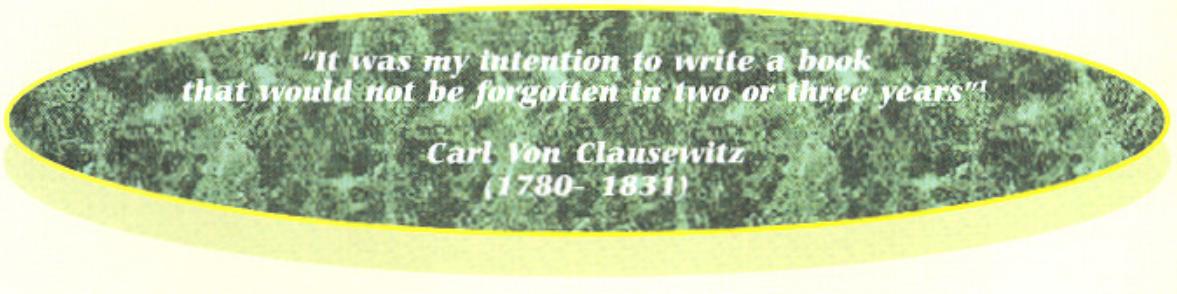
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Mej Che Bakar bin Mohd Arifin telah ditauliahkan dalam Kor Rejimen Askar Melayu Diraja pada 21 Dis 78. Beliau telah menjawat beberapa jawatan penting sepanjang perkhidmatan beliau di pasukan dan Kementerian Pertahanan. Beliau berkelulusan Maktab Turus dan pemegang Diploma Lanjutan Pengajian Strategik dan Keselamatan dari UKM. Kini beliau bertugas di Rej 506 AW.

THEORIES OF WARFARE: THE LEGACY OF CARL VON CLAUSEWITZ

Mej R Anthony Raja Gopal



*"It was my intention to write a book
that would not be forgotten in two or three years"¹*

*Carl Von Clausewitz
(1780– 1831)*

SYNOPSIS

Carl Von Clausewitz, one of the foremost military thinkers had influenced many military strategists, political writers and military historians alike through his thoughts on politics and war. Within the Malaysian context, the study on the influence of Clausewitz is limited to a few military institutions. The only military institution that has included the study of Clausewitz as part of their strategic studies curriculum is in the Malaysian Armed Forces Staff College (MAFSC). This short article highlights the main theories of Clausewitz in an endeavour to reach a wider readership especially at the junior officers' level. The writer fervently hopes that this effort would create an interest among army personnel particularly the officers' corps at all levels to read military history as part of their professional development.

¹ Cyril Falls, The Art of War, London 1961, p 7.

INTRODUCTION

Co military strategist has ever been so quoted, and misquoted as Carl Von Clausewitz. From the Russian Bolshevik leader Lenin to the Chinese revolutionary leader Mao Tse Tung the most famous *dicta* of Clausewitz had been adopted as their own creations. His celebrated treatise '*On War*' (*Vom Kriege*) was not merely a military manual; it was a classics on the general theory of war. He devoted himself to the title of the book. His treatise had not been a work of just plain theories; it was a result of his experiences as an active soldier in the front. He lived in an era of warfare: the French Revolution and the Napoleonic wars. Clausewitz had analysed more than 130 campaigns, some of which he was an active participant. He lived in an era of continuous war, class struggles, and struggles with his contemporaries and the crown he was serving. His frustrations, observations and analyses had been fruitful to modern military strategists, as it would continue to be to military planners in the next millennium. His contemporaries had viled him as "*Apostle of Violence*", "*Mahdi of Mass*", "*Battlemania*" and the like.

JUST WHO IS CLAUSEWITZ?

Carl Von Clausewitz was born on 1 June 1780 in the small town of Burg, seventy miles Southwest of Berlin; the fourth son of a soldier who retired after having shattered his right hand while fighting for Frederick the Great. Young Carl's education at the local school had been deficient. He grew up in an atmosphere of soldiers' tales whence his father would often meet his friends in the army, who normally visited the house to talk over old times and discuss the latest military topics. In 1792, at the age of 12, Carl Von Clausewitz was enrolled and accepted as an officer cadet by the Thirty Fourth Infantry Regiment (Prince Ferdinand) at



Potsdam; a beginning of his 29 years of military service for the Fatherland which had led him into battles, still honoured by European regiments today. His enlistment into the army had much to do with the

poor state of family finances as much as it was a family tradition since two of Carl's elder brothers Friedrich and Wilhelm had enlisted in 1771 and 1787 respectively. All three rose to the rank of Generals but Carl never commanded a regiment, confined to line duties set mainly at staff work. During the time of Frederick the Great, commoners were not allowed to become officers and it was only after the death of Frederick the Great that Carl and his two brothers were accepted as officer cadets. It was only in 1827 that their noble status (*Von*) was attested by royal order.

When Carl Clausewitz first saw combat he was twelve years old in the campaign that drove the French out of the Rhineland in 1793. According to a French biographer: "When passing through villages the inhabitants would stare in amazement at the sight of the small boy bent under the weight of the colours".² On 20 July 1793, Carl Von Clausewitz was promoted to a full officer rank, becoming an ensign. At the age of fifteen he was promoted to Second Lieutenant. When the army was demobilised in 1795, Clausewitz returned to Prussia with some understanding on skirmishing and small-unit tactics. For the next few years, he was stationed in a small garrison where he was depressed with the regular dull routines of the garrison, which revolved around endless drills and

² For a detailed biography see Parkinson Roger, *Clausewitz, A Biography*, Wayland Publishers, London, 1970.

³ *Ibid*, p 23.

barrack-square manoeuvres. In this, Clausewitz vehemently criticised the new king who refused to alter the Prussian tactics and strategy, which favoured the inflexible linear formations, as opposed to the French. It is to be noted that Clausewitz despised the French.

However, with a commanding officer that was a pioneer in military education in Prussia, Clausewitz progressed rather well to apply for admission to a military school in Berlin and in 1801, soon after his 21st birthday, was accepted to a three-year course at this school. Clausewitz was still having problems in adapting to the new environment due to his weak financial position and a lack of early education. Clausewitz felt painfully misplaced and lonely; he was even on the verge of leaving the army in despair.⁴

It was at this school that he had the opportunity of coming under the tutelage of Gerhard Von Scharnhorst who was then considered a great military theorist. Scharnhorst was to become his closest companion, and probably the greatest influence upon Clausewitz. Their relationship was never one sided for Scharnhorst was often heard to say that, apart from his own children, no human being on earth had been so close to him than Clausewitz. In 1804, Clausewitz graduated at the top of his class and was appointed the adjutant to Prince August of Prussia. Here, he met Countess Marie Von Bruhl whom he later married. In 1805, Clausewitz published his first article in which he refuted Heinrich Dietrich Von Bulow's theory which defined strategy as "*all military movements out of the cannon range or range of vision*" and tactics as "*all movements within this range*".⁵

In 1806, at the Battle of Auerstedt, the Prussian army lost to Napoleon's French army. However, Prince August of Prussia and Clausewitz, as his Adjutant, were ordered to France, where they were given relative freedom

of movements, despite being prisoners of war. In 1807, they were allowed to return to Prussia. Clausewitz continued to criticise the attitude and policies of the King which he blamed were responsible for the loss to France. By this time Scharnhorst employed him as a personal assistant and he helped organise secret rearment measures. He was then made head at Schanhorst's office. Subsequently he was appointed to the general staff and to the faculty of the new War College where he lectured on strategy and on partisan warfare. In 1810, he became military tutor to the Crown Prince. However, Clausewitz, together with his fellow reformers grew frustrated with the King's policies, disgusted and shamed by the Franco-Prussian armistice, decided to join the Russians in fighting the French. This action of Clausewitz was never forgiven by the King and he was ostracised until his death. Having joined the Russian Army as lieutenant, he managed to rise to the rank of Colonel, by the end of the Moscow war.

With Napoleon defeated in the Moscow War, Clausewitz returned to Berlin in 1813 to serve the Prussian Army. However, his ostracism by the King continued and this created much frustration and disillusionment for Clausewitz. His close friends were not spared either and this made him much more frustrated. He returned to smoking opium – a habit, which he picked up while fighting in the cold Russian winters during the Moscow war. It was during these years that Clausewitz embarked on writing the treatise "*On War*", in the drawing room of his devoted wife. He was unable to publish it since he succumbed to cholera on 16 November 1831. It was never his desire to impart what he had written to the world during his lifetime. In compliance to his wishes, his doting and devoted wife Marie Von Clausewitz published the treatise after his death.

ON WAR (VOM KRIEGE)

Clausewitz had been misunderstood and underestimated and the fault was partly his. In *On War*, as in life, he had been too logical, too anxious to debate rather than declare, too

⁴ Ibid, p 32.

⁵ Peter Paret, "Clausewitz", in the *Makers of Modern Strategy*, Ed, By Peter Paret (Oxford: Clarendon Press, 1986), p 190.

anxious to consider the extremes before adopting a correct and sensible middle course. For example, Marshall Foch in his *Principles of War* published in 1903 quoted Clausewitz "Blood is the price of victory. You must either resort to it or give up waging war"⁶, when Clausewitz's views on defensive war ran totally opposite. His written work on military affairs and conducts of war was published in ten volumes. "*On War*" the *treatise* that brought Clausewitz fame is compiled in eight books divided into 128 chapters. It is a potent blending of Clausewitz's experiences, observations, studies and analyses of, the then prevailing politics and campaigns. In his book he had examined the old and new forms of war, illustrated the differences between them, and exposed the implications of the new developments. They generally cover the following:

- Book I** - Deals with the Nature of War.
- Book II** - Deals with the Theory of War.
- Book III** - Deals with Strategy.
- Book IV** - Deals with Combat/ Engagement.
- Book V** - Devoted to the study of Military Forces.
- Book VI** - Deals with the study of Defence.
- Book VII** - Deals with the study of Attack.
- Book VIII** - Deals with War Plans.

In essence, the first three books covering military theories indeed form the main "*treatise*" on war. Books IV to VIII deal with the explanations or clarify his findings regarding the first three in that they correlate with war-historical studies on campaigns.

⁶ Parkinson Roger, CLAUSEWITZ, A Biography, p 337.

THEORIES OF CARL VON CLAUSEWITZ

Clausewitz, not only studied, analysed and interpreted the military campaigns notably of the Napoleonic wars; but he was always relating warfare to politics. He was filled with an enquiring spirit that sought for the fundamental nature of things. Though he had derived several theorems through his interpretations and analyses, a few stood out as the most important contributions to the conducts of warfare. These are analysed in the following paragraphs.

STRATEGY AND TACTICS

*"Tactics is the theory of the use of military forces in combat; strategy is the theory of the use of combats for the object of the war"*⁷

Before proceeding further in analysing Clausewitz's theories, it is important that his views on strategy and tactics be understood. Having adopted the above dictum, he stressed the theoretical importance of distinguishing the nature of *means* and *ends* in tactics and strategy. He explained further that in tactics, the fighting forces trained for combat are the means while victory achieved by them would be the end. Thus, the obvious sign of victory is the enemy's withdrawal from the battlefield.⁸ On the other hand, for strategy, the tactical success/victory provides only a means, whereas the peace that may be achieved eventually presents the ultimate object of strategy, hence the end. Clausewitz confined himself to the use of the armed forces when dealing with strategy and tactics. In outlining their relationship, Clausewitz asserted that strategy decides what, when and where forces are employed. Tactical encounters i.e. how

⁷ Clausewitz, *On War*, Trans. By Colonel J.J.Graham (First Edition 1873), Book II, Chapter 1. (This ref is used henceforth throughout the essay).

⁸ Ibid.

victory is achieved serves to further decide strategy.⁹

WAR AND POLITICS

*"War is merely the continuation of policy by other means"*¹⁰

The above is an oft-quoted adage by military professionals and amateurs alike. However, only a few would have realised that this statement touches on a controversial subject that constitutes the principal part of Clausewitz's whole theory. To Clausewitz, this theory was so vital that he had mentioned it repeatedly in different parts of "On War" and examined it from many perspectives. This was so because Clausewitz felt that his military compatriots would not easily accept his point. Even now, there are many in the military circles that do not fully accept this theory. Even Mao Tse Tung, who often adopted the Clausewitzian theories, did not subscribe to this theory when he said, "*Political power comes out of the barrel of the gun*". It is to be noted that Clausewitz learned it the hard way, from his own sad experience and did not see war as being merely handled by military experts who lack political orientation and understanding. He stressed that war is not only a political activity, "*but a true political instrument, a continuation of political activity by other means*".¹¹

⁹ German use of these terms also provides for a three-level system : strategy, operation and tactics. The operation is to be regarded as a subdivision of strategy and it is actually the conduct of battle at higher levels. The battle (German - Schlacht) is defined as a more enlarged engagement (German - Gefecht), or a series of engagements dependent on one another in time, space and effect. According to German General Hans Speidel, the engagement is the mere clash of arms.

¹⁰ Ibid, Book I, Ch 1.

¹¹ Jehuda L. Wallach, *The Dogma of the Battle of Annihilation: The theories of Clausewitz and Schlieffen and their Impact on the German Conduct of Two World Wars* (London: Greenwood Press, 1986), p 13.

Clausewitz opined that it is the political objectives that decide the necessity for the conduct of war. Hence, military action increases or diminishes with the requirements of political objectives. Consequently, politicians must share the responsibility for success or defeat in war and should not be allowed to put the blame solely on military experts. However, he also cautioned that the political element should not penetrate deeply into the details of war. One does not, as Clausewitz puts it, send out patrols during the war or post sentries based on political considerations.¹² Nevertheless, we have seen in the era of "Cold War" political considerations were involved even in posting sentries (e.g. along the "*Iron Curtain*") or sending patrols our (as in air reconnaissance). Clausewitz opined that it is unacceptable and damaging that "*a major military development, or the plan for one, should be a matter for purely military opinion*".¹³ He totally rejected the idea of purely a military plan being drawn up for the conduct of war without duly appreciating the political considerations.

What about the validity of this theory in the age of thermonuclear weapons? Obviously, Clausewitz cannot be faulted since he did not foresee the power of nuclear weapons which could make policy (political considerations) subservient to war. Nuclear warfare may reduce the share of policy to zero by its execution. However, it should be noted that Clausewitz never demanded that war should, at all times and in all cases become the ultimate continuation of policy; he had only defined it as such, should it occur. Thus, nuclear weapons as a deterrent do fit extremely well into Clausewitz's suppositions. Clausewitz's writings "On War" had indirectly provided definition of what constitutes "*True*" and "*Real*" wars. True war, to Clausewitz, denotes the calling in which a soldier, particularly an officer, by his conduct

¹² Ibid, p 14.

¹³ Keegan John, *A History of Warfare*. Hutchinson 1993, PIMLICO Edition 1994, p 16.

defies nature, believes in the regimental culture in which he is raised, while real war allows a soldier to defy nature, argued for cowardice, for self interest, for cossacking whereby a man fought if he chose and not otherwise.

THE OBJECTS OF WAR

"War is... an act of force to compel the enemy to do our will".¹⁴

Warfare is almost as old as man himself. Clausewitz defined war as the impact of the opposing forces. He further opined that *a stronger force only destroys the weaker, its impetus carries the weaker force along with it*.¹⁵ Being accustomed to analysing the ends and means in warfare, Clausewitz regarded the physical force in war as the means whereas the imposition of one's will as the objective. Consequently it follows that if an opponent is to yield to the will of the other, then the former should be manoeuvred into a disadvantageous situation. Hence, the aim of military action should be to disarm or overthrow the enemy. In his study of the campaign in Italy in 1796, Clausewitz stressed the overwhelming importance of one great victory over the enemy compared with victories over a series of engagements. Some interpreters had claimed that Clausewitz was a prophet of annihilation. This should be seen in the light of the later stages of his work where he had stated that there are two kinds of war in which their goals are:

- * To overthrow the enemy - to render him politically helpless or militarily impotent thus forcing him to sign whatever peace we may please (this is essentially defeating the enemy armed force and destroying it); and
- * To merely occupy some of his frontier districts (or at least action

against the capital and other important strong points) so that we can annex them or use them for bargaining at the peace negotiation.

However, Clausewitz had also stated that, at a time when the military clash with the enemy is unavoidable, it should be clear that "*The primary objects of great battles must be the destruction of the enemy's forces*".¹⁶ This is true, of course with regard to the goals of any individual engagement. As we are aware, Clausewitz had been a military tutor to Prince August of Prussia. In the summary of instruction prepared for the prince, Clausewitz mentions the three main goals of every war are, in addition to the two stated above is a third, which is "*to win over the public opinion*". Great victories or possession of the enemy's capital may achieve this goal he suggests. The question of whether Clausewitz was a prophet of annihilation does evoke interesting arguments in that he opined that there exist a positive and negative elements in war. The effort to destroy the enemy forces has a positive purpose and a leads to positive results while preserving one's force has a negative purpose in that it frustrates the enemy thereby prolonging the war until the enemy is exhausted. This is further dealt with in the defensive-offensive theory in the following paragraphs. Clausewitz had envisaged annihilation of the enemy but it is not the sole purpose in war but only a component in a vast scale of other means that may lead toward the fulfilment of the aims of a particular war.

MORAL ELEMENT IN WAR

"If we aim to destroy the enemy's power, this should not only be limited to the physical forces but also be directed principally against the moral ones".¹⁷

¹⁴ *Ibid*, Book IV, Ch 11, p 258.

¹⁵ Jehuda L. Wallach, *The Dogma of the Battle of Annihilation: The theories of Clausewitz and Schlieffen and the German Conduct of Two World Wars* (London: Greenwood Press, 1986), p 18.

¹⁶ *On War*, Book I, Ch 1, p 75.

¹⁷ *Ibid*, Book III, Ch 12, p 205.

Clausewitz regarded war as a form of human intercourse, in which conflicts of interests are settled by bloodshed. He argued that, if we aim to destroy the enemy's power, it should not only be limited to the physical forces, but should also be directed against his morale. His experiences in Napoleonic campaigns showed that an army, inferior in numbers frequently prevailed over a numerically superior one. Recent history of warfare has shown us that this theory has on many occasions proved to be too true to be brushed aside. Clausewitz had also opined that "*exhaustion is more a matter of weariness of willpower than physical exhaustion*".¹⁸ He asserted that when a battle hangs in the balance, victory comes to the side that has a small additional amount of morale power, and as a matter of fact, not much affected by real losses or gains. In explaining the requirements necessary for generalship, Clausewitz lists perseverance, surprise, cunning, boldness, physical and moral courage, health or stamina, resoluteness, sound judgement and intellect (more to the strength of mind than to brilliance and tenacity) as the main pre-requisites. His notion of a successful commander is one who is searching rather than creative, comprehensive rather than specialised, cool rather than fiery.

FRICTION IN WAR

*"Everything in war is simple, but the simplest thing is difficult"*¹⁹

Friction refers to uncertainties, errors, accidents, technical difficulties, the unforeseen and their effect on decisions, morale and actions. It is also known as the "Fog of War". In the conduct of military operations, one should be prepared for any contingencies since seldom do things go as planned. Such uncertainties lead to frictions in war. Clausewitz further analogised

that an *action in war is like movement in resistant element. Just as the simplest and most natural of movement, walking, cannot easily be performed in water, so in war it is difficult for normal efforts to achieve even moderate results.*²⁰ Clausewitz emphasised that "friction" in war corresponds to whatever distinguishes "real war" from war on paper.

He stressed that friction is only petty circumstances, which could be overcome by the creative employment of intellectual and emotional energy. In "*On War*" he has examined these qualities, as the moral or psychological elements possessed by a leader. He opined that friction in war is not reducible to a small number of points as may be done in mechanics but covers a multitude of various circumstances - principally the moral elements like danger, exertion, hardship and many other physiological and psychological factors.

CONCENTRATION OF FORCE

We are very much aware that concentration of force is one of the foremost principles of war. In fact, in most of the military pamphlets and manuals today, the postulate of concentration has become commonplace. However, this was not the case in the eighteenth century. Campaigns and battles were conducted times and again with force divided and dispersed for no apparent sensible reasons. Most of the commanders then felt that "*that was the way things ought to be done*". Having analysed the campaigns of Napoleon, Clausewitz emphasised the concentration of force in its completeness both in time and space (at the right time and right place) should be the norm.

He formulated a law that "*all forces intended available for a strategic purpose should be applied simultaneously; their employment will be the more effective the more everything can be concentrated*".²¹ Nevertheless, Clausewitz had

¹⁸ Ibid. p 18.

¹⁹ On War, Book II, Ch 7, p 77-79.

²⁰ Ibid, Book I, Ch 7, p 119-121.

²¹ Ibid, Book III, Ch 12, p 209.

also suggested that force could be used successively depending on the level of the execution. Within tactical bounds it is possible that the force be used in piecemeal, but at strategic levels he stressed that force should be concentrated, in other words used simultaneously.

CENTRE OF GRAVITY

"A centre of gravity is always found where the mass is concentrated more densely"²²

Clausewitz theorised that there exists a centre of gravity (*Schwerpunkt*) where forces are massed. It is here that all efforts should be directed since this centre of gravity presents the most effective target for a blow. Clausewitz opined that "*a theatre of war, be it large or small, and the forces stationed there, no matter what their size, represent the sort of unity in which a single centre of gravity can be identified*"²³ Thus the centre of gravity is essentially the decisive point which a good general should be able to identify. In addition to the dense mass of forces, Clausewitz also offered some possibilities of identifying these centres of gravity; "*For Alexander, Gustavus Adolphus, Charles XII, Frederick the Great, the centre of gravity was their army...In countries subject to domestic strife, the centre of gravity is generally the capital, in small countries that rely on large ones, it is usually the army of their protector, among alliances it lies in the community of interest, and in popular uprisings, it is the personalities of the leaders and public opinion. It is against these that our energies should be directed*"²⁴.

However, Clausewitz cautioned that even after identifying the centre of gravity, there is still a danger in overestimating the expected resistance and hence leads to a danger of

applying more force than necessary to achieve victory leading to unnecessary wasting of force. Another way of wasting force, Clausewitz surmised, is dispersion and diversion. During the Napoleonic era of warfare it was been quite common to wage wars by "*manoeuvring*" rather than delivering real blows.

SUPERIORITY OF NUMBERS

Sir Basil Liddell Hart had described Clausewitz historically as the "*Mahdi of Mass*".²⁵ Clausewitz had explained that disregarding all the variables i.e. the purpose and circumstances of a battle and the fighting qualities of troops, what remains essentially is the numerical strength of the troops which eventually decides the outcome of the battle. Consequently, it follows that a numerically superior force is more likely to achieve victory.

To this end, he had also stated that not only superiority in numbers remain an important factor but predominant superiority could achieve victory only if it is led by the most talented and skilful general. He further went on to caution that the superiority in numbers is only one of the factors that determines victory. Thus, because this superiority has degrees, it must be great enough "*to counterbalance all other contributing circumstances. It follows that as many troops as possible should be brought into the engagement at the decisive point.*"²⁶ To Clausewitz, this is the first principle of strategy.

Nevertheless, Clausewitz also gave illustrations of campaigns and battles that famous generals had won with inferior numbers. Liddell Hart's assertion that Clausewitz, was indeed the Mahdi of Mass, while has some truth, does not necessarily mean that Clausewitz was propagating that mass alone would ensure victory in a battle. On the contrary, it is only one of the factors that enable victory to be achieved in battle in addition to other important factors such as morale factors,

²² *Ibid*, Book VI, Ch 27, p 485.

²³ *Ibid*, p 487.

²⁴ *Ibid*, Book VIII, Ch 4, p 596.

²⁵ Liddell Hart, "*The Ghost of Napoleon*". London 1933, p 120.

²⁶ *On War*, Book III, Ch 8, p 194 -195.

boldness, cunning, perseverance, surprise and military virtues of an army.

THE DEFENSIVE AND OFFENSIVE

"The defensive form of warfare is intrinsically the stronger than the offensive"²⁷.

Clausewitz had explained that the object of defence is preservation and protection while that of the offence is conquest. He further explained the relationship between defence and offence is dialectic in that the defence has a negative objective while the object of offence is positive. While arguing that the defence is the stronger form of war, he had asserted that the defence should only be used so long as weakness compels since it has a negative characteristics. The defence has to be abandoned, as soon one is strong enough to follow a positive action vis-à-vis the offensive.

Clausewitz said that when one has used defensive measures successfully, a more favourable balance of strength is usually created; thus the natural course in war is to begin defensively and end by attacking. However, Clausewitz did not argue that defence, though stronger, is the most desirable form of war except that outlined those conditions that will compel one to go on the defensive; the most important being the superiority of the opponent. He further analysed that this superiority may be in the form of enemy morale, numbers and equipment. Clausewitz had repeatedly emphasised the necessity and importance of offensive action in connection with the general defensive. He had explicitly stated that "*defence is ... composed of two distinct parts, waiting and*

acting"²⁸. He made it clear that waiting which is principally defending, and acting, which is the counter stroke, are essentially interwoven and are both the essential parts of the defensive battle. There appears to be some reservations in accepting this theory of Clausewitz as some interpreters had questioned whether Clausewitz is propagating that a force should always be on the defensive to start with. This was not what Clausewitz was attempting to do. In the general sense, Clausewitz theorised that the strongest form of war is strategic defence linked with tactical offensive.

Clausewitz opined that the rationalistic relationship between defence and offence centres on the concept of "*culminating point*". When a strategic offensive fails to reach a decision the forward push or the advance tends to exhaust itself. This is because; some of the morale and material resources of the attacker increase as he advances and hence generally the attacker tends to over stretch and in the process weaken him. Thus, the attacker reaches a culminating point where he no longer enjoys the advantage of the offensive. His interpretation here strikes a fundamental problem; "*Beyond the culminating point the scale turns... and the violence of the reverse is commonly much greater than that of the forward push.*" In such a situation, Clausewitz points that the true test of generalship is important here since everything depends on identifying and discovering the culminating point by the fine tact of judgement on the part of the general.

In stressing that the defence is the stronger form of warfare, Clausewitz had his share of criticism levelled at him by his own countrymen. Some argued that his theory had greatly divided German military opinion into two hostile camps. Clearly, his theory was contrary to the offensive concept of "*blitzkrieg*" which was to become a well-known German philosophy of warfare in their later wars.

²⁷ Ibid, Book VI, Ch 1, p 358.

²⁸ Ibid, Book VI, Ch 8, p 379.

THE DECREASING FORCE OF THE ATTACK

"There is only one result that counts; final victory. Until then, nothing is decided, nothing won, and nothing lost."²⁹

Clausewitz opined that any attack that is extended to the depth of the enemy is bound to end up in a defensive. Thus he envisaged that an attack should be sharp and swift and victory be achieved quickly, lest it will compel the attacker to go on the defensive. In Clausewitz's opinion, the decrease of absolute power in the attack occurs:³⁰

- * Through the object of the attack, the occupation of the enemy's country; this generally commences first after the first decision, but the attack does not cease upon the first decision.
- * Through the necessity imposed on the attacking army to guard the country in its rear, in order to preserve its line of communication and means of subsistence.
- * Through losses in action, and through sickness.
- * Distance of the various depots of supplies and reinforcements.
- * Sieges and blockade of fortresses.
- * Relaxation of efforts.
- * Secession of allies.

Here again he stressed the importance of identifying and discovering the "*culminating point*" by the general. It appears that even in the most vigorous of the advance a certain point will be reached where the advance is liable to be

checked. He further stressed that most of the attacks will lead to a point where their remaining strength is just enough to maintain a defence and await peace. He had also indicated that once the attacker reaches the culminating point he tends to be weaker and is susceptible to counter actions by the defender. In essence, Clausewitz theorised that the force of an attack as an offensive action diminishes when a certain point is reached due to the increasing dependence on diminishing mass, material resources and morale factors.

THEORY OF ENCIRCLEMENT

Clausewitz had explained the superiority of defence over the offence. He had in fact, concluded that the force of the attack diminishes if it is prolonged. He gave options for an attack to be superior through the employment of encirclement tactics. Clausewitz opined that an encirclement could be conducted from the strategic and tactical spectrum. He considered encirclement as but one means among the many for achieving an end. To Clausewitz, encirclement refers to hitting the enemy depth and flanks and he opined that it is impossible to conduct strategic encirclement since the enemy's theatre of operation is vast and seldom are flanks present. Furthermore, the forces that necessitate the execution of strategic encirclement will seldom be available. Tactical encirclements, to him are possible and easier to conduct within the area of operation. Obviously, Clausewitz was relating to the conduct of warfare during his era. In a modern battlefield encirclement operations both in strategic or tactical sense following Clausewitz's definition is possible with the availability of modern modes of mobility and firepower.

Clausewitz had also asserted that in strategy, encirclement could apply only to the side, which has the initiative; principally an offensive operation, in which there is no scope for a defence to conduct encirclement due to the static nature of the operation. Clausewitz's postulations were not crystal clear on counterattacks, which are essentially offensive in nature within the defensive operation. Nevertheless, he had underlined the disadvantages of a defender, if encircled, by

²⁹ *Ibid*, Book VIII, Ch 3A, p 582.

³⁰ *Ibid*, Book VII, Ch 4, p 7-8.

explicitly drawing to attention the paralysing effect of being cut off, from which "arises an instinctive determination in the conduct of war and particularly in engagements large and small, to protect one's own rear and to gain control of the enemy's"³¹

Clausewitz, with a visionary prediction of future events explained that troops that are cut off or trapped through encirclement would naturally attempt to breakout provided the troops are good and their commanders are bold. He further compared encirclement to bypassing an enemy position. He opined that encirclement strives for decision by battle, on the tactical level whilst by passing the defending force is entirely a strategic requirement.

EMPLOYMENT OF RESERVES

According to Clausewitz, the reserves have two purposes. These are for the prolongation of engagement or its renewal. In prolongation of engagement, continuous involvement of forces is required and hence it falls in the tactical sphere of warfare. This successive use of forces postpones the main decision to the end of an action. Clausewitz provided a somewhat strange conclusion that strategic reserves are useless since the law of simultaneous use of force advances or speeds up the main decision to the beginning. Using a reserve of available forces after the main decision had taken place was considered by him to be wasteful and hence unsound. However, Clausewitz's concept of employment of reserves in a defensive battle was relevant then as it is today in the modern battlefield. He had proposed several reasons for the reserves to be located far behind the defended locality. His postulations were:

- * The reserves will not be under enemy fire during their waiting period.

- * It will be much easier to conceal them.
- * The reserves are likely to counterbalance hostile encirclement movements by encircling in their turn the enemy forces carrying out the encirclement.

CONCLUSION

This short article attempts only to bringforth the main theories of Carl Von Clausewitz. A full study of his theories and their linkages to practice necessitate extensive research and is not within the scope of this study. Most of Clausewitzian theories are still relevant and will surely be valid in the coming century. It is true that, few of Clausewitzian tactics had become obsolete while some of his points on tactics have been superseded throughout the years with the advent of modernisation. What remain unimpeachable are his points in the realm of strategy and the nature of war. The ultimate value of his works is that it has outlived the other theories of war of his time.

Clausewitz does not provide clear-cut solutions to the conduct of warfare. In fact "*On War*" is not a technical guidebook for the conduct of war. What he had done was to experiment and structurally analyse war. By linking abstract with reality he had in essence linked theory with practice. His theories do not prescribe a particular course of action to be followed but rather draws attention to the laws and logics involved. His contributions to the later development of the principles of war are enormous. It is also to be noted that Clausewitz did not deal with warfare in the air or at sea. Being a German in that era, in which he lived and plied his trade, he had to deal with theories relating to the then prevailing socio-political and land warfare conditions.

³¹ *Ibid*, Book IV, Ch 4, p 233.



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The commander should appear friendly to his soldiers, speak to them on the march, visit them while they are cooking, ask them if they are well cared for, and alleviate their needs if they have any.

- Frederick the Great

... if the mind is to emerge unscathed from this relentless struggle with the unforeseen, two qualities are indispensable: first an intellect that, even in the darkest hour, retains some glimmerings of the inner light which leads to truth; and second, the courage to follow this faint light wherever it may lead.

- Carl Von Clausewitz

Territorial Disputes In The Asian Region:

WHAT FACTORS WILL DETERMINE THE RESOLUTION OF TERRITORIAL DISPUTES IN THE REGION?

Kol Ahmad Rodi Zakaria

INTRODUCTION



mong the potential areas of conflicts in the Asian region are the territorial disputes among states. Traditionally most of these disputes had originated through historical events but over the years changes in political and domestic politics had aroused public sentiments which made the territorial issues more complex and as a result, resolutions to the problems became more delicate than ever before. Besides, strategic factors are also significant in the terms of preserving the national interests of a nation state.

This paper will explore some of the most prominent territorial disputes in the Asian region, namely the Soviet¹-Japanese dispute over the Northern Territories (the Kuriles), the Sino-Japanese dispute over the Senkaku (Diaoyudai) Islands, the Korean-Japanese dispute over Tok-do (Takeshima) Islets in East Sea (Sea of Japan) and the territorial disputes in the South China Sea (The Spratly Islands). After looking at how the disputes originated and reasons behind the lack of progress in resolving these disputes, the paper will provide some analyses on the factors, and subsequently the comparison of factors, which will determine the

resolution of the territorial disputes in the region.

THE SOVIET - JAPANESE TERRITORIAL DISPUTE

Historically, the Soviet-Japanese relations had been plagued with unresolved issues over a group of islands, referred to in Japan as the Northern Territories and known to the Soviet Union (USSR) as the Southern Kuriles. Both the USSR and the Japanese historical documents seem to justify their claims to the Kurile Islands. The Japanese documents indicated that Japanese explorers had settled in the islands of Kunashiri, Etorofu, Shikotan and the Habomai group since the seventeenth and eighteenth centuries. The Soviets, although relying heavily on the legal aspects made in World War II as the basis for possession of all the Kuriles, considers an early Cossack expedition in the early eighteenth century as historical evidence to justify their claim.²

Etorofu, the largest island, was occupied by the Japanese settlers in 1799. The Russian Forces' attack of 1807, inflicted extensive damage on the defenders but the island remained in the Japanese hands. Japanese influence became entrenched in the

¹ After the collapse of the Soviet Union in 1991, Russia continued to negotiate with Japan on the disputed islands.

² William F. Nimmo, *Japan and Russia, A Reevaluation in the Post Soviet Era*, Greenwood Press, London, 1994, p 1.

southern Kuriles in the early nineteenth century, while the Russians generally prevailed in the northern islands. Consequent to the Shimoda Treaty of 1855, the boundary lines between the two countries were specified as to be passing through the islands of Etorofu and Urup. Etorofu and the islands to the south were to belong to Japan and those to the north of Etorofu were to be under Russian control.³

Hasegawa argued that at the St Petersburg Treaty in 1875, Russia and Japan exchanged the Sakhalin and the Kuriles - Japan gave up its claim on Sakhalin in return for exclusive territorial rights on the Kuriles. In addition, at the Portsmouth Treaty in 1905 at the end of the Russo-Japanese War, Japan gained its claim over South Sakhalin.⁴

By early September 1945, the Soviets launched an offensive against southern Kuriles and occupied the islands. At the time of the invasion, approximately 17,385 Japanese were living on the islands. By the end of 1948, the Japanese were repatriated to Japan.⁵ At the Yalta Agreement signed in February 1945, there were some complications with respect to the Kurile Islands. The Soviets maintained that after the Allied victory over Japan, it was clearly set out that the Kurile Islands would be handed over the USSR.⁶ Japan, on the other hand, argued that since Japan was not a party to the agreement and that the secret agreement remained secret until February 1946, Japan should not be bound by the treaty she never signed and she never knew existed.⁷

Hasegawa further argued that as a result of the San Francisco Treaty of 1955, which Japan concluded with the Allies, although the Japanese abandoned the rights and claims to the Kurile Islands and South Sakhalin, Article 2c of the treaty did not state precisely what it meant

by the Kurile Islands. The Soviets nevertheless insisted that although it did not sign the treaty, the fact remains that Japan had already renounced its claim to all rights and interests in the Sakhalin and the Kuriles.⁸ These arguments clearly indicated that the conflicting claims of Japan and the Soviet Union were based on differing interpretations of a series of agreements and treaties which dated back since the nineteenth century. To the Soviets, the islands of the Kuriles are the southernmost islands that stretch a thousand kilometres between Hokkaido and the Kamchatka Peninsula. The Japanese, however, insisted that the southernmost islands are distinct from the Kuriles and as such the Soviet claims were illegitimate.⁹

RESOLUTION OF THE DISPUTE

Various attempts have been made to resolve the Russo-Japanese dispute over the Kuriles. Negotiations at concluding a peace treaty between Japan and the Soviet Union commenced in 1955. This resulted in the concluding of a Joint Declaration in 1956, whereby the Soviets agreed to transfer the Habomai and Shikotan islands to the Japanese. With regards to the territorial question, the Japanese initial position was that the Habomai and Shikotan were claimed unconditionally and that historical claims to the southern Kuriles did not have to be met before a settlement is reached.¹⁰ In response, the Japanese revised the original claim to include southern Sakhalin and northern Kuriles, arguing that the determination of the future status of these territories should be made at an international conference. Andrew Mack and Martin O' Hare quoted that Tokyo volte-face was a result of US pressure, Conservative Party faction disputes

³ William F. Nimmo, *Ibid* p 2-3.

⁴ Tsuyoshi Hasegawa, *Japan Soviet Relations Under Gorbachev*, Hawaii Conference, March 1987, p 6.

⁵ William F. Nimmo, *Op cit* p 33-35.

⁶ William F. Nimmo, *Op cit* p 32.

⁷ Tsuyoshi Hasegawa, *Op cit* p 7.

⁸ Tsuyoshi Hasegawa, *Op cit* p 8.

⁹ Kimmie Hara, *Kuriles Quandry, The Soviet / Japanese Territorial Disputes*, Pacific Research, May 1991, p 3.

¹⁰ Andrew Mack and Martin O' Hare, *Japan and the Soviet Union: The 'Northern Territories' Dispute*, Working Paper No 69, Peace Research Centre, Australian National University, May 1989, p 6.

and public opinion.¹¹ As a result, although relations were normalised, the peace treaty remained unsigned.

During the Cold War period, for obvious strategic reasons, the Soviets would not wish Japan to develop close relationship with China at Moscow's expense. They would however welcome the weakening of the US-Japan Alliance. The Soviet also recognised the fact that if they were to become a Pacific power, some form of rapprochement with Japan was necessary. During the period, although Soviet Union was regarded as the country that threatened Japanese security, Tokyo had long-term interest in gaining access to the huge natural gas, oil and pulpwood in eastern Siberia and Sakhalin. Nevertheless, the Soviet-Japanese relationship remained difficult. Whatever were the legal merits of the competing claims, Andrew Mack and Martin O'Hare argued that political and strategic constraints were the major factors affecting relations of the two countries.¹²

For political reasons, Moscow was concerned that the return of all or some of the Northern Territories might set a precedence for the return of other territories occupied by the Soviet Union prior to or following World War II. The Soviets also feared that the return of the Northern Territories could encourage the Japanese to make further demands on the status of Northern Kuriles and the Sakhalin. At this point, it was worth noting that with the exception of the LDP, all Japanese political parties have laid demands on the entire Kurile chain. For the Japanese government, the continued Soviet's refusal to give up the territories perceived as belonging to Japan, coupled with the Soviet presence on the islands and its military build up, had served to convince the Japanese public of the Soviet threat. This in turn helped to reduce public opposition to incremental increases in defence expenditure.¹³

Strategically, the Northern territories are located at the point that they guard the southern gateways to the Sea of Okhotsk which provides the most secure passage for soviet surface combatants in and out of the Pacific Ocean. Furthermore, the Sea of Okhotsk is also a major deployment area of Soviet missile firing submarines operating out of Petropavlovsk on the eastern coast of the Kamchatka Peninsula. Japan's Self Defence Agency reported in January 1988 that the Soviet Union had about 40 MIG -23 fighters and some 10,000 troops were stationed on the disputed islands.¹⁴

Prime Minister Tanaka's visit to Moscow in October 1973, represented the peak in diplomatic progress in an effort to improve relations with the Soviets. Tanaka and Brezhnev held four summit meetings and as predicted the Northern Territories was an insurmountable obstacle. Another attempt made to continue negotiations was when foreign Minister Miyazawa visited Moscow in January 1975. Although the two sides were unable to reach agreements, the officials vowed to continue negotiations for a peace treaty by resolving the yet unresolved problems remaining since World War II.¹⁵

The end of the Cold War began to change the deep-seated antipathy towards the USSR, which had been the hallmark of Japan's foreign policy. Gorbachev's visit and his personal impact he had on the Japanese people had helped improve Moscow's image in Japan.¹⁶ Claubitz however mentioned that although Japanese media expectations prior to the visit were high, Gorbachev and his host Prime Minister Kaifu reached limits of what was possible. Gorbachev, whose authority in his own country appeared to be crumbling more and more rapidly just before his visit to Japan made no concrete offer of a solution to the territorial question. Kaifu was conscious of Gorbachev's limited scope for decisions, as he was not only loosing popularity, the critical state of the Soviet

¹¹ *Ibid.* p 6.

¹² *Ibid.* p 7-8.

¹³ *Ibid.* p 8-9.

¹⁴ *Ibid.* p 11.

¹⁵ William F. Nimmo *Op chit* p 55.

¹⁶ Kimmie Hara, *Op chit* p 4.

economy which was in a state of chaos did not permit him to make any significant offer for help. On his way to Japan, Gorbachev broke his journey in Khavarovsk; shouts were heard from the crowd, '*Don't give them any islands, Michael Sergeiievitch!*'.

When Boris Yeltsin was elected as President of the Russian Federation in June 1991 following the dissolution of the USSR, some analysts anticipated a dramatic change in Moscow's relation with Tokyo. Nevertheless, strong domestic constraints in Russia limited the freedom of policymakers to make radical breakthrough in relations with Tokyo.¹⁷

When Yeltsin's scheduled visit to Tokyo in September 1992 was postponed; Yeltsin was already in a weak political position. There was discontentment with regards to the meagre results of his economic reform programmes and his pro Western foreign policy. The territorial dispute with Japan was seen by conservatives and Russian nationalists as a useful tool to rally official and popular opposition to Yeltsin. Furthermore, the territorial issue became more politicised after the failed coup attempt in August 1991.¹⁸ Some moderates in the Russian Parliament also opposed a territorial concession to Japan because taking a hard line on the issue was a way of gaining support. The Governor of Sakhalin, Valentine Fedorov, was one of those who campaigned against the return of the disputed islands.¹⁹ Opposition to the transfer of the islands subsequently spread particularly as the Russian economy declined. The Russian General Staff also opposed territorial concessions, argued that it was important to retain troops on the disputed islands to prevent Japan from taking them by force. To the General Staff, the Kurile chain as a whole is of a '*great strategic importance*'. These islands help

shield the Sea of Okhotsk where Russia deploys submarines; bearing nuclear ballistic missiles, and help protect the Russian mainland by '*broadening the sphere of continental defence*'.²⁰

The postponement of Yeltsin's visits to Japan was not the only irritant in the Russo-Japanese relations. On the day the postponement of the visit was announced, it was made public that the Sakhalin provincial government had granted a Hong Kong firm a fifty year lease on 278 hectares of land on Shikotan. The leased land was to be used for resorts including hotels, casinos, a racetrack and a cockfighting pit. In addition, another contract with an Austrian firm to construct a golf course on Kunashiri was also announced.²¹

PROSPECTS FOR RESOLUTION

Although discussions have been held for over two decades, prospects for an amicable solution to the dispute over the Northern Territories are still remote. Kinamaru noted that the conflicting claims have developed into a territorial issue based on political ideology. As long as confusion reigns in Moscow and intransigence continues in Tokyo, the return of the Northern Territories is a long way off.²²

Leszek Buszynski was more optimistic as he indicated that there were signs that the Japanese had revised their previous insistence upon a resolution of the territorial dispute as a precondition for the development of an economic relationship. This was the result of pressures from the Clinton administration and other western leaders who were concerned for the stability of Russia. But he insisted that the improvement of the relationship would require a wider political framework promoted by the west as the only way that Russia and Japan can surmount the negative influences of

¹⁷ Peggy Falkenheim Meyer, *Moscow's Relations With Tokyo, Domestic Obstacles to a Territorial Agreement*, *Asian Survey*, Volume XXXII, No 10, October 1993, p 953-954.

¹⁸ *Ibid.* p 956.

¹⁹ Leszek Buszynski, *Russia's Priorities In The Pacific*, *The Pacific Review*, Volume 6, Number 3, 1993, p 285.

²⁰ Peggy Falkenheim Meyer, *Op cit*, p 959.

²¹ Peggy Falkenheim Meyer, *Op cit*, p 962.

²² Tomoyoshi Kanamaru, *Northern Territories Need Yen Before They Are Sold off Piece by Piece*, *Tokyo Business*, August 1993, p 27.

history.²³ Nimmo was also positive when he cited that as political events continue to unfold, new generation of leaders will find it mutually advantageous to resolve the Northern territories issue.²⁴

SINO-JAPANESE-TAIWAN DISPUTE OVER SENKAKU ISLANDS

Another territorial dispute in Northeast Asia that has soured inter state relationship is the Sino-Japanese-Taiwan dispute over the Senkaku Islands (or Diaoyutai in Chinese). The Senkaku Islands group, which is made up of five islands, is located some 300 kilometres from Okinawa and 200 kilometres north-east of Taiwan. The islands, together with Ryukyu Archipelago became part of Japan as a result of the Japanese seizure of Taiwan in 1895. China argued that the islands became part of China since the Japanese surrendered after World War II. What was obvious was that the Americans had taken over the islands and had returned them to Tokyo in 1972,²⁵ a year after China laid formal claims to the islands.

Before concluding the Peace and Friendship Treaty between China and Japan in August 1978, the anti-treaty group within the LDP preferred that the Senkaku issues be resolved. Their doubts about the sincerity of the Chinese were reinforced when a flotilla of Chinese fishing boats entered the waters around the islands in April 1978 and appeared to challenge Japanese sovereignty. According to the Japanese Maritime Agency, 19 Chinese fishing boats carried out fishing operations within the 12-mile limit of Uotori Islands. Agency officials told the boats to leave the waters but the orders were disregarded.²⁶

²³ Leszek Buszynski, *Op cit*, p 290.

²⁴ William F. Nimmo, *Op cit*, p179.

²⁵ Alan J. Day, *Border And Territorial Disputes*, United Kingdom, 1987, p 287.

²⁶ Robert E. Bedeski, *The Fragile Entente, The 1978 Japan-China Peace Treaty in a Global Context*, Wesview Pres, Colorado, 1983, p 35.

On 21 April 1978, the Chinese responded and explained that the April Violation was an unforeseen accident. It was however not an apology and there was no admission of Japanese sovereignty over the islands.²⁷ The Chinese also assured the Japanese that incidents similar to those in April would not recur. In fact, according to Deng Xiaoping, it was best to leave the Senkaku question to future generation to solve.²⁸

It would seem that the PRC, Taiwan and Japan would not give up on their claims to the Senkaku Islands. For the time being, the parties are quite willing to leave the territorial disputes aside while retaining normal diplomatic ties.

THE JAPANESE - KOREAN ISLAND DISPUTE

The territorial problem between Korea and Japan shot into prominence lately as a result of the decision of the Japanese cabinet to declare a 200 - nautical - mile economic zone around the Japanese coast. The decision is consistent with the United Nations convention on Law of the Sea, which obliges signatory countries to respect a 200-nautical-mile exclusive economic zone off a nation's coast. The Koreans ratified the convention in December 1995.²⁹

There are two islands being contested, Japan calls them Takeshima and the Koreans Tokdo. They lie 450 miles north-west of Tokyo and 300 miles east of Seoul. They have an area of just 300 square yards, but they are surrounded by rich fishing grounds and potential mineral

²⁷ *Ibid.* p 37.

²⁸ *Ibid.* p 37.

²⁹ Brian Williams, *Tokyo and Seoul Move Nearer to Showdown Over Islands*, *Reuters Textline*, Reuters News Service, 20 February 1996.

LEGEND

- | | |
|------------------------|------------------------|
| 1. Kamchatka Peninsula | 6. Beijing |
| 2. Kurile Island | 7. Tokyo |
| 3. Sea of Okhotsk | 8. Island of Kunashiri |
| 4. Okhotsk | 9. Hokkaido (Etorofu) |
| 5. South of Sakhalin | |

resources.³⁰ Tokyo's claim on the territory is based on a 1905 agreement with Korea before it colonised the Peninsula. But Seoul retorts that it has a well-documented claim going back to 512.

Although it may be argued that the diplomatic row between Korea and Japan over the disputed islands would not undermine inter-state relations, the fact remains that this territorial problem will not be easily resolved in the near future owing to political and economic constraints prevailing in both countries.

THE SPRATLY ISLANDS DISPUTE

Of all the territorial disputes under study, the Spratly dispute in the South China Sea (SC) is perhaps the most complex and hence the most difficult to resolve. Claimed in whole or in part by China, Vietnam, Taiwan, Malaysia, Brunei and the Philippines, the Spratly Islands represent a multi-party regional dispute.

The Spratly archipelago occupies about 180,000 square kilometres in the southern region of the South China Sea and is made up of more than 300 reef atoll sandbanks and islets. Only 33 of these are protruding islands. The largest, Itu Aba Island, is about one km long and Taiwan have occupied 0.4 square kilometres of it, since 1947. Most of the islands are approximately 0.5 square kilometres in size and fresh water is only available on a few islands. Hence stationing of large number of personnel on the islands and construction of military or civilian facilities are difficult.³¹

The origin of the Spratlys dispute could be traced back to the sixteenth century when the European powers expanded their influence

into the East Asian region. The defeat of the Chinese navy in the Sino-French War of 1884-85 eliminated the China's influence in the South China Sea, and forced it to accept the 1884 France-Annamite treaty, which strengthened the French domination over the South China Sea and its islands. In 1927, the French sent the first survey mission to the Spratlys and by 1930, the French formally declared possession of the islands.

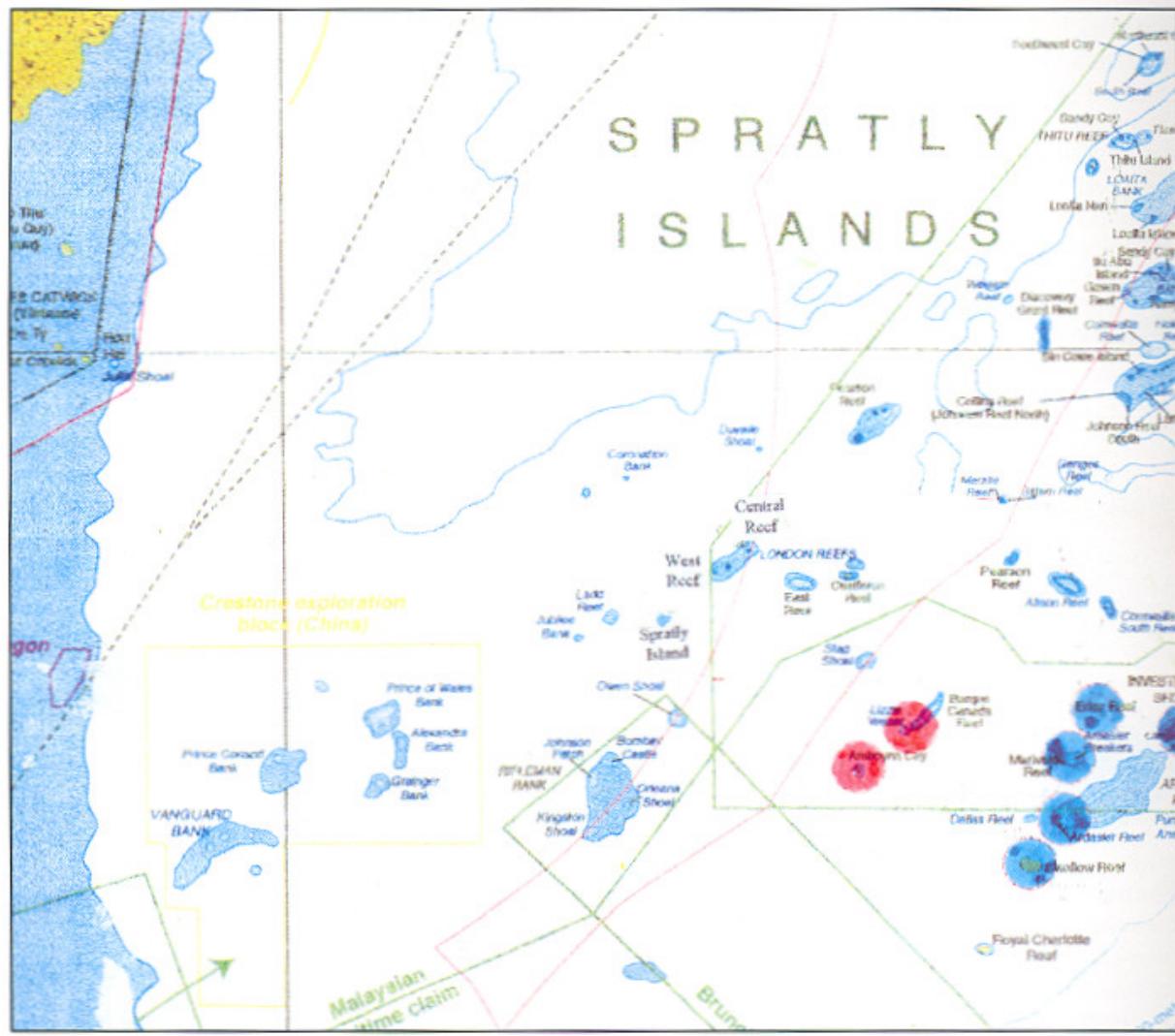
During the early part of the World War II, when the Chinese coast came under Japanese control, Tokyo reversed the 1930 French declaration. By 1939, the Imperial navy occupied the Spratlys and by December 1941 Japan used Itu Aba Island as a submarine base for the invasion of the Philippines. After the Japanese surrender at the end of World War II, the French took over the control of the Spratlys in 1947. By October 1950, Vietnam declared the French maritime boundaries in the South China Sea, and when the French withdrew in 1956, South Vietnam occupied the islands. When the San Francisco Treaty was signed in 1951, the question of Spratlys ownership was the subject of disagreements among states, thereby leaving the archipelago without any legal status.

By 1978, the Chinese navy grew in size, equipment, personnel and resources. In 1984, the Central Intelligence Agency (CIA) estimated that the People's Liberation Army-Navy (PLAN) had acquired sufficient amphibious ships and crafts to mobilise over 30,000 troops and equipment in a regional amphibious assault. Access to aerial refuelling systems extended the PLA-Air Force area of operation to cover the Spratlys.³² The naval build-up was seen as a Chinese desire for greater influence in the Spratlys. Among all the claimants, China not only possesses the strongest navy but it is the most assertive in its claims of the Spratlys. In 1974, China booted the Vietnamese off the Paracels. In 1988, in a brief battle between the Chinese and the Vietnamese, three Vietnamese

³⁰ Kevin Rafferty, *Tokyo and Seoul Clash Over Islands*, Reuter Textline, Guardian, 21 February 1996.

³¹ Amnon Varon, *The Spratly Islands Embroilment: A Test Case In Post Cold War Southeast Asia*, La Trobe Politics Working Paper Number 3, July 1994, p 2.

³² Ibid. p 8.



Spratly Island

ships were set ablaze and more than 70 Vietnamese sailors were dead. By grabbing Mischief Reef, claimed by the Philippines as part of the Kalayan group in the Spratly archipelago, China has stirred up more than a minor squall.³³

Why the scramble for the South China Sea? Varon argued that the main factor, which enhanced China's confidence and the importance it attached to the Spratlys, was its rapidly improving economy. China's 'open door'

policy after 1978 had resulted in unprecedented expansion of domestic production, whereby real GNP grew by 8 percent a year during 1982-1988. These achievements increased the leadership confidence in pressing with the Chinese expansion in the South China Sea and highlighted more powerfully the economic advantages of the Spratlys.³⁴

Furthermore, the prospect for offshore development in the Spratlys, from mineral to oil and fishstocks held enormous attraction to

³³ Storm Brews, *Over Chinese Reef Grab, The Australian*, 8 March 1995.

³⁴ Amnon Varon, *Op cit*, p 10.

Beijing.³⁵ Trevor Findlay also argued that economic motives have been the reasons for the Chinese assertive policy in the South China Sea. With the booming economy and still expanding population, China apparently sees the South China Sea as its '*lebensraum*' or '*living space*'.³⁶

Among the ASEAN states, Vietnam³⁷ bases its claim to the Spratlys on historical association. The Vietnamese argues that its claim may be traced back to 1650-53. After the Chinese seizure of western Paracels in 1974, the Vietnamese responded by occupying six islands in the Spratly archipelago. In addition, Vietnam also stationed troops on Amboyna Cay since 1977. Hanoi currently controls 24 islands and stated that the entire island cluster falls under within its continental shelf.³⁸

The Philippine first dispatched its Armed Forces to the island of Pagasa in 1968. By 1978, a total of 1,000 marines were believed to be to be protecting the Philippines claims to the islands, which were officially named Kalayan.³⁹ The Philippines is currently occupying eight islands in the Spratlys. Following the 1979 publication of a map detailing extensions to its claim of continental shelf and the EEZ, Malaysia became involved in the Spratly dispute. Malaysian troops occupied Swallow Reef in 1983 and two more islands in 1986 in response to the presence of Chinese warships. Because of its maritime interests in the South China Sea, Malaysia has determined that it is necessary to shift the emphasis of its military procurements and is altering its defence force from a counter insurgency capability to one largely based on the protection of the EEZ and its territorial claims in the South China Sea.⁴⁰ Another ASEAN states

that has laid claim to the Spratlys is Brunei, who proclaimed the islands since 1954 based on the continental shelf and the EEZ. However, it is the only claimant who has not stationed troops on the disputed islands.

FACTORS DETERMINING RESOLUTIONS OF THE DISPUTE

One of the major factors in determining resolutions of the Spratly Islands dispute is the '*China factor*'. China's economic, political and strategic motives and the influential groups in shaping the Chinese foreign policy goals are critical in the success of further negotiations of the dispute. China's sustained push through the South China Sea indicated that the PLA-N has been fairly successful in its efforts at political lobbying. China's post-1989 situation enhanced PLA political position. The near revolution of 1989 illustrated the ultimate dependency of the CCP on the PLA for survival.⁴¹ PLA-N has several allies in its push for vigorous South China Sea policies, such as the conservatives, who would be happy to keep the west at arm's length, and also the nationalists. Besides, Hainan province, which encompasses the entirety of China's claim in the South China Sea also strongly, supported the navy.⁴² Nevertheless, Beijing is unlikely to promote its interests in the Spratlys by resorting to direct military threat as military threat would raise the dispute on top of the regional agenda and this is what Beijing is keen to avoid.⁴³ Despite this, Peter Lewis Young insisted that the prospect for conflict is always present and it is possible to start a war in the South China Sea by accident.⁴⁴

³⁵ Amnon Varon, *Op chit*, p 11.

³⁶ Trevor Findlay, *South China Sea Scramble*, *Pacific Research*, November 1992, p 30.

³⁷ Vietnam was admitted as an ASEAN member in July 1995.

³⁸ Allan Shephard, *Background Paper Number 6, Seeking Spratly Solutions: Maritime Tensions in the South China Sea*, *Parliamentary Research Service*, 13 May 1993, p 16.

³⁹ *Ibid.* p 18.

⁴⁰ *Ibid.* p 19.

⁴¹ John W. Garver, *China's Push Through the South China Sea: The Interaction of Bureaucratic and National Interests*, *The China Quarterly*, 1992, p 1025-1026.

⁴² *Ibid.* p 1026.

⁴³ Amnon Varon, *Op chit*, p 26-27.

⁴⁴ Peter Lewis Young, *The Potential For Conflict in The South China Sea*, *Asian Defence Journal*, November 1995, p 18.

But J. N. Mak cited that the South China Sea appears to be heading for an era of naval confrontation, which will probably involve all the ASEAN members directly and indirectly.⁴⁵ As such, another important factor is the question of ASEAN solidarity. At the Manila ASEAN Ministerial Meeting in July 1992, ASEAN countries made a declaration on the South China Sea which stressed the necessity to resolve all sovereignty and jurisdictional issues pertaining to the South China Sea by peaceful means, without the use of force.⁴⁶ Now that all the claimants, with the exception of China and Taiwan are members of ASEAN, the Manila agreement signalled another milestone in ASEAN quest for the resolution of the Spratly dispute through negotiations. The ASEAN Regional Forum (ARF) serves as a formal and exclusive framework for intra-ASEAN security consultation and provides an opportunity for the participants to voice their security concerns.⁴⁷ Nevertheless, after four meetings, the ARF made little progress towards resolving the Spratlys dispute. Nishihara was quite positive on the ARF when he stated that '*The ARF appears promising as a dialogue forum. The question is what kind of agenda it should have*'.⁴⁸

Another factor, which complicates the Spratly problems, is the development of ocean laws - the very regulations that are supposed to minimise conflicts. Hamzah Ahmad stated that there are gaps in the 1982 Law of the Sea convention besides the introduction of new

concepts like the EEZs, the doctrine of the archipelagic state and the heritage of mankind.⁴⁹ While these rules are good on paper, in practice adjustments and harmonisation of laws are needed and the process will take time to complete.

COMPARISON OF FACTORS DETERMINING RESOLUTIONS

In the case of the Russo-Japanese dispute over the Kuriles, the major factor for the Russians is political domestic politics especially from the Sakhalino Oblast, which can be noted as the '*rise of nationalism*'. It is further complicated by the Governor of Sakhalino Oblast in using the territorial issue for his own political ambitions. Another factor is the Soviet military that still argues on the strategic significance of the islands despite the end of the Cold War. For the Japanese, the non-separation of politics and economic aid is a major stumbling block towards resolutions. Besides, there are also pressures from the LDP against Japanese concessions.

For the Senkaku Islands dispute between China and Japan and the Takeshima Islands dispute between Korea and Japan, economic and political factors are the two most important ingredients towards resolution. In view of the economic potentials in and around the disputed islands, coupled with political pressures in each country's political fronts, neither side may want to give territorial concessions.

In the Spratly Islands dispute, the major players are China and ASEAN. China's strategic ambition is unpredictable, and it's the claimant with the most powerful navy. Chanda Nayan stated that the Chinese building

⁴⁵ J. N. Mak, *The Chinese Navy and the South China Sea, A Malaysian Assessment*, *The Pacific Review*, Volume 4, No 2, 1991.

⁴⁶ Amitav Acharya, *Intra ASEAN Territorial Disputes, and The Spratly Islands Dispute*, in *A New Regional Order in Southeast Asia: ASEAN in the Post Cold War Era*, Adelphi Paper 279, August 1993, p 32.

⁴⁷ Zain Amri, *ASEAN Regional Forum: Towards Cooperation Or Collective Security in The Asia Pacific?*, *Asian Defence Journal*, September 1994, p 6.

⁴⁸ Masashi Nishihara, *Multi-lateralism in Asia Pacific: The View from Tokyo*, *Asian Defence Journal*, September 1994, p 30.

⁴⁹ Hamzah Ahmad, *The South China Sea Conflict: The Need for Policy Transparency*, *Asian Defence Journal*, January 1993, p 123.

structures on Mischief Reef is tied to their overall strategy of marking their territories before making public their baseline claims.⁵⁰ The truth of this statement is yet to be determined.

China is also currently enjoying rapid economic growth and modernising its Armed Forces, especially the PLA-N. Politically, the hard liners, especially the PLA are still very influential in determining China's foreign policy. For the ASEAN states, a multilateral approach and multinational joint development are probably the best solutions. Mark Valencia had suggested that a multinational joint development is not ideal. It will be difficult, complex and cumbersome. But it is the only way to avoid armed conflict.⁵¹ The major problem in this case will be on the need to retain ASEAN solidarity in efforts to resolve the overlapping claims of the Spratly.

CONCLUSION

It is apparent that territorial disputes among states are determined by factors, which are more complex to handle. The range of

factors includes domestic politics, economy and strategy. In the case of the Russo-Japanese disputes over the Kuriles, although there seemed to be a window of opportunity to negotiate for the settlements of the dispute when Gorbachev and subsequently Yeltsin came to power, the '*rise of nationalism*' and domestic political pressures did not permit the Russian leadership to make territorial concessions towards the Japanese despite the pressing need for economic aid.

Territorial disputes between the Chinese and the Japanese over the Senkaku Islands and the Territorial disputes between the Koreans and the Japanese over the Takeshima will not likely to be resolved in the near future and will remain as irritants to the relationships between the countries concerned. Despite these irritants, it is in the respective countries' economic and political interests to maintain cordial diplomatic ties.

In the case of the Spratly Islands dispute, China's sincerity in resolving the issue remains uncertain. And despite the ARF progressing steadily, the question of whether there will be a cohesive political will among ASEAN states in maintaining solidarity when dealing with China is also yet to be ascertained. As such, it could be seen that the Spratly Islands dispute would remain unresolved.

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*"Demi sesungguhnya, jika kamu bersyukur, nescaya
aku tambahi nikmatku kepada kamu dan demi
sesungguhnya, jika kamu kufur ingkar sesungguhnya
azabku amatlah keras".*

Surah Ibrahim, Ayat 7

INDOKTRINASI MENTAL

Mengikut Pendekatan Rohaniah Dalam

TENTERA DARAT

PENDAHULUAN

Memupuk atau menyemai kerohanian dalam diri seseorang individu adalah sangat penting, kerana ia akan melahirkan seorang manusia yang bermatlamat, mempunyai pegangan yang kukuh dan berketerampilan dalam melaksanakan tugasnya sebagai hamba Allah s.w.t. Individu seperti ini mampu menggerakkan manusia lain untuk menghayati kehidupan dengan sebaik-baiknya. Antara elemen yang terpenting untuk dibentuk ialah mental manusia itu sendiri. Ini adalah kerana mental menjadi tunggak mencorak arah kehidupan manusia. Mental yang sihat akan melahirkan manusia yang berdisiplin, menghasilkan mutu kerja yang cemerlang dan membina seorang muslim yang dapat melaksanakan tanggungjawab terhadap Penciptanya dengan penuh keikhlasan. Soalnya sekarang; bagaimana bentuk dan rupa pengisian yang boleh diterapkan ke dalam mental seseorang manusia.

Salah satu bentuk pengisian yang boleh diadaptasikan terus ke dalam mental manusia ialah pengisian dalaman atau apa yang dikatakan kerohanian (rohaniah). Kejernihan mental yang terhindar daripada unsur-unsur yang tidak sihat akan

Mej (Ust) Kamaruddin bin Hj Mamat

menjuruskan anggota itu menjadi seorang anggota tentera yang mampu bersaing, mempunyai nilai-nilai murni sejagat dan ikhlas dalam melaksanakan kerja.

Di sinilah betapa pentingnya rohaniah atau pengisian dalaman yang diperlukan untuk mengawal dan seterusnya menjadikan seseorang anggota tentera itu berkualiti. Pengisian luaran sahaja dengan elemen-elemen seperti latihan jasmani, sukan dan pengisian fizikal yang lain jika tidak disertai dengan pengisian dalaman tidak mencukupi untuk menjadikan seorang anggota tentera yang bermutu. Rasulullah s.a.w dan juga panglima-panglima perang yang lain semasa zaman kegemilangan Islam amat menitik beratkan kerohanian kerana dengan pengisian itu sahajalah seorang anggota tentera mampu berperang dengan berani dan inginkan syahid dalam peperangan. Sejarah juga membuktikan bagaimana tentera-tentera kufar melarikan diri dari medan peperangan kerana gentar dengan tentera Islam walaupun mereka mempunyai kelengkapan yang moden dan kecerdasan fizikal yang tinggi. Rencana ini akan cuba mengupas persoalan ini dengan berdasarkan kefahaman penulis sendiri.

Persoalannya di sini, bagaimana cara dan bentuk kerohanian yang perlu diterapkan ke dalam mental individu khususnya anggota tentera, agar mereka terhindar daripada gejala-gejala yang tidak selari dengan Islam dan juga agama-agama lain termasuklah disiplin Angkatan Tentera.

Rencana ini juga akan sedaya upaya membincangkan indoktrinasi mental mengikut pendekatan rohaniah bagi menimbulkan kesedaran dan keinsafan di kalangan warga Tentera Darat supaya meningkatkan ketahanan sebagai pejuang agama, bangsa dan negara demi pelaksanaan tugas yang bermutu.

Garis panduan mengenai perkara ini telah dikeluarkan melalui PMAT 9/91 iaitu **Dasar Pembinaan Mental dan Kerohanian Islam ATM**. Tujuan dasar ini begitu murni dan menjadi wadah bagi setiap Pegawai Agama dan stafnya melaksanakan program pembinaan mental dan kerohanian secara komprehensif dan tekun supaya akhirnya kita tidak akan melihat lagi warga tentera kita yang '*tempang*' dalam merilisasikan kerja yang murni dan berkat ini.

PENGERTIAN TAJUK

Doktrin bermaksud ajaran, fahaman atau pegangan seperti doktrin Karl Marx yang dianuti oleh penganut-penganut fahaman komunis. Indoktrinasi pula ialah menjadikan sesuatu fahaman atau ajaran itu diadaptasikan dalam kehidupan khususnya di dalam mental kerana mental sahajalah yang akan memastikan sesuatu fahaman itu berjaya dilaksanakan atau sebaliknya.

Mental pula dari segi bahasa ialah otak. Dari segi istilah pula ialah pemikiran atau fikiran (akal) yang boleh menerima apa sahaja sumber sama ada dari luar atau dalam. **Rohani** pula berasal daripada perkataan roh. Menurut Mac-Donald (Orientalis), roh bermaksud jiwa. Di dalam al-Quran jiwa disebut sebagai An-Nafs. Imam Ghazali dan Ibnu Sina telah membahagikan an-nafs (jiwa) kepada tiga bahagian:

- * *An-Nafs Nabatiyyah* (jiwa nabati).
- * *An-Nafs Al-Hayawaniyyah* (jiwa haiwan).
- * *An-Nafs Al-Insaniyyah* (jiwa insan).

Pendekatan pula bermaksud cara (uslub) atau jalan untuk menuju ke sesuatu matlamat. Apa yang dapat difahami di sini mengenai tajuk rencana ini ialah menjadikan kerohanian sebagai salah satu cara untuk dijadikan fahaman atau ajaran di dalam pemikiran atau akal seseorang anggota Tentera Darat.

RUANG LINGKUP PERBAHASAN

PROFIL ANGGOTA

Hakikat Keperibadian Warga Tentera. Para anggota hendaklah sedar bahawa sebagai perajurit yang berasal dari rakyat dan didukung oleh rakyat, mereka diberi amanah serta kepercayaan oleh rakyat untuk memikul tanggungjawab untuk berjuang demi kelangsungan hidup rakyat. Justeru itu hendaklah mereka mempunyai hakikat keperibadian seperti berikut:

- * Memiliki jiwa seorang patriot dan pejuang yang bertaqwah kepada Allah s.w.t.
- * Mempunyai sifat-sifat patriotisme dan berkeyakinan dalam tugas dan tanggungjawabnya sebagai pendukung dan pembela rakyat.
- * Bertekad sebagai perwira untuk memegang teguh disiplin, taat kepada segala perintah dari pemimpin serta menjunjung tinggi kehormatan dan nilai diri Warga Tentera .
- * Sentiasa waspada, siaga dengan ilmu di dada demi keamanan dan keselamatan negara.
- * Menunjukkan kerelaan dan ketulusan sebagai perwira yang mengutamakan keperwiraan, keberanian moral dan fizikal dalam melaksanakan tugas serta senantiasa siap sedia untuk berbakti kepada agama, nusa dan bangsa.

Budi Pekerti dan Disiplin. Seseorang manusia yang tidak mempunyai budi pekerti

tidak ada bezanya dengan haiwan. Jika seseorang perajurit pula tidak mempunyai disiplin; maka bayangkanlah sendiri termasuk dalam golongan manakah mereka ini. Budi pekerti dan disiplin akan menyerlahkan keperibadian serta keperajuritan yang luhur dan abadi. Setiap peringkat perajurit hendaklah berusaha sedaya upaya membina sifat murni ini supaya berperilaku dengan penuh keluhuran, berbudi pekerti dan berdisiplin demi melaksanakan tugas dengan lebih mantap dan bertanggungjawab. Pedoman pokok bagi maksud ini ialah mendahuluikan kepentingan tugas, berkorban, mengenepikan keperluan diri sendiri, hormat menghormati, jujur, ikhlas, dapat dipercayai, mematuhi segala perintah, setia kepada pemimpin, rakan dan bawahan, *tasamuh* (lapang dada), kebaikan hati dan ketenanganjiwa. Dengan berpegang teguh kepada pedoman tersebut, maka akan menjelma suatu pasukan yang kewujudannya serba menggembirakan, penuh kewibawaan dan tidak mudah tergoncang dan tidak rapuh.

Taat Setia.

* **Taat.** Ketaatan bermaksud patuh, sentiasa menurut dan mengikut perintah dan ajaran, tidak engkar, kuat beribadat dan soleh. Ketaatan itu timbulnya dari hati nurani yang tulus dan murni secara *zahiriah* (*lahiriah*) juga *batiniah*. Ia harus timbul dari kesedaran jiwa yang bersih yang penuh perasaan tanggungjawab terhadap diri sendiri demi pelaksanaan perintah, ajaran, tugas dan kewajipan. Ketaatan itu bersifat sentiasa dalam keadaan bersedia memenuhi kewajipan *zahir* (*lahir*) dan *batin*. *Zahir* (*lahir*) ialah sesuatu yang berasal dari luar misalnya hukum dan perintah, sementara

batin itu terbitnya dari diri sendiri yang yakin sebagai wadah dari keluhuran dan ketulusan hati nurani.

* **Setia.** Kesetiaan itu adalah sikap dan rasa perasaan hati dan mental yang utuh lagi teguh yang tidak berbelah bahagi terhadap sesuatu ataupun seseorang. Ia adalah kerelaan hati terhadap pengorbanan dan pengabdian diri yang lahir dan timbul dari kepercayaan, keyakinan, penghormatan dan kesedaran yang tinggi. Kesetiaan itu adalah peri-hal sikap yang bertaut dengan keakuran jiwa yang sesuai dengan penerimaan akal.

* **Hubungan Taat dan Setia.** Justeru, taat setia pula adalah patuh terhadap segala perintah dan ajaran, rela mengabdikan diri dan berkorban untukNya. Kepatuhan dan kerelaan itu begitu padu hubungannya baik secara *zahiriah* atau *batiniah* yang timbul kesan dari sifat penuh kesedaran, berkeyakinan, berkepercayaan dan mempunyai penghormatan yang lahir dari hati nurani yang luhur lagi abadi; sesuai dan akur dengan rasa, perasaan jiwa dan pemikiran akal. Maka binalah dan tingkatkanlah ketaat-setiaan yang tidak berbelah bagi kepada pihak atasan, kepada nusa dan bangsa dalam melaksanakan tugas.

MENTAL DAN PERANANNYA

Pepatah Arab ada menyatakan “*Akal yang sihat datangnya dari badan yang sihat*”. Pepatah ini ada kebenarannya kerana badan yang sihat akan mempengaruhi tindakan dan perbuatan manusia itu sendiri. Fitrah manusia menginginkan kepada kebaikan dan kebahagiaan. Fitrah ini juga tidak terkecuali kepada mental seseorang individu. Mental

Budi pekerti dan disiplin akan menyerlahkan keperibadian serta keperajuritan yang luhur dan abadi. Setiap peringkat perajurit hendaklah berusaha sedaya upaya membina sifat murni ini supaya berperilaku dengan penuh keluhuran, berbudi pekerti dan berdisiplin demi melaksanakan tugas dengan lebih mantap dan bertanggungjawab.

manusia memainkan peranan yang penting untuk membawanya kepada apa yang mereka fahami dan anuti.

Fahaman yang dianuti sama ada yang baik mahupun sebaliknya akan mempengaruhi semua tindakan yang dilakukan oleh manusia termasuklah seorang anggota tentera. Di sinilah pentingnya pembinaan mental yang selari dengan kehendak Islam itu sendiri agar tindakan yang dilakukan oleh manusia mempunyai batasannya dan mengikut suruhan yang diberikan oleh Allah s.w.t.

K e u p a y a a n menguasai mental seseorang itu akan dapat membentuk dan menjadikan seorang manusia patuh terhadap arahan dan taat, walaupun secara membutatuli. Jika kita kaji, komunis di Malaysia telah mengambil pendekatan mental dengan menekankan konsep dan fahaman komunisme di kalangan pengikutnya sehingga mereka sanggup berjuang walaupun perjuangan mereka mengalami kekalahan dan pelbagai rintangan. Ini kerana penerapan ideologi komunis yang telah ditanamkan ke dalam mental anggota mereka memperlihatkan mereka sanggup berbuat apa sahaja demi melihat ideologi komunis berkembang. Konsep yang dilaksanakan oleh mereka ialah menggunakan pendekatan mental melalui ceramah-ceramah, manifesto, percetakan, janji-janji manis dan apa jua cara-cara lain yang dilaksanakan demi kepentingan ideologi mereka.

Apa yang kita lihat, di sinilah peranan mental yang amat berkuasa mengarahkan manusia sama ada ke arah yang baik atau sebaliknya. Maka yang harus difikirkan di sini, apakah pengisian yang perlu untuk mengarahkan mental ke arah yang lebih sihat. Tentera

Darat sudah mempunyai doktrin-doktrinnya yang tersendiri dan berjaya mengadaptasikannya kepada warganya. Adakah sudah mencukupi doktrin yang sedia ada untuk melahirkan masyarakat tentera yang seimbang yang akan mempunyai nilai-nilai sejagat amnya dan nilai Islam khususnya sebagaimana dikehendaki oleh kerajaan Malaysia? Di sinilah peranan anggota tentera, khususnya para penggubal doktrin Angkatan Tentera, merangka dan membuat doktrin-doktrin yang bersetujuan dengan hasrat kerajaan agar nilai-nilai murni dapat diterapkan di kalangan warganya. Antara perkara yang mesti dititikberatkan dalam pembentukan mental ialah pendekatan secara rohaniah. Mental yang sihat akan menerima kerohanian sebagai salah satu sumber untuk memandu kehidupan manusia kerana ia merupakan fitrah semula jadi manusia yang perlu diisi di dalam dirinya. Semua agama mempunyai unsur-unsur kerohanian yang tersendiri dan kesemuanya mengarahkan penganutnya supaya melakukan kebaikan dalam

kehidupan sehari-hari.

Agama Islam yang suci, amat menitik beratkan perkembangan mental manusia bermula dari lahirnya manusia itu sehingga ke saat-saat kematiannya. Perkembangan ini mestilah disertai dengan kepatuhan dan ketundukan yang penuh terhadap Penciptanya tanpa ragu-ragu. Salah satu cara untuk mewujudkan fenomena ini ialah dengan menekankan kerohanian ke dalam mental seorang Muslim agar kehidupan mereka terhindar daripada perbuatan-perbuatan dosa besar dan dosa kecil yang berterusan. Sejarah telah membuktikan bagaimana Rasulullah s.a.w menekankan konsep kerohanian sehingga baginda ada menyatakan di dalam hadisnya kepada anggota tenteranya supaya menjadi **“Pahlawan di siang hari dan rahib di malam hari”**.

Jika kita hayati siri peperangan Rasulullah s.a.w, kemenangan demi kemenangan dapat dicapai kerana kekuatan mental yang dimiliki oleh tentera Islam untuk mati syahid. Ini terhasil daripada penekanan kerohanian dalam jiwa dan mental mereka walaupun mereka tidak mempunyai kelengkapan perang yang canggih jika dibandingkan dengan musuh.

Jika kita hayati siri peperangan Rasulullah s.a.w, kemenangan demi kemenangan dapat dicapai kerana kekuatan mental yang dimiliki oleh tentera Islam untuk mati syahid. Ini terhasil daripada penekanan kerohanian dalam jiwa dan mental mereka walaupun mereka tidak mempunyai kelengkapan perang yang canggih jika dibandingkan dengan musuh. Di sinilah pentingnya kerohanian untuk melahirkan anggota tentera yang luhur dalam melaksanakan tugasnya dan mempunyai mental yang kukuh dengan bermatlamatkan **Jihad** seperti yang berlaku pada zaman Rasulullah s.a.w, para sahabat dan era kegemilangan Islam.

MENTAL DAN PENYAKITNYA

Semua manusia mengalami tekanan, terutama tekanan mental yang boleh merosakkan kesimbangan kehidupan sehari-hari yang boleh membawa kemusnahan dalam kehidupan mereka. Tekanan mental ini juga tidak terkecuali di kalangan anggota tentera. Banyak sebab berlakunya tekanan mental dalam kehidupan sama ada tekanan tersebut berbentuk luaran mahupun dalaman. Mental yang sihat akan melahirkan manusia yang waras pemikiran dan tindakannya dan mampu mengurus kehidupannya dengan baik. Manakala mental yang tidak sihat akan menyebabkan tindak tanduknya lebih bersifat emosional dan bukan melalui pemikiran yang waras.

Banyak sebab berlakunya tekanan mental di kalangan manusia khususnya anggota tentera dan antara masalah yang melanda sehingga berlakunya tekanan mental ialah:

- * Tekanan dalaman yang tidak diisi dengan makanan rohani.
- * Persekutaran kerja yang tidak menyeronokkan.

Jiwa yang tenang akan mempengaruhi mental dan hasilnya mental akan mendorong melaksanakan kerja-kerja yang selari dengan kehendak Islam.

- * Suasana rumah tangga yang kucar kacir.
- * Tekanan atau beban kerja dari pegawai atasan.
- * Masalah dan beban daripada anggota bawahan.
- * Karenah anak-anak dan tekanan untuk mencapai kecemerlangan.
- * Tekanan untuk kenaikan pangkat.
- * Bebanan hutang.
- * Masalah-masalah lain yang berlaku dalam kehidupan.

Masalah-masalah seperti ini akan menyebabkan tekanan dalam kehidupan manusia sehingga menyebabkan mentalnya tidak seimbang dan akhirnya akan menyebabkan ketidakseimbangan dalam tindakan yang dilakukan.

KESAN-KESAN TEKANAN MENTAL

Tekanan yang berterusan akan menjadikan individu yang mengalaminya berubah; malah kehidupannya dipenuhi dengan tindakan-tindakan yang berunsur emosi. Apabila tekanan semakin meningkat, simptom-simptom daripadanya akan wujud dengan dimanifestasikan melalui:

- * Mengamuk.
- * Murung.
- * Cepat marah.
- * Sentiasa tertekan.
- * Hilang keyakinan diri.
- * Sentiasa takut.

- * Tanda-tanda penyakit seperti sakit kepala, jantung dan lain-lain.
- * Membunuh diri (tahap yang ekstrim).
- * Melakukan pembunuhan.

Pencegahan perlu dilakukan dari masa ke masa agar gejala tekanan mental ini dapat dikurangkan. Pencegahan ini boleh dilakukan sama ada ia berbentuk penyelesaian luaran atau dalaman. Penyelesaian luaran boleh dilakukan dengan melepaskan tekanan melalui senaman, bersiar-siar, melancang, bersikap optimis, sentiasa bergaul mesra dengan rakan dan memenuhi masa lapang yang ada dengan melakukan aktiviti yang berfaedah. Pada masa yang sama, penyelesaian yang berbentuk dalaman perlu dilakukan. Pelaksanaannya boleh dilakukan dengan melakukan ibadah khusus seharian (khususnya solat), berzikir, Qiamullail, muhasabah (menghisab) diri sendiri, mendengar dan membaca al-Quran, berdoa untuk menyelesaikan masalah dan bergantung sepenuhnya kepada Allah s.w.t. Jika semua ini dilaksanakan, sudah tentu masalah yang melanda akan dapat diselesaikan dengan baik. Kaunseling juga amat perlu untuk memastikan tindakan susulan yang bermanfaat kerana tanpa kaunseling sudah tentu individu yang bermasalah akan menghadapi tekanan yang berterusan.

Jelasnya, gabungan antara kedua-dua unsur (dalaman dan luaran) amat penting untuk memastikan kejayaan menyelesaikan tekanan mental yang dihadapi oleh seseorang individu. Penekanan ke atas satu unsur dengan mengabaikan unsur yang lain akan menghasilkan mental yang tidak seimbang. Unsur kerohanian perlu dititik beratkan seiring dengan penekan unsur fizikal. Dalam Tentera Darat, unsur fizikal bagi pandangan penulis sudah memadai namun unsur kerohanian masih lagi belum mencukupi untuk membentuk seorang anggota tentera yang berkualiti.

Jika dilihat dari aspek luaran, mungkin seorang anggota tentera bekerja dengan baik dan patuh terhadap arahan pegawai atasan tetapi

jika ditinjau dengan lebih mendalam, setakat mana kerja yang dilakukan memuaskan hati dan dilakukan dengan ikhlas tidak dapat dipastikan. Di sinilah pentingnya kerohanian yang mengarahkan anggota tentera melaksanakan kerja dengan ikhlas dan seterusnya dapat mencapai matlamat kerajaan merealisasikan nilai-nilai Islam di kalangan rakyatnya, khususnya anggota tentera.

KEROHANIAN DAN KEPENTINGANNYA

Kerohanian diistilahkan sebagai kekuatan dalaman akan diperolehi oleh setiap manusia yang berusaha bersungguh-sungguh untuk mencapainya. Kerohanian juga dapat membentuk keperibadian individu yang unggul dan seterusnya dapat menjadikan seorang anggota tentera itu menepati ciri-ciri tentera Islam yang sebenarnya. Kerohanian ini sekali gus akan mempengaruhi mental anggota tentera untuk menjadi tentera yang berdisiplin, amanah, bersih dan ikhlas dalam melaksanakan tugasnya. Ketiadaan kerohanian akan menyebabkan berlakunya perlanggaran disiplin seperti THTC, penyalah gunaan dadah, ponteng kerja, pecah amanah dan kesalahan-kesalahan lain lagi yang boleh menggugat organisasi Angkatan Tentera.

Bayangkan jika sifat amanah tidak wujud, tentunya skandal rasuah akan wujud yang akhirnya akan menyebabkan lesapnya wang berjuta-juta ringgit tanpa ada kawalan. Selain daripada mematuhi undang-undang yang sedia ada sama ada undang-undang Angkatan Tentera, undang-undang sivil mahupun undang-undang syariah, penekanan kepada kerohanian sangat perlu di kalangan anggota tentera supaya mereka terhindar daripada melakukan perkara-perkara yang dilarang sama ada dari sudut agama Islam mahupun peraturan Angkatan Tentera.

Jiwa yang tenang akan mempengaruhi mental dan hasilnya mental akan mendorong melaksanakan kerja-kerja yang selari dengan kehendak Islam. Sebaliknya jiwa yang kusut

akan mempengaruhi mental dan apabila ini berlaku, sudah tentu setiap tindakan individu itu akan ter dorong ke arah kejahatan. Di sinilah peranan kerohanian yang memandu dan mengawal manusia untuk melaksanakan perbuatan yang baik dan selaras dengan kehendak-kehendak Islam dan undang-undang yang sedia ada. Tanpa kerohanian, jiwa tidak tenteram dan mudah dipengaruhi oleh musuh utama manusia iaitu syaitan.

KONSEP PENDEKATAN ROHANIAH DALAM MENTAL TENTERA DARAT

Mental boleh dibentuk sebagaimana membentuk manusia. Pembentukan ini adalah mengikut acuan yang dikehendaki oleh pemimpin ataupun individu itu sendiri. Jika acuan yang dibentuk itu mengarahkan kepada keburukan atau kejahatan, maka manusia yang terbentuk akan terarah kepada perkara yang sedemikian. Namun jika acuan itu dibentuk dengan sistem yang baik dan seimbang antara keperluan rohani dan fizikal, sudah tentunya akan lahir manusia yang berkualiti dan mampu melaksanakan tugas dengan baik.

Pendekatan rohaniah dalam Tentera Darat khususnya, dalam pembentukan mental boleh dilaksanakan melalui rutin ibadat sehari-hari terutamanya ibadat khusus seperti solat lima waktu. Kefardhuhan solat lima waktu tidak boleh diambil ringan kerana solat merupakan pertemuan antara hamba dan Penciptanya. Pengabaian terhadap aspek ini boleh menyebabkan pengabaian terhadap kerja-kerja yang lain sehingga mudah untuk meninggalkan ibadat-ibadat lain. Angkatan Tentera boleh menyediakan peraturan yang mewajibkan solat semasa bekerja kepada para anggotanya tidak kira di mana mereka berada. Apa yang penting pelaksanaan solat itu dilakukan dengan baik dan tidak meninggalkannya begitu sahaja. Apa yang sering terjadi, meninggalkan solat sudah menjadi perkara biasa kepada Tentera Darat dengan alasan letih kerana latihan, tiada surau dan pelbagai alasan lain sedangkan solat boleh dilakukan di manapun asalkan tempat itu bersih daripada najis.

Pengertian ibadah yang tidak terhad kepada ibadat khusus hendaklah dijelaskan kepada anggota tentera dengan menyatakan kerja juga merupakan satu ibadah yang mendapat pahala di sisi Allah s.w.t. Antara aspek-aspek kerohanian yang boleh ditekankan kepada anggota tentera untuk pembentukan mental yang sihat dan bersih ialah:

- * Menekankan bahawa ketenteraan adalah tugas yang mulia jika dilaksanakan mengikut lunas-lunas Islam yang betul.

- * Mewujudkan suasana ibadat dalam aliran kehidupan anggota tentera, dengan cara:

- ~ Menerapkan kefahaman Islam dengan menyeluruh.

- ~ Menekankan kepada matlamat kehidupan dengan mengadakan sesi-sesi ceramah, kaunseling, majlis ilmu, *tazkirah* (peringatan) yang dilakukan pada bila-bila masa yang sesuai dan tidak hanya terhad dalam majlis-majlis agama sahaja seperti hanya dibuat dalam program-program Tahlil dan Yassin.

- ~ Mewujudkan suasana persekitaran yang seimbang untuk mengelakkan tekanan kepada anggota tentera.

- ~ Membentuk pendidikan yang menyeluruh dengan kefahaman mental mengenai matlamat kehidupan dan diperkuatkan dengan amalan yang betul atau selari dengan Islam.

- ~ Merangka suasana latihan dan kerja yang boleh membina kerohanian dalam mental anggotanya. Antara perkara yang boleh ditekankan ialah:

- Mengucapkan Bismillah untuk memulakan kerja dan latihan.

- Mengelakkan maki hamun yang menyinggung perasaan.

- Menyesuaikan jadual latihan dan tugas dengan waktu solat.
- Menekankan konsep al-falah atau kecemerlangan dalam budaya kerja dengan mengadakan program motivasi.
- Menghindarkan suasana persepsi sian sesama anggota dengan mengadakan program-program kekeluargaan yang mengikut syariat, pertemuan mesra, ziarah menziarahi dan program-program lain.

* Memperluaskan amalan sehari-hari seperti ibadah khusus, ibadah sunat seperti mengadakan program qimulail, zikir dan membaca al-Quran. Program-program seperti ini boleh dilakukan dari masa ke masa. Selain daripada itu, mewujudkan sistem bantuan secara kaunseling dapat memainkan peranan yang penting dalam pembentukan peribadi dan mental individu termasuklah anggota tentera.

* Mengada dan memperbanyak majalah, poster dan bentuk tulisan yang lain boleh juga digunakan untuk menekankan kefahaman rohaniah.

* Melibatkan semua pihak dari peringkat atas hingga ke bawah seperti pegawai memerintah/pemerintah, pegawai dan anggota LLP. Ini sangat penting kerana ia berupaya mewujudkan suasana kerjasama yang ideal dalam pembangunan mental mengikut pendekatan rohaniah.

Dalam mengasuh mental, maka tidak dapat tidak kebersihan hati wajib diutamakan sekiranya sesuatu yang positif yang ingin ditonjolkan, dan anjakan pembinaan mental insan mahu dinukilkkan di persada dunia ketenteraan.

pembinaannya amatlah penting agar sasaran dapat dicapai dengan jayanya dan program yang disusun tidak terbantut. Untuk itu beberapa teknik dicadangkan seperti:

* **Instruktif.** Suatu pendekatan yang berbentuk arahan dan perintah. Teknik ini digunakan dalam rangka pelaksanaan pencapaian pendidikan dan latihan yang bersifat pembentukan dan lanjutan serta ceramah-ceramah kepada peringkat pegawai dan anggota; yang sudah dan sedang dilaksanakan dalam sistem pemerintahan yang sedia ada iaitu melalui:

- ~ PMAT.
- ~ Perintah Am TD.
- ~ Perintah Bahagian Pertama.
- ~ Akta Angkatan Tentera 1972.
- ~ Warta Kerajaan 1976.
- ~ Arahan-arahan semasa yang lain.

* **Edukatif.** Suatu pendekatan mengasuh dan mendidik yang dirangka untuk semua peringkat pegawai dan anggota serta keluarga mereka, dilakukan sama ada secara formal atau tidak formal.

* **Stimulatif.** Teknik dorongan dan rangsangan ini digunakan untuk menimbulkan keghairahan dan kesungguhan terutama dalam menuntut ilmu, melakukan kerja-kerja amal dan untuk melahirkan segala sifat-sifat baik demi kepentingan bersama dan bertanggungjawab yang akhirnya mewujudkan kedamaian, kesejahteraan dan keharmonian hidup sama ada pada diri sendiri, keluarga, pasukan atau organisasi.

* **Persuasif.** Pendekatan mempengaruhi dan meyakinkan ini bermaksud menimbulkan kesedaran kepada semua peringkat pegawai dan anggota agar melibatkan

PENDEKATAN DAN CARA PEMBINAANNYA

Dalam melaksanakan program pembinaan mental, pendekatan atau cara

diri secara aktif dalam setiap usaha dan amalan ke arah kejernihan mental dan rohani terutama dengan mempamerkan teladan dan contoh-contoh yang baik di mana sahaja mereka berada.

CADANGAN

Pembinaan mental mestilah didahului dengan membina unsur dalaman manusia iaitu **hati**. Bila hati iaitu raja bagi segala anggota manusia itu baik, maka sudah tentu anggota lain termasuk mental akan terwujud ketahanan dan keutuhannya. Lalu, apakah jalan yang harus diambil bagi membimbang hati supaya menjadi bersih, jernih dan lembut serta sentiasa mengikuti segala perintah Allah?

Untuk mengarahkan kepada pembinaan mental secara pendekatan rohaniah, perkara pokok dalam menggerakkan sesuatu perlakuan dan tindakan berfikir mestilah ditancapkan di hati sanubari anggota tentera dengan pembikinan yang sejitu mungkin melalui pertalian arus wahyu di dalam batin insan iaitu **hati; raja bagi segala anggota**. Dalam hal ini Rasulullah s.a.w bersabda yang bermaksud:

*"Bahawasanya di dalam jasad anak Adam ada seketul daging, apabila ia baik nescaya baiklah sekalian badan dan apabila ia rosak nescaya rosaklah sekalian badan; ketahuilah olehmu itulah **hati**".*

Imam Ghazali ada berkata:

"Asal kemuliaan manusia bergantung kepada hati. Ia seperti raja yang diangkat menjadi pemimpin di alam jasad, sedangkan anggota-anggota zahir yang lain adalah seperti tentera yang sentiasa mengikut perintah raja. Maksud anggota zahir atau tentera di sini ialah mata, hidung, telinga, lidah, tangan, perut, alat kelamin dan kaki. Semua anggota ini melakukan perkara yang baik atau buruk hasil perintah atau detikan daripada hati".

Oleh yang demikian dalam mengasuh mental, maka tidak dapat tidak kebersihan hati

wajib diutamakan sekiranya sesuatu yang positif yang ingin ditonjolkan, dan anjakan pembinaan mental insan mahu dinukilkhan di persada dunia ketenteraan. Lantaran itu pendidikan menjernihkan hati perlulah diketengahkan melalui tatacara berikut:

- * Mewajipkan beramal dengan sifat-sifat terpuji, iaitu takutkan Allah, zuhud, sabar, syukur, ikhlas, tawakkal, kasihkan Allah (*mahabbah*), reda dengan Qada' dan Qadar dan ingat kepada mati.
- * Menjauhi sifat tercela, iaitu gemar dan tamakkan makan, banyak bercakap, marah, dengki, kikir, kasihkan kemegahan, kasihkan dunia, hairankan diri sendiri dan riak.

Sebagai rumusan, hati merupakan raja yang menentukan baik dan buruknya seseorang itu yang mencernakan seseorang manusia melaksanakan segala tugas yang diberikan kepadanya. Sila lihat **Rumusan Ringkas di Kembaran A**.

Dengan adanya kedua-dua bentuk pendidikan ini, maka sudah tentu hati manusia yang mati akan dapat dihidupkan kembali. Bila hati sudah hidup dan berfungsi, maka ia boleh menggerakkan sesuatu sikap dan tindakan ke arah ketahanan mental yang utuh dan tidak akan goyah sama sekali.

PENUTUP

Keperluan manusia kepada unsur *rohaniah* adalah sama pentingnya dengan keperluan kepada unsur *jasadiah*. Jasad insan memerlukan pemakanan seimbang supaya ia dapat membesar dan sihat mengikut perencanaan hakikat kewujudannya sebagai unsur lahiriah yang dapat dilihat dengan mata kasar. Rohaniah insan sudah pasti juga memerlukan pemakanan yang sama agar dapat hidup dan bergerak subur mengikut naluri dan fitrah kejadiannya. Pemakanan seimbang yang diperlukan oleh unsur rohani ialah segala bentuk peringatan dan wahyu Allah s.w.t., agar hati yang gersang dan kering kontang menjadi subur sekiranya ia sentiasa disirami dengan salju

hidayah dan pertunjukNya. Untuk membina ketahanan mental setiap individu, khususnya anggota tentera, pendekatan cara menyucikan unsur dalaman atau apa yang disebut sebagai rohaniah adalah perkara penting dan perlu di ambil perhatian khusus. Justeru itu pembetulan dalaman haruslah juga melalui proses

penyerapan unsur rohani dalam bentuk aqidah, syariah dan akhlak. Dasar pembinaan yang sebegini rupa telahpun dinyatakan dan dihuraikan di dalam PMAT 9/91 seperti yang telah diwartakan dalam Dasar Pembinaan Mental Dan Kerohanian Islam ATM.

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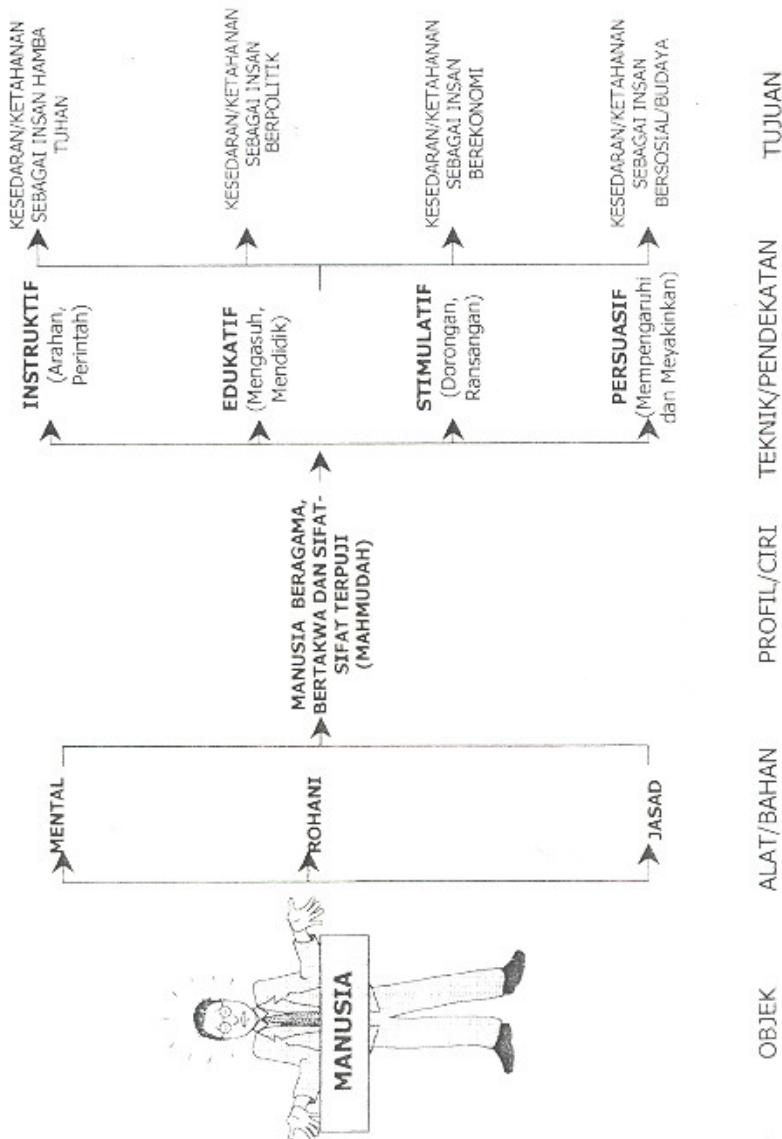
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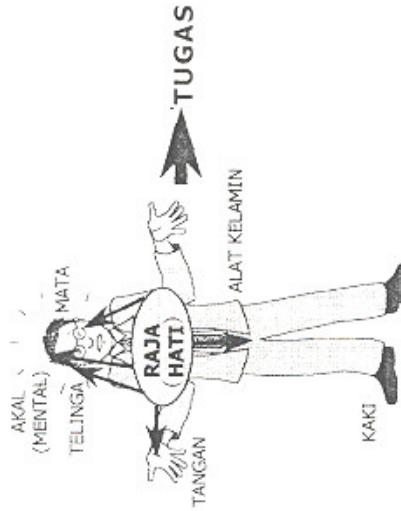


Mej (Ust)Kamarudin bin Hj Mamat, Pegawai Staf 2 Pembinaan Mental/Rohaniah MK Latihan TD, telah ditauliahkan ke dalam Kor Agama Angkatan Tentera pada 1988. Beliau memiliki Sarjana Muda Pengajian Islam (Kepujian) dari UKM. Beliau pernah berkhidmat di pusat latihan, markas formasi dan di bawah Panji-Panji PBB dengan MALBAT III di Somalia.

PEMBINAAN MENTAL



"Barawasanya di dalam jasad anak Adam ada sekutu oaging, apabila janya baik nescaya bakih sekalian badan dan apabila janya rosak nescaya rosaklah sekalian badan, ketahuilah olehmu itulah dia Hati" (al-Hadis)



"Asal kemuliaan manusia bergantung kepada hati, janya seperti raja yang diangkat menjadi pemimpin dalam jasad. Sedangkan anggota-anggota zahir yang lain adalah seperti tentera yang sentiasa mengikut perintah raja. Anggota zahir atau tentera ialah akal, mental, mata, hidung, telinga, lidah, tangan, kaki, perut, alat kelamin. Semua anggota ini melekukan perkara baik dan buruk hasil perintah daripada Hati" (Kata-kata Imam al-Ghazali)

REALITI REJIMEN ARTILERI DI ABAD KE - 21

"The superior weapon of the future is the gun, the superior soldier is the Gunner and the superior army is a force based on mechanically-propelled guns".

J.F.C Fuller, 1926.

Lt Kol Sofian bin Kamaruddin

PENDAHULUAN

uasa tembakan artileri telah dapat dibuktikan keberkesanannya lebih daripada tiga ratus tahun sebelum meletusnya Perang Dunia Pertama (1914- 1918). Pada ketika itu, keupayaan artileri yang mempunyai mobiliti telah dapat dilihat kepentingannya dalam memberikan bantuan tembakan kepada pasukan infantri dan kavalri. Gustavus Adolphus, Raja Sweden (1594-1632) merupakan yang terawal menyediakan batalion meriam yang mempunyai mobiliti kepada pasukan infantri ketika "Perang Tiga Puluh Tahun" di Eropah. Manakala Frederick The Great, Raja Prussia (1713-1786) telah memulakan penggunaan artileri berkuda pada abad ke-18 bagi menentukan kesinambungan bantuan artileri terutamanya kepada pasukan

kavalri yang sentiasa bergerak pantas dalam sesuatu pertempuran; malah pecahan organisasi pasukan kepada bateri dipercayai bermula sejak daripada itu sehingga sekarang. Napoleon Bonaparte, Maharaja Perancis (1769-1821) yang juga merupakan seorang pegawai artileri, berjaya di medan peperangan hasil daripada penggunaan pasukan meriam dalam membantu pasukan infantri dan kavalri. Di dalam peperangan era Napoleon di awal abad ke-19, banyak doktrin berkaitan mobiliti peralatan perang telah dihasilkan, bertujuan untuk menentukan bantuan tembakan sentiasa dapat diadakan untuk formasi-formasi perang.

Keperluan mobiliti pasukan artileri pula terbukti ketara penting dalam Perang Dunia Pertama untuk menentukan keberkesanan kuasa tembakan. Semasa peperangan tersebut, tembakan bantuan rapat daripada pasukan artileri tidak dapat dilaksanakan dengan berkesan kerana keupayaan mobiliti pasukan artileri agak terhad. Hasil daripada kepincangan tersebut, tumpuan bantuan kuasa tembakan telah dilaksanakan oleh pasukan armor dan tentera udara pihak bersekutu. Pada peringkat

awal Perang Dunia Kedua (1939-1945), kuasa tembakan dari armor dan tentera udara pula didapati tidak mencukupi untuk membantu pasukan darat semasa menjalankan operasi mobil. Keadaan ini menyebabkan kuasa tembakan daripada artileri dianggap penting semula. Sejajar dengan perkembangan artileri yang memerlukan mobiliti, penambahan aset-aset sampingan seperti komunikasi radio dan peralatan ukur telah dapat menyerlahkan lagi keberkesanan tembakan artileri. Kelengkapan ini membolehkan artileri, sebagai aset penting, bergerak pantas ketika memberikan bantuan tembakan dan sekali gus menambah keupayaan kuasa tembakan kepada angkatan darat.

PERKEMBANGAN TEKNOLOGI PERALATAN ARTILERI

Semenjak tahun 1950an, kuasa tembakan dicapai hasil daripada keupayaan mobiliti artileri yang perlu digerakkan sendiri (*Self Propelled Artillery*). Selepas Perang Dunia Kedua, pihak bersekutu mendapati artileri perlu dibekalkan kepada pasukan darat. Dalam Peperangan Korea (1950-1953), tentera Amerika telah mendapati bahawa persenjataan artileri yang digunakan semasa Perang Dunia Kedua amat terhad dari segi mobiliti, tembakan untuk 360 darjah '*trabes*' dan tembakan sudut tinggi terutama di kawasan-kawasan muka bumi bergunung-ganang. Penyelidikan dan pembangunan dari segi teknologi berupaya memperbaiki kelemahan-kelemahan ini. Hasilnya, pihak pembekal telah dapat menyediakan casis dan turet khusus untuk artileri digerakkan sendiri. Maka kenderaan yang direka khusus untuk membawa meriam yang lebih sesuai dikenali sebagai artileri digerakkan sendiri, menjadi sebahagian daripada pembaharuan dalam pembangunan pasukan ini. Semenjak tahun 1960, pembangunan artileri digerakkan sendiri semakin berkesan dan jauh berbeza daripada tahun-tahun sebelumnya. Jentera terbaru ini lebih berkesan dan mampu memberikan bantuan tembakan kepada pasukan tempur yang lebih mobil seperti pasukan armor dan infantri mekanis dalam peperangan

konvensional. Dengan keupayaan artileri digerakkan sendiri yang bila disatukan dengan keupayaan meriam yang ditarik oleh kenderaan membolehkan bantuan tembakan dicapai dengan lebih berkesan. Sehubungan dengan itu dapatlah doktrin tentera darat diubah suai untuk memenuhi keperluan mobiliti dan keupayaan mencapai misi yang ditetapkan.

Perang Arab-Israel dalam tahun 1973 telah mempamerkan corak peperangan berteknologi tinggi. Dalam peperangan tersebut, Pesawat Kawalan Jauh (*Unmanned Aerial Vehicle*) telah membantu pasukan artileri mengesan dan mengebom sasaran dengan lebih berkesan. Ini terutamanya ketika menggunakan peluru meriam yang mempunyai ketepatan mengebom dengan bom berpandu tepat (*precision guided bomb*). Manakala sistem roket pelancar berganda (*multiple launcher rocket system*) pula, didapati amat berkesan untuk memusnahkan kedudukan pertahanan udara dan sasaran yang bersifat statik.

Peluru meriam pula memainkan peranan yang penting dalam membantu keberkesanan tembakan selain daripada pemerolehan sasaran (*target acquisition*) itu sendiri. Peluru meriam yang berteknologi tinggi seperti "*smart bomb*", bom berpandu laser (*laser guided bomb*) dan bom berpandu tepat dari pelbagai kaliber telah dicipta bagi menentukan ketepatan bantuan tembakan daripada pasukan artileri. Seperkara lagi, selain daripada mempunyai peluru-peluru tersebut, pasukan artileri juga perlu dibekalkan dengan pesawat kawalan jauh. Penggunaan pesawat kawalan jauh yang dilengkapkan dengan kamera televisyen dan pelbagai sensor di medan tempur akan lebih bermakna sebagai alternatif kepada pesawat yang dipandu juruterbang. Ini kerana dengan sistem pertahanan udara yang semakin canggih, kedudukan pasukan sendiri akan lebih terdedah terutama apabila pemerhati artileri pihak musuh menggunakan pesawat udara. Ketepatan tembakan meriam mampu mengakibatkan kemusnahan kawasan tumpuan musuh dengan lebih berkesan tanpa menjejaskan pihak awam.

MOBILITI ARTILERI DI MALAYSIA

Sebahagian besar permukaan bumi Malaysia diliputi kawasan berbukit-bukau dan berhutan tebal yang biasanya menjadi kawasan tadahan air. Kawasan tanah rendah pula terdapat tanah pamah dan dataran yang menjadi kawasan petempatan. Di sinilah tertumpunya kegiatan-kegiatan seperti penanaman getah dan kelapa sawit, perlombongan, perindustrian dan lain-lain. Malaysia juga mempunyai banyak sungai yang boleh menjadi halangan kepada pergerakan peralatan dan anggota.

Walau bagaimanapun secara amnya, muka bumi negara ini mempunyai kecerunan dan ketinggian kontur yang dapat memberikan laluan yang baik kepada kenderaan berantai. Keluasan hutan simpanan pula telah berkurangan disebabkan oleh aktiviti-aktiviti pembangunan, pembalakan serta penerokaan hutan untuk digantikan dengan tanaman getah dan kelapa sawit. Ini menyediakan ruangan yang lebih mudah kepada kenderaan beroda dan berantai menguasai kawasan-kawasan tersebut.

Peperangan pada masa hadapan lebih memerlukan keupayaan aset-aset artileri yang bermobiliti tinggi bagi menentukan keberkesanan kuasa tembakan pasukan darat. Kepantasan merupakan salah satu faktor bagi menjayakan sesuatu misi. Pengalaman daripada peperangan yang silam membuktikan mobiliti memainkan peranan yang penting dalam menjayakan sesuatu pertempuran. Ini telah mendorong kepada tercetusnya idea membangunkan teknologi kenderaan yang mempunyai ciri-ciri reka bentuk yang mampu menguasai bentuk muka bumi.

Penubuhan Briged Mekanis oleh Tentera Darat Malaysia merupakan suatu langkah bijak dalam menyaangi arus kemajuan teknologi tentera di Abad ke-21. Kumpulan-kumpulan tempur dan bantuan tempur dalam briged ini mestilah mempunyai daya manuver yang tinggi yang menjadi asas kepada kuasa mobiliti yang berkesan. Sejajar dengan itu, pasukan artileri

memang wajar dilengkapi dengan kenderaan yang mampu mengatasi bentuk muka bumi negara ini. Dalam konteks negara ini pula, kenderaan berantai adalah yang paling sesuai digunakan bagi menentukan keberkesanan kuasa tembakan di medan pertempuran.

Pasukan-pasukan sahabat yang dibantu seperti pasukan mekanis atau armor sebagai kumpulan manuver berupaya bergerak dengan pantas sewaktu beroperasi. Justeru pasukan artileri yang bergerak bersama-sama unit tersebut mestilah mempunyai keupayaan mobiliti yang setanding. Kaedah dan cara yang sesuai untuk dilaksanakan ialah dengan menempatkan Kumpulan Pemerhati Hadapan bersama-sama kumpulan tempur mekanis bagi tujuan pemerolehan sasaran. Detasmen Pertahanan Udara yang menggunakan sistem misil pula boleh juga ditempatkan bersama-sama kumpulan tempur mekanis. Persoalannya dapatkah kumpulan mekanis ini menyediakan ruang tersebut kepada kumpulan artileri sedangkan ruang yang sedia ada terpaksa menampung anggotanya sendiri. Bagi pertahanan udara, tugas ini boleh dilaksanakan dengan cara pasif iaitu tembakan dari atas gandar (*on wheel*) tanpa data-data sasaran pesawat musuh. Namun cara sebegini kurang berkesan kerana maklumat sasaran diperlukan bagi memperolehi ketepatan sewaktu menembak. Namun secara amnya aset artileri pada masa sekarang masih berupaya membantu pasukan-pasukan tempur semasa manuver tetapi mempunyaikekangan dari aspek mobiliti dan keterdedahan.

Sistem artileri yang terdapat dalam perkhidmatan pada masa sekarang terdiri daripada sistem meriam dan sistem misil yang menggunakan kenderaan penarik. Kedua-dua sistem ini menggunakan kenderaan beroda. Reka bentuk seperti ini didapati kurang sesuai untuk beroperasi di kawasan-kawasan tanah yang bentuk muka bumiinya berlembah, berbukit-bukau dan mempunyai kecerunan yang tinggi. Faktor muka bumi ini mempengaruhi daya menuver aset artileri dan keberkesanan kuasa tembakan terutamanya semasa membantu kumpulan tempur mekanis. Semasa

bergerak di kawasan terbuka, terup-terup lebih terdedah dan mudah dikesan oleh artileri pengesan dan pesawat musuh. Apa yang perlu dilakukan sekarang, bagi mengelakkan daripada dikesan, artileri perlu dipecah-pecahkan kepada kumpulan-kumpulan yang kecil semasa bergerak ke sesuatu kawasan terbuka.

Ekoran daripada masalah di atas maka, sistem persenjataan artileri khususnya keupayaan mobiliti, perlu dipertingkatkan dalam memberikan bantuan tembakan yang lebih efektif sejajar dengan perkembangan persenjataan yang berteknologi tinggi. Pembangunan teknologi ketenteraan yang merangkumi aspek-aspek sistem automasi persenjataan, mobiliti, sistem komunikasi, sistem pengurusan maklumat operasi dan teknologi canggih turut melibatkan sama operasi aset-aset artileri. Rejimen Artileri Diraja jika mahu terus mengekalkan keunggulan kuasa tembakan di medan pertempuran, perlu diimbangkan bagi menandingi keupayaan sistem persenjataan musuh sama ada di darat maupun di udara. Rejimen Artileri Diraja juga perlu mengimbangi keupayaan pasukan sahabat yang dibantu, dengan peralatan berteknologi canggih yang berkaitan dengan mobiliti, automasi peralatan dan automasi sistem maklumat artileri.

KELANGSUNGAN HIDUP DALAM PERTEMURAN

Pasukan artileri perlu mempunyai darjah kelangsungan hidup (*survivability*) yang tinggi supaya bantuan tembakan kepada unit-unit yang dibantu sentiasa terjamin. Faktor-faktor berikut perlu dititik beratkan bagi menentukan kelangsungan hidup terutamanya dalam menghadapi medan pertempuran di alaf baru. Mobiliti peralatan adalah faktor utama yang memberi keupayaan kepada pasukan untuk mengelakkan daripada tembakan musuh dan dengan sendirinya berupaya meningkatkan darjah kelangsungan hidup pasukan artileri. Unsur-unsur utama mobiliti ialah keupayaan menggerakkan peralatan; bila dan bagaimana ia digerakkan. Pergerakan yang kerap bukan

sahaja mampu mengurangkan keterdedahan malah boleh menghasilkan kejutan kepada pihak musuh. Ia juga boleh menyukarkan pengesan dan secara tidak langsung dapat mengelak daripada tembakan balas bateri pihak musuh. Kekerapan bergerak yang optimum hanya dapat dicapai sekiranya peralatan artileri mempunyai daya mobiliti yang tinggi. Mobiliti penyerakkan yang agresif hendaklah dilaksanakan secara maksimum mengikut keadaan rupa bumi. Walau bagaimanapun cara perlindungan asas yang diperlukan oleh mana-mana aset ketenteraan ialah dengan kenderaan berperisai. Kesemua faktor perlindungan ini hanya akan dapat dimaksimumkan kelangsungan hidupnya jika peralatan artileri tersebut mempunyai daya gerak yang tinggi. Penyelerakan pasukan dan persenjataan artileri dapat mempertingkatkan pertahanan tapak meriam supaya ia sukar dikesan oleh pihak musuh. Namun demikian kedudukan persenjataan di lokasi yang jauh dan terpencil dengan keanggotaan yang kecil seperti pasukan artileri pengesan dan pertahanan udara, menyukarkan usaha menyediakan pelan pertahanan tempatan. Keadaan ini sering menjadi sasaran sabotaj pihak musuh yang bertujuan memusnahkan peralatan artileri. Penempatan pasukan artileri di sesuatu lokasi tidak dapat dirahsiakan sebaik sahaja tembakan yang pertama dilakukan terutamanya oleh artileri medan. Bagi pasukan artileri yang menggunakan radar pula, kedudukannya mudah dikesan oleh pihak musuh melalui gelombang yang dipancarkan. Oleh itu kerahsiaan penempatan artileri merupakan sesuatu yang sukar diperolehi tanpa mobiliti.

AUTOMASI SISTEM MAKLUMAT ARTILERI

Sistem maklumat artileri bukan sahaja berkaitan dengan penyampaian perintah serta kawal dan lapor, malah meliputi aspek-aspek teknikal persenjataan dan pemprosesan data-data tembakan artileri. Selaras dengan perkembangan teknologi semasa, Rejimen Artileri perlu memodenkan dirinya dalam semua aspek. Ini termasuklah aplikasi teknologi maklumat dalam semua pengurusan dan bidang



Adakah pandangan penulis menjadi realiti di Abad Ke - 21 ini?

penugasan, terutama dari segi perintah dan kawalan operasi. Automasi sistem maklumat bertujuan mengimbangi keupayaan automasi dan tindak balas sistem persenjataan supaya maklumat yang disampaikan kepada semua peringkat dapat diambil tindakan dengan cepat dan tepat. Oleh yang demikian bantuan tembakan artileri dapat diberikan lebih berkesan selaras dengan cogan kata Rejimen Artilleri Diraja iaitu "**Tangkas, Tegas dan Saksama**". Kesukaran mendapat dan menyalurkan maklumat yang terkini dengan cepat dan tepat boleh menjelaskan tugas-tugas perancangan dan proses membuat keputusan oleh semua pihak pemerintahan dan pengurusan. Keadaan ini boleh diatasi jika pasukan artileri dilengkapi dengan peralatan yang mempunyai mobiliti yang tinggi terutama dalam membantu pasukan mekanis. Oleh itu, keunggulan kuasa tembakan dapat diperolehi melalui kepantasan memperoleh data-data dan ketepatan memusnahkan sasaran. Secara amnya, maklumat-maklumat asas yang diperlukan di dalam sesuatu operasi ketenteraan ialah maklumat perisikan terkini dan status semasa sesebuah unit atau sub-unit bagi membolehkan seseorang pemerintah dan staf merancang serta membuat keputusan dalam keadaan-keadaan tertentu. Semua keputusan

yang dibuat itu perlu disampaikan ke peringkat-peringkat pengurusan dan pemerintahan yang telah ditentukan. Aspek-aspek pengurusan sistem maklumat utama yang perlu diautomasi merangkumi aspek-aspek seperti Sistem Perancangan Operasi, Sistem Perintah dan Kawalan Operasi, Sistem Pemprosesan Data Tembakan, Sistem Senggaraan dan Sistem Pengurusan Laporan.

Sistem Perancangan Operasi merangkumi aspek-aspek pemetaan, perisikan, perancangan taktikal dan perancangan teknikal sesuatu operasi. Sistem ini bertujuan membantu staf-staf yang terlibat dalam perancangan operasi supaya boleh membuat keputusan yang tepat dan cepat. **Sistem Perintah dan Kawalan Operasi** merangkumi aspek-aspek pengawasan operasi, pengumpulan maklumat semasa, penempatan dan kedudukan unit-unit, status anggota, status logistik dan peralatan. **Sistem Pemprosesan Data Tembakan** merangkumi segala aspek pemerosesan data tembakan serta perintah tembakan kepada unit-unit tembak. **Sistem Senggaraan** yang diperlukan semasa operasi merangkumi aspek-aspek logistik, baik-pulih dan pentadbiran anggota. Antara keperluan logistik utama yang perlu sentiasa dikenal pasti adalah kedudukan

dan status aset-aset yang digunakan oleh sub-unit yang beroperasi. Semua maklumat ini adalah kritikal dalam menentukan keberkesanan operasi yang dijalankan. **Sistem Pengurusan Laporan** sangat penting kerana keberkesanan perjalanan operasi dari semasa ke semasa bergantung kepada laporan situasi unit-unit yang beroperasi secara berterusan. Semua laporan yang disalurkan perlu diterima dan diambil dengan secepat mungkin, diakui penerimaannya dan diambil tindakan serta merta untuk menjamin operasi berjalan dengan lancar.

KONSEP SISTEM PERINTAH DAN KAWALAN BERKOMPUTER

Sistem perintah dan kawalan berkomputer yang diperlukan adalah berasaskan sistem pangkalan data yang boleh dinilai oleh semua tahap perintah dan kawalan mengikut keperluan yang telah ditetapkan. Oleh itu setiap pusat perintah dan kawalan di semua tahap pemerintahan boleh menyalurkan data dan maklumat yang diperlukan kepada satu pangkalan data. Sistem maklumat berkomputer ini kemudian akan memilih dan menyalurkan maklumat-maklumat tertentu ke pusat-pusat perintah dan kawalan mengikut keperluan masing-masing. Semua penyaluran dan pengemaskinian maklumat yang dilakukan dari pusat-pusat perintah dan kawalan akan dapat dipamerkan secara terus kepada pusat-pusat perintah dan kawalan tersebut supaya diambil tindakan mengikut penugasan masing-masing. Data-data yang telah dimasukkan ke dalam pangkalan data pula boleh digunakan untuk menjanakan pelbagai jenis laporan yang diperlukan dari masa ke masa. Sistem maklumat berkomputer juga adalah satu sistem yang selamat dan terkawal kerana data-data yang disimpan boleh dikawal selia oleh sistem kawalan dan keselamatan komputer.

PENUTUP

Pemodenan pasukan artileri telah mula berkembang selaras dengan pembangunan dalam teknologi persenjataan, peluru serta

keupayaan memperolehi sasaran dan ketepatan mengebom. Keberkesanan kuasa tembakan dari pasukan artileri telah terbukti keunggulannya semenjak Abad ke-16 lagi. Dalam Perang Dunia Kedua pula, keunggulan kuasa tembakan oleh tentera udara didapati terhad dan masih memerlukan bantuan tembakan dari pasukan artileri terutama kepada pasukan-pasukan darat. Keberkesanan bantuan tembakan kepada pasukan mekanis tertakluk kepada kemampuan aset-aset artileri yang digerakkan ke jarak yang berkesan di samping menentukan kelangsungan hidup pasukan artileri itu sendiri. Pasukan artileri yang mempunyai mobiliti yang tinggi dengan keupayaan seperti boleh digerakkan sendiri dengan menggunakan kenderaan berantai adalah lebih sesuai digunakan dalam negara yang mempunyai banyak halangan seperti bukit buku serta iklim yang lembap.

Mobiliti dan penyerakan peralatan Artilleri adalah konsep utama dalam meningkatkan kelangsungan hidup di medan pertempuran. Aset-aset artileri yang mempunyai mobiliti yang tinggi bukan sahaja mampu memberikan kebebasan dan fleksibiliti dalam bantuan tembakan, malah mampu meningkatkan keupayaan aspek-aspek pemerintahan, kawalan dan komunikasi kepada unit-unit artileri. Keberkesanan dan kelincahan atur gerak aset artileri boleh mengelirukan pihak musuh.

Selaras dengan perkembangan di dalam teknologi peralatan dan persenjataan, pasukan artileri kini perlu dibantu oleh satu sistem pengurusan maklumat yang mampu mengimbangi keupayaan automasi peralatan-peralatan dan persenjataan itu sendiri. Oleh itu dalam merancang pembangunan peralatan dan persenjataan artileri, aspek-aspek pembangunan **Sistem Maklumat Artilleri Berkomputer** perlu diberikan perhatian yang serius.

Perkembangan teknologi yang begitu pesat mungkin akan merumitkan lagi perperangan dengan tindak balas yang tidak berkesudahan. Oleh itu dalam senario perubahan teknologi yang pesat, cabaran terhadap kelangsungan hidup dalam pertempuran yang akan datang hanya mungkin boleh diatasi dengan mobiliti dan penyerakan dengan mengambil kira peningkatan perlindungan secara lebih serius.

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"The future army development plan calls for the acquisition of modern infantry equipment, greater firepower and mobility in the form of mechanised infantry, armour and artillery".

Jen Dato' Che Md Noor bin Mat Arshad



Lt Kol Sofian bin Kamaruddin telah dinauliahkan ke dalam Rejimen Artilleri Diraja pada 13 Oktober 1972 dari Maktab Tentera Diraja. Beliau pernah menghadiri kursus di United Kingdom, U.S.A dan India. Berkelulusan MTAT, Diploma Pengajian Strategik dan Keselamatan di UKM dan telah menghadiri Pengajian Sejarah Ketenteraan di University of Leeds, UK. Telah berkhidmat dengan PBB (MINURSO) di Sahara Barat. Beliau sekarang bertugas sebagai Pegawai Memerintah Rejimen Ke-32 Artilleri Diraja.