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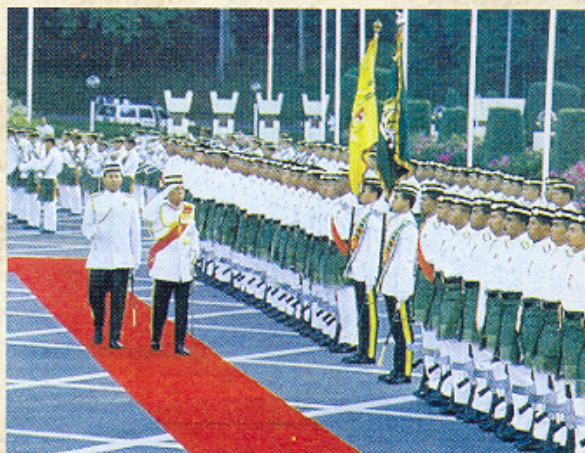


JURNAL TENTERA DARAT MALAYSIA

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AN ANALYSIS OF THE PSYCHOLOGICAL DIMENSIONS IN PEACEKEEPING OPERATIONS

By : Lt Kol Amiruddin bin Ismail

INTRODUCTION

Although The Malaysian Armed Forces has historically participated in United Nations (U.N.) mandated peacekeeping operations, the nature of peacekeeping duty has evolved in ways suggesting that today's participants are faced with a new set of psychological challenges. The role of the military in peacekeeping operations has traditionally been that of an impartial presence overseeing the implementation of a peace accord between formerly warring parties.¹ Recently, however, the need for peacekeeping intervention has emerged under conditions in which the peace between warring parties is tenuous or nonexistent, yet the need for humanitarian intervention and resolution of the conflict is great. There is also wide agreement that these operations have increased in scope and complexity. Should Malaysian troops be requested to be deployed in Afghanistan, Iraq or in Liberia as peacekeepers, this new complexity could also include exposure to insecurity, harassment and humiliation; cumulative stressors that may cause a gradual reduction in stress tolerance.

There is very little known about the demands placed on military personnel assigned to peacekeeping responsibilities under conditions of life threat. Most of the research to date has explored the adaptation of military personnel who take part in more traditional peacekeeping duties. Previous

research has indicated that peacekeeping under conditions in which there is established peace is associated with frustration, boredom, resentment, pent-up anger and role conflict, particularly for those soldiers specifically trained for active combat duty², but not with the development of lasting stress reactions or psychopathology³. In contrast, when there are chronic breakdowns in peace and on-going life threat to peacekeepers, military personnel are more likely to experience more severe adjustment difficulties that resemble those associated with traditional war zone exposure, such as Posttraumatic Stress Disorder⁴ (PTSD).

Malaysia has been one of the most frequently deployed nations in UN operations in Bosnia and Herzegovina from 1993 to 1998. Thus, Malaysia may therefore claim long experiences of, and routines in, different UN commitments. However, few attempts have been made to systematically document lessons learned from the experiences. At best, information on other's experience has been transferred by word of mouth. Interest in UN peacekeeping activities from a behavioural research point of view have already had an impact in Malaysia on selection and mission-oriented training before departure. A basic assumption in much behavioural science research is that people ascribe meaning to what happened in their daily lives. This means that we react according

2 Applewhite LW, Furukawa TP, Segal DR, Segal MW: Light-fighters in the desert, *ibid*, pp 65-80.

3 Lundin T, Otto U: Stress Reactions among Swedish health care personnel in Unifil, South Lebanon, *Stress Med* 1989; 5:237-246.

4 Litz BT: The psychological demands of peacekeeping for military personnel. *National Center for PTSD Clin Q* 1996; 6:1-8.

1 Segal DR, Segal MW: Research on soldiers of the Sinai multinational force and observers, in *Peacekeepers and Their Wives*, Edited by Segal DR, Segal MW. Westport, Conn, Greenwood Press, 1993, pp 56-64.

to our appraisal of events, rather than to the objective events in themselves.⁵ Another basic assumption in this particular study is that these appraisal processes can be regarded as products of personal as well as situational characteristics. Thus, a large-scale assessment of perceived reality during peacekeeping missions could provide reliable and valid knowledge to be further drawn upon in the planning of future missions.

THE NATURE OF STRESS

All human beings have felt stressed at some time and been affected by the reactions that follow; some have been through psychological crisis. In order to understand how people are affected, it is necessary to appreciate the various reactions and phases of stress and crisis. Stress is a common human reaction, and physical, psychological or social

causes, known as 'stressors', may affect us all. In a violent conflict these are commonly; fear of not being able to solve a task; fear of the risk of getting wounded or killed; insufficient information; witnessing suffering, wounds or death; loneliness and long periods of anxious waiting. Stress is our way of mobilising energy so that we are able to handle a trying situation. The body gets prepared for 'a performance' - in effect to struggle or flee. It is an essential human defence mechanism for the body to be alarmed at danger and is characterised as struggling or fleeing behaviour. The mind and body are alerted and ready to react immediately.

The onset of stress reactions, known as the acute phase, can be shown diagrammatically as a cone (See Figure 1). In the early stages of psychological crisis, it is easy to return to the top, but the deeper one falls the more slippery the slopes become.

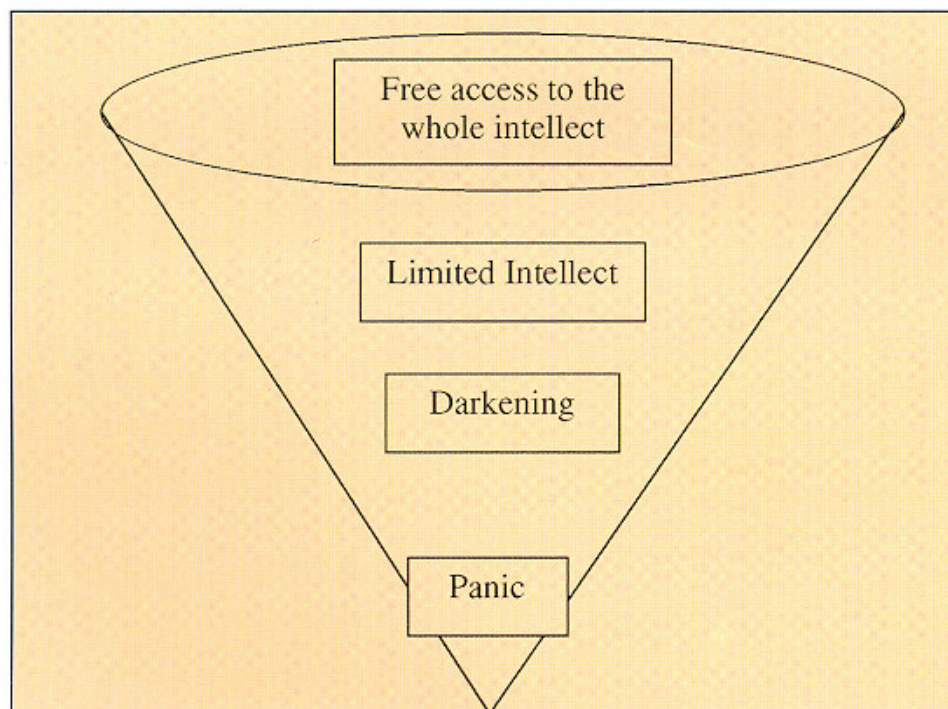


Figure 1: The Stress Cone

5. Richard S. Lazarus, *Emotion and Adaption*, New York: Oxford University Press, 1991, and *Stress and Emotion: A Synthesis*, London: Free Association Books, 1999.

The characteristic of the initial stage is that the person is constructive, positive and co-operative; one feels 'ready' to respond and performance is improved. Unfortunately, from this early positive response, stress transfers into negative disturbance. Common reactions are 'butterflies' in the stomach, sickness, perspiration and lack of concentration. Moving downwards, behaviour becomes more competitive, challenging and narrow-minded. By the next stage, panic sets in and hostile, ruthless, threatening and harmful activity occurs. If the stress lasts long enough, reactions such as tiredness, paralysis, prostration and eventually a breakdown may occur.

Complete breakdown, or post-traumatic disorder, is discussed below, but the route for the majority of psychological crises is from emergency to recovery. Including the onset of crisis, this characteristically has six overlapping phases (See Figure 2).⁶

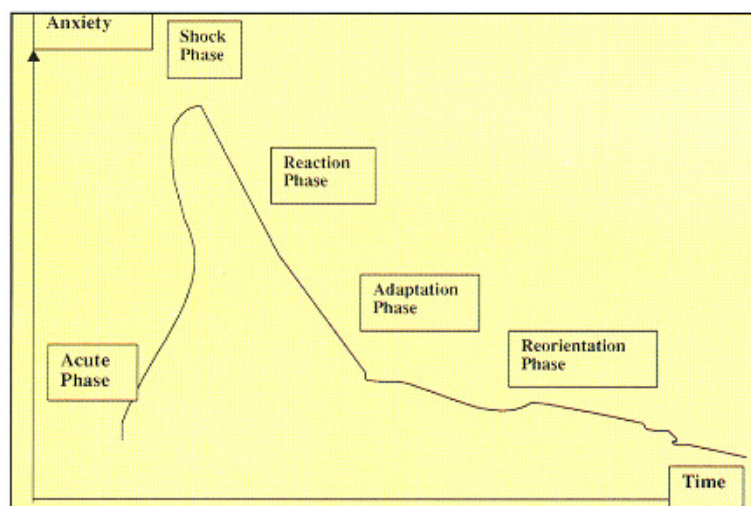


Figure 2: Phases Of A Psychological Crisis

Acute phase: This is the onset of stress, as discussed above. Apprehension increases, and the individual asks questions, such as what can I do? Does it matter what I do? Can I cope? Am I willing to do anything? - before the mind orders the body to respond.

Shock phase: This varies from a few moments to a couple of days. Most people recover rather quickly even though the stress reactions at first seem quite strong. 'Shock' may be manifested in three main ways: (i) a high or falling blood pressure, paleness and being in a cold sweat. (ii) Distress and moral upset caused, for example, by experiencing tragic incidents, and (iii) loss of self-control because of a sudden change in conditions caused by unexpected situations. In self-defence the affected person locks into a specific behaviour. The ability to think constructively is limited. Minor issues are seen as more important than the whole picture. An escape from reality starts and the sufferer is not aware of the danger he is in. Some people become quiet and paralysed while others respond with crying and despair. One is unable to communicate with the affected and he is unable to tell the difference between reality and fantasy. Assistance is best provided by conveying a sense of security and support, by being close and not allowing the affected person to remain alone.

Reaction phase: During the reaction phase the individual responds to his feelings. The phase lasts from one to six weeks and is a process by which the individual is obliged to face reality. Without the opportunity to treat the incident and his feelings, the individual will pass into a state characterised by anxiety reactions mixed with feelings of debt and fear. A range of defence mechanisms appears. Reality will be distorted. Emotional outbreaks, sleeping problems and drug abuse are other symptoms. The affected may also react by regression (retreating to old behaviour), projection (transferring one's own reactions to someone else, blaming others or making excuses) and denial (the common reaction that 'there is nothing wrong with me'). The reaction phase is the most obvious phase in a psychological crisis, in which the individual exhibits altered behaviour patterns, and there is a

⁶ Lars Andersson, *The First Combat*, Stockholm: Swedish War College, 1994, p. 36.

marked requirement for human contact and professional help.

Adaptation phase: After a month or two, the individual starts to focus on the future. There will be better understanding of what really happened, a greater insight into what the crisis meant and the individual's current situation. For the first time since the incident, the patient starts to 'live' again. The psychological reactions are similar to those in the reaction phase, but not as obvious or dramatic. If the patient has difficulty coping with nightmares and feelings of anxiety it could be a sign that the process has slowed down and qualified psychiatric help is needed. It is necessary to understand that a psychological crisis is a process: it is normal to exhibit stress reactions, but if the process is interrupted, the risk of imbalance increases.

Reorientation phase: The adaptation phase successively moves towards the reorientation phase, which never really stops. The individual breaks out from his isolation and thinks of the future instead of looking back. The incident has been accepted and is now seen as a learning experience. People who have been through a disaster often develop a greater ability to deal with the future. Friends and relatives play an important role in this phase because it is difficult for the patient to emerge from isolation if he is unsure whether he is welcome or not. As time goes by the individual's self-esteem increases. Generally speaking, the earlier that acquaintances show an interest, as well as qualified help being made available, the shorter the crisis will last.

Reconstruction phase: When a person returns to ordinary work after being through a traumatic situation some reactions may still occur. For example, he may have difficulties in relaxing, may be aggressive towards those who were not involved in the incident and may lack commitment to daily routines. To wish to keep in contact with others, who were involved, or with other victims is quite normal. If debriefing has not taken place the person will feel that the incident cannot be closed.

STRESSORS IN MILITARY OPERATIONS

Stress is a highly subjective phenomenon and reactions can vary widely. Strain is viewed as the individual's psychological, physiological or emotional reaction to the stress. Symptoms have been variously interpreted, but they can be generalised to include cognitive deficits, emotional disturbance, physical illness and behavioural disturbance.

Although the measurement of stress is complex, the abundant research concerning stress symptoms points out that stress impairs the social, psychological and physical functioning of the individual. People experiencing stress are more likely to report psychological changes such as irritability and anxiety at work and at home, more frequent technical mistakes and errors in judgement. As stress seems to weaken the auto immune system, stressed individuals are more susceptible to disease. Long-term physical effects of stress include chronic diseases such as high blood pressure, heart disease, diabetes and asthma attacks. There is evidence that continued stress is associated with changes in behaviour such as increased substance abuse, usually alcoholism, and can lead to increased likelihood of marital breakdown and suicide.⁷

A number of studies in recent years have begun to observe particular stress syndromes in military personnel participating in peacekeeping operations. The phenomenon has been given various and nearly synonymous labels such as "Peacekeeper Stress", "Peacekeeping Stress" and "UN Soldier's Stress Syndrome." This article will use the term Peacekeeping Stress. There is increasing recognition that peacekeeping may incorporate significant exposure to traumatic events, including combat-like conditions such as exposure to direct attacks from small arms, rocket, mortar or artillery fire, contact with land mines, witnessing the death

⁷ Breakdown and Spacie, pp. 5-6.

or injury of others and handling of wounded or dead bodies.⁸

STRESSORS IN CONTEMPORARY PEACEKEEPING OPERATIONS

Whereas peacekeeping missions have always contained the potential for danger, peacekeeping missions such as the UN missions in the Former Yugoslavia are much more dangerous than previous "traditional" missions. Combat-like situations (e.g. coming under fire, witnessing death and injury, handling bodies) and other traumatic events (e.g. threats, being taken hostage) in Bosnia and elsewhere have resulted in thousands of UN peacekeeping soldiers being subjected to traumatic stress.⁹ Studies of emergency services personnel show that previous exposure to traumatic events may heighten individual reactions¹⁰ and Israeli Army studies show that the effects of repeated exposure to traumatic events are cumulative.¹¹

Reuven Gal, the noted Israeli military psychologist, has studied stress experienced by soldiers on UN peacekeeping operations in Lebanon, Golan, Sinai and the Former Yugoslavia and by Israeli soldiers who were deployed on internal security operations in the West Bank and Gaza. Gal stressed that peacekeepers are typified by the soldier who is deployed to a strange land, exposed to people with foreign cultures in a conflict he or she does not understand. He notes that the peacekeeper sometimes faces hostility and life-threatening hazards, is often called upon to carry out tasks for which he has not been trained, may be presented

with moral dilemmas which challenge his beliefs and comprehension and is frequently required to respond to situations in a restrained manner, under-utilising his professional combat skills. He observes that such a peacekeeper can suffer a crisis in self-confidence and professional pride, and due to the nature of the organisation of peacekeeping forces, he might be deprived of the sense of patriotism, unit cohesion, camaraderie and the familiar leadership that would normally sustain him in such situations.

Pete Ehlich and his colleagues have undertaken to explore the psychological sequel of peacekeeping for US military personnel¹². They interviewed several officers who were deployed to Somalia as part of stress control teams. One member of the research team also performed critical incident stress debriefing to groups of soldiers upon their return to the U.S. The result of the study suggested that those Somali veterans who reported few symptoms of psychological distress of PTSD were more likely to feel positive about military cohesion and morale during their deployment. Thus as Weisaeth has suggested, it appears that from a mental health perspective, successful peacekeepers are professional soldiers who are more likely to feel pride and cohesion about their military service and greater confidence in the order and structure of the military.¹³

Private Social Network

Other contextual stressors include marital or family stressors. Researchers in surveys of personal stress on peacekeeping duties have frequently cited spouse or family separation, lack of family contact, worries over family problems and inability to assist families as significant concerns.¹⁴

8 Lamerson and Kelloway's own research and other works they cited were based on Canadian Forces personnel engaged in UN peacekeeping operations in the Former Yugoslavia, 253-254.

9 Sten Martini, "Peacekeepers Facing Horrors of Civil War-like Conflict: Danish Lessons Learned in Preparing and Taking Care of Soldiers" Wolfgang Biermann and Martin Vadset, Eds. UN Peacekeeping in Trouble: Lessons Learned from the Former Yugoslavia, Aldershot UK: Ashgate Publishing Ltd, 1998.

10 D.W. Cornell, "Prevalence of Post Traumatic Stress Disorders in a Metropolitan Fire Department: Unpublished Doctoral Dissertation, John Hopkins University: 1993, cited in Lamerson and Kelloways, 254.

11 Z. Solomon, *Combat Stress Reactions: The Enduring Toll of War*, New York: Plenum Press, 1993. Cited in Lamerson and Kelloway, 254.

12 Pete. Ehlich, Peacekeeping and peacemaking as a military stressor: evaluating multiple components of exposure and appraisal, in Proceedings of the 11th Annual Meeting of International Society for Traumatic Stress Studies, Chicago, International Society for Traumatic Stress Studies, 1995.

13 Weisaeth, L., Aarhaug, P., Mehlum, L. and Larsen, S. The UNIFIL Study (1991/1992) Report 1: Results and Recommendation, 1993.

14 F.C. Pinch "Lessons Learned from Canadian Peacekeeping Experiences: A Human Resource Perspective", Dartmouth NS: 1994, Also see Farley 20.

The importance of a stable social situation was widely indicated as well as having support from one's own family or social network. It facilitates being away for six months or more if the family is prepared before a soldier enters a service period. If a person had more or less presented their family with an accomplished fact, then this increased the risk of problems with the family relationship. The same goes for trying to run away from a troublesome situation at home. Problems at home tend to grow considerably larger once the soldier is in a mission area. If there are problems on the home front, then these to a great extent appear to influence how well one manages his or her UN service. To keep contact with relatives seems to be an important outlet when feeling down or depressed. Letters, and if possible, telephone calls from and to relatives, might be a way of getting a wider perspective on the situation.¹⁵

Individual soldiers have their own private social network, and it is their business to cope with family and friends both before going out on service and during the service period. Previous research does, however, illuminate the importance of a stable social situation as an assurance of coping with their UN service both during the actual service period and after completed service.¹⁶ From a Swedish point of view this is also illustrated by the fact that one of the most central reasons for breaking the service contract before the end of the tour is related to problems on the 'home front'. In a Danish study, a relationship is also demonstrated between family problems and stress reactions after completion of service. If the mission has given rise to family problems or the couple have broken up, the risk increases that the individual later suffers stress reactions.¹⁷

MOTIVES FOR VOLUNTEERING FOR UN SERVICE

The soldiers' motivation to volunteer for a specific peacekeeping operation is undoubtedly an important factor to be taken into consideration. The reasons and motives cover a broad spectrum, ranging from a wish to experience something new and exciting (adventure) to the chance to earn and save some money. Analysis showed that money is the strongest motivation for joining the UN forces. Everybody reported that the relatively high salary as a UN soldier is a very strong argument for UN service.¹⁸

The results of the surveys lead to the conclusion that for each soldier several motives and reasons are considered significant and important; such personal decisions are never based on one single argument alone. But there is, of course some kind of hierarchical order among these motives as far as their importance and frequency of appearance within the total group of UN soldiers is concerned. The primary motivation is undoubtedly the high pay. Everybody considers 'money' a very strong argument for joining the UN units. All soldiers share this particular reason without any exception. On the next level, the argument is what might be considered human or social factors, such as gaining benefits for the future, making friends for life, or experiencing something new. Finally, there are some reasons, which must be seen either as important arguments for only a small number of UN soldiers, or a 'soft' argument in general. This less important and relevant 'group of motives' includes military as well as cultural factors, such as 'to participate in a specific military mission' or 'to get to know a foreign country'.

In addition, interviews with soldiers and selected family members show that the peacekeeping mission also constitutes an escape route for soldiers facing various personal problems at home. These problems

15 Eva Johansson and Gerry Larsson, A Model for Understanding Stress and daily Experiences among Soldiers in Peacekeeping Operations, *International Peacekeeping*, Vol 5, No 3, Autumn 1998, pp. 124-41.

16 See Amy B. Adler, Paul T. Bartone and Mark A. Vaitkus, 'Family Stress and Adjustment During Peacekeeping Deployment. U.S. Army Medical Research Unit - Europe A 294755, 1995. Willigenburg and Alkemade (n.7 above), p. 23. Erik de Soir, 'Peace-Support Operations and family Problems', Paper presented at the NATO/Partnership for Peace workshop, Psychological Readiness for Multinational Operations, Heidelberg, 7th July, 1997.

17 Marianne Bache and Birgitte Hommelgaard, Danish UN Soldiers. Experiences and Stress Reaction, The UNIFIL Study 1991-1992, Report Part 1, Oslo, 1993.

18 Franz Kernic, The Soldier and the Task: Austria's Experience of Preparing Peacekeepers, *International Peacekeeping*, Vol 6, No 3, Autumn 1999, pp. 113-128.

concern different social fields (such as problems with the family or the job: some soldiers mentioned divorce or separation). Volunteering for UN service is related to the hope of finding a solution for these problems through a longer distance or absence. From a socio-psychological point of view, signing up for UN missions is often an attempt to gain at least some physical distance from certain problems, events and developments, which are considered uncomfortable.

PTSD Symptoms

An examination of the statistical predictors of PTSD symptom severity revealed several unique features of the mission in Somalia that may be responsible for the development of PTSD related to peacekeeping. First, report of the generic rewards of military service negatively predicted PTSD. The implication of this finding is that the greater the pride a given soldier has in serving his country and the greater the experience of group cohesion and confidence in the order and structure of the US military, the greater the likelihood of successful resolution and recovery from stressful peacekeeping types of operations. This is consistent with previous research that has shown group cohesion and morale to be negatively associated with risk for acute stress reactions in battle¹⁹ and during peacekeeping.

Second, the best predictors of PTSD symptom severity were the frequency of exposure to war zone stressors and the degree to which various negative aspects of peace enforcement duty were appraised as frustrating. Thus, peacekeeping operations under perilous conditions may represent a unique class of potentially traumatizing experiences not sufficiently captured by traditional descriptors of war zone exposure. To the extent that the experience in Somalia can be generalised to other peacekeeping

missions under unstable conditions, the effects of war zone stress in a peacekeeping context may represent the prototype of a new paradigm in military operations.

A PSYCHOLOGICAL PREPARATION

The success of a peacekeeping operation hinges upon the soldiers who are deployed to undertake the mission. Unfit personnel, both physically and psychologically, compromise the ability to accomplish the tasks. In peacekeeping operations, the compressed distance between strategic and tactical decision-making dictates that nothing be left to chance with regards to the selection and preparation of peacekeepers.

The nature of peacekeeping deployments has transformed significantly over the last decade. While earlier operations entailed overseeing the implementation of peace agreements between formerly warring nations, many recent missions have taken the form of humanitarian intervention, often in circumstances where peace is yet to be established. Consequently, the situations that confront deployed peacekeepers are increasingly volatile, often permeated by a climate of violence and intimidation. In addition, peacekeepers are required to cope with stressful living conditions, the absence of family and loved ones and the tacit awareness that returning home remains a distant prospect. As an institution that upholds the duty of care over its soldiers, especially in such a scenario where mental health may be compromised by operational service, the careful management, psychologically, of deployed personnel is an organizational imperative.

This paper will explore the psychological dimensions of peacekeeping missions. The course of deployment will be discussed in four phases, namely:

- Screening and selection phase.
- Pre-deployment preparation phase.

19 Bekenky, GL., Noy S. Solomon Z: Battle Stress, morale, "cohesion," combat effectiveness, heroism and psychiatric casualties: the Israeli experience, in *Contemporary Studies in Combat Psychiatry*, Edited by Lucas G. Westport, Conn, Greenwood Press, 1987, pp 11-20.

- Deployment phase.
- Post-deployment phase.

The psychological issues that emerge during each of these phases will be analysed in relation to the organizational efforts that are needed to tackle these concerns.

Screening and Selection Phase

The common tendency for decision-makers to place excessive emphasis on technical competence reflects the flawed assumption that ability is invariable across the countries and cultures in which the individual is deployed. Hence, the central tenet of the screening and selection process holds forth that other factors, such as personality traits and cross-cultural suitability, should similarly be accorded their due consideration. Four factors will be considered: personality traits, "soft" skills, cross-cultural suitability and home life, all of which are known to contribute to the success, and failure, of peacekeeping operations.

A study of Australian peacekeepers has shown that the qualities of stability, maturity and reliability are the greatest personal assets that peacekeepers could possess.²⁰ Other positive traits that contribute to successful performance include physical and mental hardiness (i.e., the ability to perform under situations of stress and sickness), an easygoing personality, possession of a sense of humour and a positive motivation towards the deployment.

On the other hand, a range of negative characteristics has also emerged from the study. Overly aggressive and arrogant peacekeepers are found to be liabilities in interactions; personnel who are prone to anger are unsuitable in a peacekeeping role, which demands patience; and the stereotyped military behaviour associated with dogmatism and

regimentation is discordant with the attributes of flexibility, adaptability and compromise required in a peace operation.

In a peace operation, a soldier is not simply a soldier, but also a third party mediator, ambassador, teacher and peacemaker. Research has consistently shown that two of the strongest predictors of success in peacekeeping operations are team skills and problem solving skills.²¹ Team skills include openness to exchanging ideas, the ability to resolve conflict and the willingness to seek compromise.

The third focus relates to cultural awareness. Peacekeeping missions require extensive interaction with the local populace, and the ability of personnel to appreciate differences in other cultures constitutes a vital success ingredient. The scope of cultural interaction confronting peacekeepers includes a multiplicity of cross-cultural engagements with personnel from other units, vocations, services professions and nationalities.

The fourth aspect of screening and selection pertains to the individual's home life. In an investigation of Austrian peacekeepers, events such as death, divorce or pregnancy of one's partner are found to result in considerable damaging effects on the psychic stability of personnel deployed for peacekeeping missions.²² The study also revealed that the heaviest burden felt by soldiers during the deployment relates to their family problems back home. Indeed, experience has shown that when soldiers are deployed for operations with unresolved personal issues, the repercussions of their absence are often felt when they return home eventually. On this note, it may be prudent that MAF reconsiders selecting personnel who are vulnerable to facing difficulties with family life when deployed overseas.

21 Hannigan, T.P., "Traits, attitudes and skills that are related to inter-cultural effectiveness and their implications for cross-cultural training: a review of literature". *International Journal of Intercultural Relations*, Vol 14, pp. 89-111.

22 Slop, H. Selection procedure for peace support operations. In *Proceedings of the 42nd Annual Conference of the International Testing Association*, Edinburgh, 2000.

20 Maj Schmidtchen, D. What makes a successful peacekeeper: An Australian peacekeeper's perceptions". In *Proceeding of the 39th Annual Conference of the International Military Testing Associations*, Sydney, 1997.

Pre-Deployment Preparation Phase

To assume that a soldier trained in conventional warfare is sufficiently prepared for a peacekeeping role would be to overlook the extensive differences in the behaviours and skills needed between military and peacekeeping operations. Peacekeeping operations require immense interaction with civilians; rely on contact skills; aim at negotiation with opposing armed elements; adopt an impartial role with no identified enemy; and work towards the final state of resolving underlying conflict causes.²³ Evidently, the skills required in a peacekeeping role are the very antithesis of those required for war. Three specific forms of pre-deployment preparation: cultural training, stress-related preparation and conflict resolution/negotiation will be discussed.

• Cultural Preparation

Peacekeepers are faced with a series of consecutive "cultural immersions", each of which introduces new behaviours and norms that require adaptation to. First, cultural incompatibilities may be experienced with the formation of a composite unit. Second, the integration of Navy and Air Force personnel into a set-up dominated by Army procedures and practices calls for cultural adjustments on the part of all peacekeepers in order to overcome the cultural differences between services. Third, peacekeepers may encounter difficulties in assimilating the predominantly civilian cultural norms of the United Nations (UN) and the human relief organisations, which have little in common with those of the military establishments. Fourth, interaction with the host culture may present a reality that contradicts pre-expectations, challenging peacekeepers to re-define their prior perceptions. Finally, contact with peacekeepers

from other nationalities requires considerable cross-cultural adaptation, as differences in the various professional multinational must be overcome if the forces are to operate effectively.

• Stress-Related Preparation

Stress-related preparation of peacekeepers consists of two aspects. The first aspect aims at equipping personnel with the ability to manage the psychological stress that is likely to be experienced during the deployment phase. The second aspect deals with organisational efforts to reduce the anxieties that are encountered prior to a deployment, so that personnel embark on the mission in a state of high psychological-readiness.

Peacekeeping missions conducted under the UN mandate may occur under extremely difficult stress conditions.²⁴ Especially in the war-torn countries, deployed personnel are often exposed to the massive scale of human degradation and misery.

An investigation of Australian peacekeepers in Rwanda showed that the most stressful period of an operation was the pre-deployment phase. This may stem from the fact that long hours are dedicated to planning and preparing for the mission, thus leaving soldiers with little time to attend to personal matters. A significant source of stress also arises from issues about family well being, ranging from the moral dilemma of staying behind to care for a new-born child or ageing parents, to concerns that the family would be left isolated and unsupported. Importantly, the organization plays a key role in helping to overcome these issues, which in turn, determine their performance in the operation.

23 Hansen, W., Ramsbotham, O. and Woodhouse, T. "Peacekeeping: problems, challenges and opportunities.", 1990. Web articles, <http://www.berghofcenter.org/handbook/woodhouse/index.htm>

24 Cian, C. and Raphael, C. In proceeding of the 38th Annual Conference of the International Military Testing Association, 1996. San Antonio, Texas.

• Conflict Resolution/Negotiation Skills Training

The emerging nature of peacekeeping operations is one that entails close interaction with the local populace who may, or may not be kind to the presence of international forces in their country. Peacekeepers are frequently called upon to perform a range of tasks, including the control of hostile crowds, the distribution of humanitarian relief to civilian populations, and the disarming of local militias under the terms of a peace agreement. Clearly, the accomplishment of each of these tasks requires the judicious use of negotiation skills to secure mission objectives as well as to ensure personal safety. It is therefore an organisational responsibility to equip its personnel with these skills.

Deployment Phase

Once deployed in the operational theatre, peacekeepers are challenged with a set of issues that are fundamentally different from those encountered prior to deployment. Factors pertaining to living conditions, working conditions, risks levels and support conditions have the capacity to induce severe levels of stress. One of the key sources of stress, particularly during the five months of deployment, relates to the often-spartan living conditions associated with peacekeeping assignments. Harsh weather crowded and confined living quarters, lack of privacy, poor facilities for leisure activities and fresh product shortages are common complaints during the early deployment phase.

The second source of stress stems from the difficult working conditions. The initial stage of deployment is commonly characterised by intense activity, heavy workload and long work hours. As things become stabilised, however, boredom and monotony soon take over as the new factors of stress. In addition, an unstable pace of work, unpredictable work schedules, and the occasional gripe that being sent on an overseas assignment is tantamount to being placed

on 24-hours duty; all contribute to the range of problems faced by peacekeepers. Finally, issues of cohesion, dissatisfaction with superiors and the inability to get along with other nationals in the contingent are also significant factors that contribute to the high levels of stress.

Finally, stress may be induced by negative support conditions. In a study of American peacekeepers in Bosnia, the sense of being cut-off from one's family, and the feeling of being far away from things familiar, emerged high on the list of troops' concerns, especially during the mid-deployment phase.²⁵ This negative sentiment is aggravated by the tacit awareness that going home remains a distance prospect. In addition, the lack of appreciation from the host people, as well as lack of recognition from commanders both at the mission site and at home, may also inflict significant disappointment on the peacekeepers. Given the importance of sustaining the mental health of personnel throughout the duration of operations, it is critical that the organisation implements such countermeasures to assist the peacekeepers in overcoming their problems.

Post-Deployment Phase

There is a mistaken assumption that peacekeepers who finally return home after a deployment are naturally contented. Indeed, even though homecoming may be a much-awaited event, it is also, paradoxically, a highly stressful time. It was found that those who returned from peace operations in Somalia suffered a higher risk of contracting mental health problems compared to those who were not deployed.²⁶ To the same extent, it was shown that a sizeable number of Australian peacekeepers

25 Bartone, P. Stress in the military setting. In C. Cronin & S.J. College (eds) *Military Psychology: An Introduction*. U.S.A., Simon & Schuster Custom Publishing, 1998.

26 Litz, B.T., Orsillo, S.M., Friedman, M.D., Ehlich, P. and Bates, A., Post traumatic stress disorder associated with peacekeeping duty in Somalia for U.S. military personnel. 1997, *American Journal of Psychiatry*, Vol 154 (2), pp. 178-184.

who returned from (then) East Timor had to be referred for follow-up counselling.²⁷

By far, the vulnerability to posttraumatic stress is the most significant concern. Peacekeepers are exposed to a range of potentially traumatic events, including constant threats to personal safety and regular exposure to widespread human misery. If not appropriately managed, these experiences may translate into severe distress upon completing the mission.²⁸ Thus, it is crucial that the organisation be cognizant of this, and to closely monitor the psychological health of returned peacekeepers. Those identified to be in need of assistance should, in turn, be administered further counselling and psychological intervention. Bearing in mind that the completion of a peacekeeping mission does not signify the end of a soldier's military career, restoring

the affected individuals back to mentally-ready states must therefore remain an organizational imperative. The provision of counselling services will assist returned personnel in re-integrating their home and working life. It is crucial that the organization recognises the significance of these post-deployment measures, because not only do they minimize the long term negative effects of operations, they also aid in restoring the psychological readiness, hence operational capability, of returned soldiers. It must be borne in mind that even if problems in the post-deployment phase have no immediate bearing upon the completed mission, how they are handled by the organization will influence the attitudes of future personnel embarking on peace operations.

Being deployed for a peacekeeping operation can be a life-changing experience. For some, it may bestow greater value to their lives back home; for others, it may leave memories and feelings that they struggle to live with throughout their lives. Which one of the two outcomes eventually confronts the peacekeeper depends a great deal on the measures that are instituted by the organization.

27 Col Johnston, I. The psychological impact of peacekeeping deployment, 2000. In proceeding of the 42nd Annual Conference of the International Military Testing Association, Edinburgh, United Kingdom.
28 Dobson, M., and Marshall, R.P. Surviving the war zone experience: preventing psychiatric casualties. 1997. *Military Medicine*, Vol 162, pp. 283-287.

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CABARAN ERA TEKNOLOGI MAKLUMAT: MEMBINA GENERASI BERFIKIR

— Oleh : Kapt Norhaidawati Bte Jaafar —

PENDAHULUAN

Era teknologi maklumat atau sinonim dengan istilah 'information technology' (IT) adalah rangkai kata yang cukup popular dan tidak lekang daripada dibicarakan. Era IT ini dilihat sebagai satu pemangkin yang bakal membawa kesan besar dalam kehidupan manusia, baik dari segi manfaat ataupun mudaratnya. Teknologi memberi konotasi penghasilan sains dan sifatnya memudahkan sesuatu. Contohnya, dengan terciptanya mesin cetak oleh Johann Gutenberg dari Mainz, Jerman pada tahun 1450-an telah memulakan satu revolusi penting dalam komunikasi maklumat melalui penulisan manuskrip. Teknologi adalah neutral sifatnya. Sekiranya dicipta dengan niat yang adil dan ihsan, ia menjanjikan kesejahteraan hidup manusia. Jika sebaliknya, ia menjanjikan kerosakan yang struktural dan 'substantial'. Maklumat pula adalah asas kepada proses keilmuan. Daripada perspektif Islam, Allah s.w.t dengan proses pewahyuan-Nya menggunakan Jibrail sebagai penghantar maklumat yang benar untuk rujukan bagi mereka yang bertakwa menerusi rasul pilihan. Maklumat itu disampaikan kepada makhluk-Nya untuk memperjelaskan kesamaran akal budi tentang sesuatu dan serentak memperkasa akal budi insan ke arah yang diredai Allah s.w.t.

PERSOALAN DAN CABARAN 'INFORMATION TECHNOLOGY'

Persoalan yang menimbulkan konflik dalam setiap wacana IT adalah dimensi maklumatnya. Aspek teknologi boleh diibaratkan sebagai alat yang

memudahkan proses pengangkutan. Misalnya, rangkaian komputer internet/intranet yang mampu berkomunikasi antara satu sama lain dengan capaian yang amat pantas melewati sempadan dunia 24 jam sehari. Apa yang menimbulkan masalah ialah setiap maklumat yang dibawa tidak semuanya bersifat neutral. Ada yang baik, bersifat fitnah, yang lucah, yang murni, yang betul dan yang salah. Di tangan seorang yang propagandis atau ekstremis, maklumat yang diolah dan diadun oleh mereka adalah menurut cita rasa dan pemikiran mereka sendiri di mana ianya mungkin tidak sesuai dan tidak dapat diterima oleh pengguna yang tidak mempunyai cita rasa yang sama dengan mereka. Maklumat yang dibawa ini akan memberi impak kepada pembentukan akal budi, minda, hati dan tabiat. Jika maklumat yang dibawa itu bermutu dan bermanfaat, maka apa yang akan tiba kepada pengguna adalah kesejahteraan. Jika maklumat yang dibawa itu bersifat 'garbage' maka kesannya akan merosakkan akal budi dan memudaratkan ummah.

Dalam abad 21 yang serba kompleks ini, ketajaman minda, kegigihan dan kekuatan terutamanya dalam bidang IT adalah penentu kemenangan dalam tata dunia yang global dan bukannya bergantung kepada kekayaan sumber asli. Ini diperkuatkan lagi oleh kenyataan bekas Perdana Menteri Malaysia iaitu:

"What we have between our ears, at our elbow and in our heart is much more important than what we have below our feet and around us"

1 Mahathir Mohamad (1991), "Malaysia: The Way Forward" NST 28 Februari 1991.

Pentas dunia dekad yang akan datang pasti menyaksikan satu persaingan yang amat sengit dalam agenda ekonomi berasaskan sains dan teknologi. Menurut De Bono, era persaingan yang melanda dunia IT sekarang adalah bukan lagi dalam konteks persaingan atau '*competition*' tetapi sekarang '*supertition*'. Katanya '*competition*' hanya untuk '*survival*', tetapi untuk kejayaan, '*supertition*' atau usaha mencari kelebihan (*seeking above*) serta mewujudkan '*value monopolies*' adalah keperluan mutakhir².

Di negara-negara maju, aktiviti perindustrian telah berganjak daripada penggunaan buruh kepada penggunaan mesin. Penggunaan robot pula telah menjadi trend utama. Malahan persaingan dalam bidang pengkomputeran juga kian rencam dan canggih. Fenomena sebegini mewujudkan persaingan antarabangsa yang sengit. Siapa yang kreatif dan inovatif akan menerajui pentas dunia. Siapa yang lalai dalam persaingan ini akan terpinggir daripada arus perdana dan mungkin menjadi mangsa yang diperkotak-katikan.

Perkembangan ini akan mewujudkan pola dualisme yang akan membelah masyarakat dunia kepada kelompok '*the winners and the losers*' atau '*the giver and the taker*'. Tergolong dalam kelompok '*winner/the giver*' ialah negara-negara maju yang menjadi pembekal maklumat, pereka teknologi, pemain dan penentu. Sementara dalam kelompok '*the losers/the taker*' terdiri daripada negara-negara Selatan dan dunia ketiga yang menjadi objek, pelanggan maklumat, penerima maklumat, penonton dan peminggir dalam gelodak perkembangan semasa³.

Malaysia berada di tengah-tengah wilayah perubahan. Wilayah ini digelar sebagai '*zone of the Pacific Rim*' yang sedang menyaksikan kemunculan

harimau dan naga ekonomi dunia seperti Jepun, Korea Selatan, Taiwan, Singapura dan Thailand. Malaysia sudah mula menampakkan diri dalam kelompok '*The Newly Industrial Country*'. Selari dengan perkembangan ini, usaha-usaha sedang dibuat dalam bidang pendidikan bestari untuk mempersiapkan generasi muda Malaysia menghadapi zaman persaingan minda ini dan menampilkan diri di pentas sejagat dengan ciri-ciri '*international competency*' dengan acuan sendiri sesuai dengan nilai tara mujtamak madani.

Menjelangnya tahun 2000 ini, pelbagai cabaran sedia menanti yang dibawa bersama '*open sky technology*' dan oleh kerenah IT. Ini telah disokong dengan pelbagai bukti dan peristiwa-peristiwa yang bergolak di pentas dunia. Pertama, kepantasan perubahan. Adalah terbukti lebih banyak maklumat dihasilkan dalam 30 tahun kebelakangan ini dibandingkan dengan 500 tahun sebelumnya. Jumlah maklumat diramal berganda setiap dua tahun menjelang abad ke-21. Setiap hari terdapat kira-kira 250 juta muka surat maklumat dan penemuan baru dalam internet⁴. Hal ini menimbulkan gejala keresahan maklumat iaitu jurang antara apa yang difahami dan apa yang di fikir perlu difahami⁵.

Bukti yang kedua dapat dilihat di dalam dunia pekerjaan. Diramalkan individu pada masa depan akan menukar jenis kerja kira-kira 5-8 kali semasa hayat. Sesuatu jenis pekerjaan itu dijangka akan cepat menjadi lapuk. Oleh itu, akan wujud fenomena '*learn, unlearn and relearn*' kerana seseorang pekerja sentiasa perlu belajar dan belajar sepanjang hayat untuk menyumbang kepada produktiviti organisasi. Pekerja yang bermutu adalah pekerja yang bermaklumat dan sentiasa mempertingkatkan penyertaannya kerana maklumat baru akan muncul

4 Reader Digest, Jun 1997.

5 Wurman M. (1998) "*Mastering The Information Age*", Los Angeles: Jeremy P. Tarcher, Inc.

6 Wan Mohd Zaid Noordin (1998): "*Reformasi Pendidikan Dan Kurikulum Bersepadu Sekolah Menengah : Isu Dan Cabaran*", Kertas Kerja KONPEN Ke-2, Maktab Perguruan Kuala Terengganu.

2 Edward De Bono (1993). "*Supertition Going Beyond Competition*". Harper Collins Publisher.

3 Gates, B. (1996), "*Jalan Di Hadapan*" Utusan Publication.

dengan pantasnya⁶. Kesan yang ketiga ialah media massa. Rakyat Malaysia kini berpeluang menonton hampir 30 saluran televisyen dan ianya dijangka akan bertambah lagi. Maklumat yang dihidangkan ada yang positif dan ada yang negatif. Kemampuan penapisan sendiri (Self-censorship) adalah satu isu yang besar.

Berdasarkan kepada senario inilah kita perlu menghadapi persaingan dalam 'head to head competition' dan sekali gus mempertahankan jati diri kita ke arah kesejahteraan amar makruf nahi mungkar. Kita tidak akan berupaya untuk menolak cabaran ledakan teknologi maklumat dengan segala karenah dan kecanggihannya selagi ianya bermanfaat dan tidak bercanggah dengan kepentingan ummah. Pokok pangkalnya, ummah haruslah mempunyai daya saing yang berpaksikan kekuatan akidah, syariah dan akhlak bagi mendepani era IT. Dengan prasyarat ini, ummah haruslah memanfaatkan IT secara maksimum kerana Islam itu sendiri menggalakkan penerokaan ilmu asalkan ianya sentiasa bersandarkan paradigma Qurani.

RUANG LINGKUP DAN HAD BERFIKIR

Bagi orang-orang Islam, ruang untuk berfikir itu amat luas tetapi tunjangan berfikir itu tidak boleh terkeluar daripada bingkai rujukan mutlak, yakni wahyu Allah. Domain wahyu Allah adalah pokok ajaran Islam, sifatnya kekal abadi sehingga kiamat tanpa sebarang perubahan, tidak perlu disemak atau di tafsir semula. Kebebasan berfikir dalam Islam tidak sampai kepada pentakwilan terhadap kesahihan wahyu Allah, tetapi bagi masyarakat yang buta mata dan hati masih mentakwilkan domain ini sehingga timbul gejala kekeliruan yang melampau yang melihat wahyu Allah itu sebagai 'the irritational dogmas' iaitu yang hakiki dikatakan khayali dan yang khayali dikatakan hakiki.

Tradisi pemikiran dalam Islam di dokong oleh dua dalil iaitu naqli yang bersumberkan Al-Quran dan Al-Hadis, dan dalil akli yang terpancar dari daya fikir manusia. Ini adalah laluan untuk memastikan

sesuatu sumber atau maklumat itu ditafsirkan dan dikaji demi memastikan kesahihan, keadilan dan mencari kebenaran relatif. Misalnya, Al-Quran tidak memperincikan secara terperinci tentang operandi pendidikan, pentadbiran, pengurusan ekonomi dan masyarakat IT. Dalam konteks ini, ijtihad diizinkan, malah nabi Muhammad s.a.w berjanji bahawa setiap usaha intelektual atau ijtihad akan menerima dua pahala jika berhasil dan satu pahala walaupun gagal. Ini mencerminkan kepada pengiktirafan daya pemikiran.

Keistimewaan manusia bergantung kepada neraca akalunya yang membezakan ia dengan haiwan. Dari segi fitrahnya, manusia adalah makhluk kreatif. Akal manusia mempunyai keistimewaan yang tiada tolok bandingnya. Kajian pakar neuroanatomy dan neurolinguistik merumuskan bahawa otak manusia berpotensi menyimpan maklumat sehingga 125 juta aksara. Keupayaan sebanyak ini sama dengan kandungan maksimum sebanyak 340 keping disket mini atau 174 disket mikro berkepadatan biasa⁷. Walaupun begitu, kreativiti yang tiada bingkai rujukan atau mengikut nafsu semata-mata hanya akan membawa musibah kepada diri sendiri dan alam jagat. Cuba renung contoh berikut: Ada manusia yang berfikir cukup kreatif untuk menipu orang lain, mengeksploitasi, menggunakan sains dan teknologi untuk merompak dan menukar akaun simpanan orang lain ke dalam akaunnya. Ini adalah contoh intelek kreatif yang layak digelar 'intellectual barbarian'. Apa yang disimpulkan di sini, insan kreatif tidak boleh meminggirkan dalil naqli daripada daya fikirnya kerana akibatnya, apa yang terhasil hanyalah unsur syak, zuhud, jumud dan hawa nafsu yang tidak menjanjikan al-falah atau kebaikan sebaliknya al-fasad (kerugian dan kerosakan)

MEMBINA GENERASI BERFIKIRAN KREATIF

Menghadapi cabaran era IT hendaklah disertai dengan benteng dan kekuatan akal budi. Kekuatan

7 Utusan Malaysia, 15 September 1993.

akal budi pula hendaklah bersandarkan kepada ilmu. Menurut Muhammad Naquib Al-Attas⁸, ilmu ialah ketibaan sesuatu makna hasil daripada maklumat yang benar ke dalam diri seseorang. Ketibaan makna di dalam diri pula memerlukan usaha berfikir yang bersungguh-sungguh berdasarkan maklumat dari fakta yang benar. Penemuan maklumat dan fakta yang benar memerlukan kemahiran mengkaji dan meneliti. Dalam hal ini ditegaskan oleh Allah s.w.t yang berfirman:

“Hai orang yang beriman, jika datang kepadamu orang fasik membawa sesuatu berita, maka periksalah dengan teliti, agar kamu tidak menimpakan sesuatu musibah kepada sesuatu kaum tanpa mengetahui keadaannya yang menyebabkan ramai menyesal di atas perbuatanmu itu.”

(al-Hujarat : 6)

Berdasarkan ayat di atas jelas menunjukkan bahawa Allah s.w.t menggesa manusia agar sentiasa memanfaatkan akal yang bersendikan iman dan nilai keinsanan. Dalam konteks inilah komponen kecerdasan serta kemahiran berfikir secara kritis dan kreatif harus dilihat. Di sinilah terletaknya kebijaksanaan umat untuk mentafsir dan menyaring maklumat yang bakal mencurah tiba dari pelbagai cara yang cukup canggih melalui internet dan multimedia. Fenomena yang sedang kita saksikan dalam era IT ini ialah:

- Internet semakin popular digunakan dan menjadi suatu keperluan dan bukan kemewahan. Internet ialah jaringan yang menghubungkan ribuan jaringan lebih kecil di seluruh dunia. Setiap jaringan mengandungi komputer yang bersambung antara satu sama lain. Setiap komputer dalam internet boleh berkomunikasi dengan komputer yang lain.

- Maklumat disebar di dalam internet melalui E-Mail, World Wide Web (WWW), Homepage, Newsgroup, Mailing List, Internet Relay Chat (IRC), File Transfer Protocol (FTP), Telnet dan sebagainya.

- Maklumat boleh diperoleh oleh sesiapa sahaja dengan cepat, mudah dan murah. Sesiapa sahaja boleh menjadi pembekal dan pemilik maklumat.

- Internet telah diterima pakai oleh kira-kira 140 buah negara dan 50 juta pengguna di seluruh dunia.

Kuasa internet begitu hebat sekali. Ia merupakan lebuhraya tanpa sempadan dan kawalan. Internet boleh menjadi gelombang yang bakal menenggelamkan sesiapa yang tidak bersedia serta tidak mempunyai pemikiran yang cerdas dan kreatif. Bertitik tolak daripada masalah ini, kita akan mengkaji bagaimanakah hendak mewujudkan pemikiran yang cerdas dan kreatif agar ummah mampu mengharungi gelombang IT yang semakin bergolak pada masa kini.

Asas kecerdasan ialah kebolehan menyelesaikan masalah-masalah yang benar dan berguna yang seterusnya menjadi asas kepada pemerolehan pengetahuan baru. Kecerdasan tidak bersifat kekal atau ditentukan oleh baka semata-mata. Kecerdasan ialah potensi individu yang dapat diperkembangkan sekiranya persekitaran, budaya dan sosialisasi memudahkan keupayaan berkenaan. Kecerdasan boleh dipelajari, dipertingkatkan dan diajar dalam apa jua peringkat umur. Teori Gardner⁹ telah mengenal pasti sembilan kecerdasan manusia yang perlu diperkembangkan.

- **Kecerdasan Verbal atau Linguistik** - Sensitif terhadap bahasa, makna dan hubungan antara perkataan humor.

⁸ Muhammad Naquib Al-Attas, "Menghadapi Cabaran Sekularisme", Ucapan Perlantikan Ke Kerusi Alghazali di ISTAC, 14 Disember 1993.

⁹ Gardner, H. (1983), "Frame Of Mind: The Theory of Multiple Intelligences", New York: Basic Books.

- **Kecerdasan Kuantitatif atau Logik** - Pemikiran abstrak, kejituan pengiraan, penaakulan induktif, pemikiran saintifik.
- **Kecerdasan Visual atau Spatial** - Pemerhatian yang tajam, imaginasi aktif, pemikiran visual, mengenal hubung kait antara objek, manipulasi grafik.
- **Kecerdasan Muzik** - Sensitif terhadap picritma, ton, apresiasi muzik, penghasilan muzik.
- **Kecerdasan Kinestetik** - Kawalan gerak geri tubuh badan, hubungan badan dan minda.
- **Kecerdasan Interpersonal** - Sensitif terhadap orang lain, mengecam tujuan bekerjasama, berkomunikasi.
- **Kecerdasan Intarpersonal** - Pemahaman diri, meta kognisi, pemikiran peringkat kognitif tinggi.
- **Kecerdasan Kerohanian** - Amalan nilai moral, pengetahuan agama.
- **Kecerdasan Alam Sekitar** - Pengetahuan mengenai saling kaitan alam sekitar, sensitif terhadap keseimbangan alam, interaksi alam dan manusia.

Menurut Gardner semua pelajar normal mempunyai kesembilan jenis kecerdasan intelek, tetapi faktor-faktor seperti peluang, pengalaman, latihan budaya dan persekitaran menyebabkan beberapa potensi kecerdasan intelek tidak terserlah bagi sesetengah individu. Perkembangan sembilan domain kecerdasan ini menjurus kepada perkembangan pemikiran kreatif dan kritis. Dalam era IT ini, perkembangan kecerdasan dan pemikiran ini wajar dipermudahkan dengan sokongan prasarana IT.

Ini adalah kerana proses peng IT-an pendidikan semakin jelas menjadi realiti¹⁰.

Konsep kreatif dilihat sebagai satu proses apabila seseorang itu memerhati, melihat, mencerap dan kemudiannya dengan menganalisis, mengolah, mensintesis dan menilai secara bersistem, mengambil iktibar dan pengajaran, kemudian membuat kesimpulan dan rumusan yang boleh menambah khazanah pemikiran yang ada. Dari segi produknya, natijah daripada kreativiti manusia akan wujudlah sebuah kehidupan yang berpaksikan keredaan Allah, 'hasanah fi'ddunya dan hasanah fi'l-akhirah'.

PENUTUP

Pepatah ada mengatakan bahawa, orang yang berjiwa besar bercakap tentang pelbagai idea, orang biasa-biasa mengulas pelbagai peristiwa, orang berjiwa kecil memperkatakan hal orang lain dan orang yang berotak kecil bercakap tentang diri mereka sendiri. Ungkapan pujangga ini mengakui martabat orang yang memanfaatkan daya fikirnya. Seseorang yang bijak menggunakan akalanya secara kreatif akan sentiasa berfikir di luar daripada sempadan biasa, berani menghadapi risiko dan membebaskan diri daripada paradigma lama, berupaya menemui pelbagai pendekatan untuk menyelesaikan sesuatu masalah dan berupaya melihat sesuatu perkara daripada pelbagai dimensi. Dalam era Multimedia Super Corridor (MSC) ini, kiranya ummah tidak mampu muhasabah diri dengan kebijaksanaan fikiran yang diberi, kita bakal hanyut dan lemas dalam timbunan maklumat yang condong kepada materialisme, sekularisme dan konsumerisme. Pelampung penyelamat ummah hanyalah kekuatan daya saring yang dijitukan dengan kecerdasan dan keupayaan berfikiran kritis dan kreatif yang berpaksikan kepada rujukan mutlak yakni Al-Quran dan Sunnah.

10 Awang Had Salleh, (1997), "Ini Abad Yang Kita Tinggalkan. Ini Abad Yang Kita Masuki", Ucputama Presiden di Konvensyen PERPEMA Ke.9, Hotel Legend, Kuala Lumpur, 14-16 Julai 1997.

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Kapt Norhaidawati bte Jaafar adalah seorang pegawai graduan dan telah ditauliahkan pada 11 Nov 1999 ke dalam Kor Ordnans DiRaja. Beliau mempunyai kelulusan Ijazah Sarjana Muda Pentadbiran Perniagaan dari UPM. Sejak mula berkhidmat, beliau ditugaskan di 91 Depot Pusat Ordnans sebagai Ketua Cawangan MT.

EFFECTIVE LEADERSHIP AND FOLLOWERSHIP

— By : Mej Christopher Ignatius Choong —

INTRODUCTION

Within the field of management studies, the most researched and published topic is easily leadership. In nearly all leadership studies, attention is focused on the leader, the overriding assumption being, it is the leader who influences the followers. Leadership, however, can also be influenced by the followers.

We are all leaders, and we are all followers, in one aspect of our lives or another. Some think of themselves as leaders, and some think of themselves as followers, but in reality we are both. A woman who has no subordinates at work may lead her children and her husband at home, and be a prime mover in her community. A man who directs a vast organization may still obey his doctor, his priest, his wife, his children, and even his cat, his dog and his goldfish. No matter how much we may fancy ourselves to be a leader, there are those we follow. Therefore, we have ample opportunity to lead and to follow, to practice the art of leadership and the no less important art of followership. In fact, of the two, followership is probably more important, because the power of any leader ultimately resides in the obedience of his or her followers. People can choose to obey or disobey and in the final analysis, that is what determines who is and is not their leader.

ROLES THAT FOLLOWERS PLAY IN INFLUENCING THE LEADER'S SUCCESS

Jill Janov, in her book, *The Inventive Organization*, stated that, "Leadership is not the purview of a few nor is followership the purview of the many. To lead

is to guide the development of the system. To follow is to pursue the common cause.... Leading and following are dormant or active depending on the nature of relationships between people or between people and their environment in the context we call 'organization.'¹ In order to discuss the role of effective followership in an organization, it is important to understand leadership and followership as a symbiotic relationship. In other words, people may play leading or following roles depending on the situation and the organizational needs.

The first way followers exert influence is simply through their "followership"; unless there are followers, there are no leaders; unless the leaders induce others to follow, there is no leadership. Followership in this context, it is important to note, is willing and voluntary. Any leader who attempts coercion and threats to induce others to comply will likely find himself, rather than followed, only stymied and rendered ineffective.²

The second role followers play in leadership is contained in the concept of "met expectations." This concept states that obtaining followers depends on how closely the leader meets the followers' expectations; i.e. the leader who possesses the characteristics and attributes followers expect will gain a significant following. Several observers of the management/leadership scene have noted the

1. Janov, Jill. *The Inventive Organization: Hope and Daring at Work*. San Francisco: Jossey-Bass, 1994. 224.

2. Theodore I. Hansen, paper presented on "Subordinate Expectations and Effective Leadership: An Examination" at School of Business and Economics, Salem State College 1981.

connection between follower expectations and leadership effectiveness. According to George Strauss and Leonard Sayles (1980), respected researchers and authors in the field of management, "every group has definite expectations about what qualifications their leader should possess. A leader who fails to live up to these expectations are considered unfit for the job" (pp.118-119). An important note here is that the followers determine what the necessary leader characteristics should be, not management nor any host of expert consultants.³

Followership is a role one may play at appropriate times, not a particular person or position. Organizations with flatter structures, those in which leadership is *shared*, need people who will share leadership. This implies that, at times, some will choose to follow as opposed to lead. These two roles are integral parts of a whole; they are the ebb and flow of the organization. Since no discussion of what exemplary followership is takes place in most organizations, and since there has been considerable emphasis on leadership competencies, clearly followership skills now need and will need in the future the specific attention and focus of the human resource and staff development professionals.

Recognizing this ebb and flow, human resources and staff development professionals need to develop followership skills in library staff in the same way leadership skills have been emphasized in recent years. Additionally, in developing followership skills or in training staff to assume effective followership roles, it will be important to demonstrate and recognize effective followership skills, acknowledge and understand the different types of followers within an organization, and determine how best to build reward systems for followership.

Douglas Smith argued for an abandonment of positional reference to the issue of who is a follower

and who is a leader. He powerfully stated, "Position was a powerful engine for organizations that depended on people as cogs. But today's organizations require fast and flexible networks of engaged and empowered people, not human robots who contribute doglike efficiency to organizational machines. Today, performance challenges not position should determine when you should follow and when you should lead."⁴

HOW DOES LEADERSHIP WORK?

Many of us may not want to think of ourselves as followers or as leaders, for that matter. Often we are told, especially in an institution like the military, that we are all leaders all the time or we should want to be. Leadership is highly praised, but no one says anything about good followership, what it means to be a good constituent. I argue here that organisations only work when people are willing to accept roles of leadership and followership. Leading and following are not expressions of which we "are" but of what we "do" in a specific meeting, committee, project, organization, or institution. We may play a leadership role in one project and a followership role in another. In his groundbreaking book, *The Power of Followership*, Kelley stated, "If there is anything the nineties have already taught us, it's that most people are both leaders and followers."⁵ Kelley's research showed, however, that most people ascribe negative qualities to the word "follower." Among some of the words used to describe followers, he found "sheep" (the most prevalent response), "yes people," "apathetic people," and "happy losers." His work investigated the ways in which individuals in follower roles can be effective and powerful contributors to the organization. In other words, people may play leading or following roles depending on the situation and they therefore require the ability to determine which role to take at any given time. Skills that an

4. Smith, 204.

5. Kelley, Robert E. *The Power of Followership*. New York: Doubleday, 1992. 9.

3. Ibid.

effective follower possesses include: critical thinking, knowing oneself and understanding the needs and/or qualities of the people around them. Assessing the situation, an effective follower will decide whether or not to assume a leadership role.

What are the differences in those roles? Leaders accept responsibility for very specific pieces of work a group must do to be able to work together successfully. Doing this work - work that makes it possible for us all to succeed - is how leaders earn their leadership. As Jo Freeman argued, organization (or collaboration of any kind, for that matter) simply doesn't work if we don't have ways to assign responsibilities and hold ourselves accountable for fulfilling them⁶.

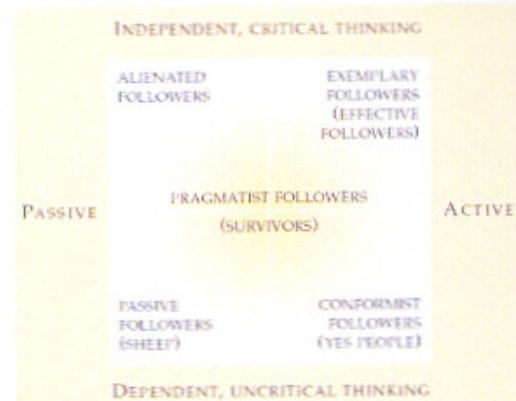
WHY FOLLOWERSHIP?

One might very well ask in what way followers differ from leaders. We have a propensity for viewing followers as negative elements in the organization; that is, a follower is seen as weak, passive and unmotivated. To clarify, followers, while sharing responsibility, play a supportive and contributing role while leaders lead other individuals in a collaborative effort.

Kelley's model (Fig.1) of the different types of followers in an organization makes clear what most organizations would prefer: the effective or skilful follower⁷. The model is designed with two axes: a horizontal axis defining the behaviour of the individual on a continuum from passive to active and a vertical axis describing the individual's abilities on a continuum from dependent, uncritical thinking to independent, critical thinking. The three ineffective follower behaviours are:

- The passive, or sheep-like, follower who is not a critical and independent thinker;

FIGURE 1: DIFFERENT TYPES OF FOLLOWERS



Kelley, Robert. *The Power of Followership: How to Create Leaders People Want to Follow and Followers Who Lead Themselves*. New York: Doubleday/Currency, 1992.

- The conformist follower who, though on the active end of the horizontal continuum, is nevertheless still dependent and uncritical in his/her thinking; and

- The alienated follower, who is quite independent and critical in his/her thinking, but is passive.

In the centre of the model is a group of people Kelley refers to as the pragmatist followers, the survivors. These people choose their actions, roles and behaviours based upon which way the "corporate" wind is blowing. They are not so much engaged in the issues facing the organisation, as they are concerned with protecting themselves. Though often able to adapt to change, these followers do not perform at a level that is productive and do not contribute substantively to the organization's effectiveness. They only take advantage of the situation and make the necessary moves that will benefit them.

Charles Manz and Henry Sims also categorized followers into four categories:

- "Yes" people,
- Calculative compliers,
- Enthusiastic sheep and
- Self-leaders.

6. Marshall Ganz, paper presented on "Organizing Leadership - 2000" at Kennedy School of Business 2000.

7. Kelley, Power of Followership 97.

The “yes people” are the same as Kelley’s, but the other two dysfunctional types of followers are a bit different. Calculative compliance implies a “What’s in it for me?” attitude and it is this type of follower who will comply if it is in his or her perceived best interests. Manz and Sims’ “enthusiastic sheep,” as opposed to Kelley’s more passive sheep, are undiscerning, cheerleading followers who are unable/unwilling to acknowledge flaws in the person(s) in the leadership role, and hence cannot apply critical thinking skills to the actions and thoughts of that person(s). “Self-leaders” are equivalent to “effective followers” in Kelley’s nomenclature.

Douglas Smith described a stigmatised, almost intuitive response to following, “Following suffers from a serious image problem. Few children aspire to grow up to be followers. Following is not included in selection for colleges, professional schools, scholarships, or awards. “Real leaders”, we believe, are made of sterner, more iconoclastic stuff. Consequently, even in its most admirable aspects, following has remained a dirty secret, a closet phenomenon that few of us enthusiastically or consistently embrace and celebrate”.⁸

Characteristics and Skills of Effective Followers

Robert Kelley delineates the basic characteristics of an effective follower: “What distinguishes an effective follower from an ineffective follower is enthusiastic, intelligent and self reliant participation without star billing in the pursuit of an organizational goal”.⁹

One of the keys to effective followership is the concept of “self management.” This is the ability to determine one’s own goals within a larger context,

to take control of one’s own development and to decide what role to take at any given time. In a similar vein, Charles Manz and Henry Sims described their concept of “self leadership” as being “an extensive set of strategies focused on the behaviours and thoughts that can be used to exert self influence. Self-leadership is what people do to lead themselves. In some ways, self leadership might also be thought of as a form of responsible followership”.¹⁰

Apart from a commitment to their own goals and futures, effective followers are committed to something larger than themselves. They show commitment to the organization they work in through the application of self-leadership and the ability to work with others to reach organizational goals.

Being committed is not enough, however. Kelley pointed out that incompetent commitment is not worth much. Competence and focus, then, are two other qualities of effective followers. These employees strive to reach higher levels of competence through continuous learning. They focus on the work of the organization and not on the “soap opera” that can sometimes absorb ineffective followers.

Finally, a follower also needs to exhibit courage. This implies and requires independent and critical thinking skills as well as the ability to feel comfortable challenging others and taking risks, being innovative, and dealing with “wicked problems.” In other words, a person choosing a followership role at any given time feels she/he is contributing at an equitable level with the person assuming the leadership role at that time. An effective follower, then, is a person who knows when to choose the followership role over the leadership role, a person who exhibits confidence, courage, competence, and critical thinking skills, and a person who is committed to the larger aim of the organization.

8. Smith, Douglas K. “The Following Part of Leading.” In *The Leader of the Future: New Visions, Strategies, and Practices for the Next Era*. Ed. Frances Hesselbein, et al. The Drucker Foundation Future Series. San Francisco: Jossey-Bass, 1997. pp. 199-207, 202.

9. Kelley, Robert E. *The Power of Followership*. New York: Doubleday, 1992. 9. Kelley’s research is articulated both in this book as well as in his article, “In Praise of Followers” (*Harvard Business Review*: 66.6 [Nov.-Dec. 1988]: 142-48).

10. Charles C. Manz and Henry P. Sims, Jr.’s *Superleadership* (New York: Berkeley Publishing, 1990).

CREATING LEADERSHIP BY BUILDING FOLLOWERSHIP SKILLS

What can staff development do to encourage the development of effective followership skills among officers so that they may one day be effective leaders or effective senior management staff?

Making changes in the systems is already in place in the military organization where it is an important first step in achieving a synergy between the followership and leadership roles. System areas needing change might include: the reward and recognition system; the organizational decision making system; the communication patterns; the planning or shared visioning activities; work redesign; classification and compensation structures; staff development; resource allocation; and recruitment and retention. In each of these areas, redefinition and change is needed before effective followership can be employed.

In addition to changes in the systems areas, the military organization needs to organize staff in such a way as to encourage effective followership. One way is through the encouragement of independent and empowered working groups. These groups should be allowed creative freedom in order for the organization to tap the talents and knowledge that are sometimes buried in staff levels where it can't be expressed. Problem solving is an area in which followers can show their strengths and model effective behaviours.

Based on the work of Robert Kelley, below are four areas that human resource and staff development officers should address to help staff to become more effective in the followership role.

- **Help the Organization Define/Redefine Leadership and Followership.** Through open discussion and sharing experiences as both followers and leaders, staff can begin to define for themselves how these roles might be viewed

differently than they have been in the past. This redefinition can also surface by listing the characteristics of ineffective followers as well as of effective followers and leaders. This activity can spur staff participation in reshaping the potential roles available to them as committed employees.

- **Attend to the Development of the Specific Skills Needed to be an Effective Follower.** This includes improving self-management skills; focusing on critical thinking, continuous learning; building confidence and the ability to disagree with others (including those taking leadership roles) in a constructive way; and encouraging contribution and participation in the shaping of the organization's direction. Again, Douglas Smith had strong words, "The corollary to 'People are our most important asset' is, inevitably, 'We want everyone to be a leader.' How many companies, 'followership'?"¹¹

Human resource officers can focus employees on potential areas of development and share information about specific learning opportunities that incorporate skill training in one or more areas in the list of effective followers characteristics.

- **Review Performance Assessment and Feedback Documents and Guidelines.** This is an important area, as it is often the case that performance assessment rewards only leadership activities and not effective followership activities. If an organization is to achieve a balance between these two necessary roles, followership behaviours must be addressed in the performance assessment process. Indeed, followership behaviours can be built into position descriptions and performance expectations, as well as being a part of performance assessment.

11. Smith, 203.

Further, there must be rewards and positive feedback for effective followership behaviours. Recognition of the contributions of people taking followership roles is an important signal to others in the organization that this is a valued role and one that, when chosen and acted on effectively, will be noted and honoured.

- ***Collaborate to Create Organizational Structures that Encourage the Taking of Followership Roles.*** Genuine shared-leadership structures must be in place before effective followership can truly be a viable role for employees to take. Teamwork is demonstrated as an effective way to accomplish organizational goals. Using that knowledge to create an environment in which both leadership and followership roles are expected and useful roles for people to take will create a more cooperative, vital, and thoughtful organization. Maintaining rigid hierarchical structures provides a climate that fosters ineffective followership. By broadening the opportunity to either lead or follow, the organization is more likely to tap the talents and energies of its employees. Out of such participation commitment grows.

Leaders can also do much to model effective followership by looking at their own behaviours and determining how to choose/exemplify followership. Smith suggested that leaders do so by:

- Asking questions instead of giving answers.
- Providing opportunities for others to lead you.
- Doing real work in support of others instead of only the reverse.
- Becoming a matchmaker instead of a “central switch.”
- Seeking common understanding instead of [superficial] consensus.¹²

CONCLUSION

How can the Army benefit from building effective followership skills at all levels of the organization? As we have seen in this brief exploration of the followership terrain, organizations of all kinds rely on individuals in follower roles to do a great deal of the work. For there to be a strong consonance between the mission of the organization, the goals developed by the members of the organization and the methods by which those missions and goals are pursued, there has to be effective interpersonal collaboration amongst the staff members of the organization.

Further, in tapping the potential in each employee (sometimes termed “empowerment”) and in releasing the creative powers of those employees, the library can benefit and, indeed, innovate. With every employee, regardless of title, position, or rank, working effectively together in an environment that respects the individual’s ability to consciously choose either the followership or the leadership role at any given moment, the organization will be able to unleash tremendous collaborative capacity within it.

Smith wrote, “We need to craft a different organizational culture, one that self-consciously practices and celebrates both the following and the leading skills in all of its people. In this culture, people are not ‘assets.’ They are continually shifting collaborations of individuals who make performance and change happen.”¹³

12. Smith, 205-06.

13. Smith, 207.

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ETOS DAN NILAI KETENTERAAN, HUBUNGANNYA DENGAN KES-KES MELIBATKAN DISIPLIN, MORAL DAN PERLANGGARAN KESELAMATAN OLEH ANGGOTA-ANGGOTA TENTERA DARAT

Oleh : Lt Kol Zulkifli Bin Ismail



PENGENALAN

Etos dan nilai ketenteraan merupakan elemen penting yang mendukung kredibiliti Tentera Darat di kaca mata umum apabila membicarakan masalah disiplin dan moral anggota-anggota TD. Persoalan moral bukanlah perkara baru malah telah mula di bincang sejak berdekat yang lalu berdasarkan beberapa kempen peperangan yang lalu. Pengekalan moral yang tinggi bukan hanya penting di masa perang malah perlu dikekalkan di masa aman. Masalah yang berlaku di dalam TD pada masa ini lebih menjurus kepada kes pelanggaran keselamatan dan moral di masa aman. Persoalan yang ingin diketengahkan ialah tentang apakah punca permasalahan dan siapa yang harus memikul tanggungjawab memperbaiki keadaan.

Di dalam membincang permasalahan yang berkaitan dengan nilai, beberapa persoalan yang perlu dijawab ialah pertama di manakah kita sekarang? Kedua, apakah yang ingin dicapai? Dan ketiga, bagaimanakah untuk mencapainya? Persoalan ini akan dibincangkan dengan lebih terperinci dalam ruangan analisis.

ETOS KETENTERAAN

Etos ketenteraan membawa erti kepercayaan dan keyakinan terhadap sekumpulan ciri-ciri moral yang ideal yang mana dapat mendorong dan menggembleng seluruh organisasi TD menjadi lebih efektif dan efisien. Etos juga ditafsirkan sebagai semangat dan tingkah laku yang baik bagi anggota dalam organisasi. Ianya mesti diamalkan dan dipraktikkan supaya menjadi suatu sifat yang positif. Jika amalan seumpama ini diteruskan ia akan menjadi norma kehidupan ketenteraan dan seterusnya menjadi budaya dalam TD itu sendiri. Sungguhpun proses ini memakan masa, namun apabila ia sudah menjadi budaya kepada organisasi TD, pelaksanaannya akan menjadi lebih mudah. Nilai-nilai ini amat penting dan perlu terus dipertahankan serta menjadikannya sebagai budaya kehidupan ketenteraan (Jabatan Arah Infantri, 2003).

Kertas kerja etos ketenteraan telah dibentangkan oleh Jabatan arah Infantri pada 9 Julai 2003 semasa

Seminar Pegawai Memerintah di Impiana Resort, Cherating, Pahang. Elemen-elemen etos ketenteraan yang dibentangkan ialah kepercayaan kepada Tuhan, taat setia, pengorbanan, disiplin, kehormatan, kejujuran, profesionalisme, keberanian dan semangat setia kawan.

Etos ketenteraan adalah suatu unsur kekuatan 'intangible' yang boleh menggerakkan anggota-anggota tentera melakukan apa sahaja termasuk berkorban nyawa dalam mencapai sesuatu misi. Ia merupakan elemen penentu kepada keberkesanan dan kecekapan serta kejayaan dalam pertempuran bagi sesebuah Angkatan Tentera di medan perang. Etos merupakan elemen moral yang penting dan ianya mesti ditanam di dalam setiap sanubari anggota TD. Kekuatan etos ketenteraan perlu dipupuk dan dibajai agar terus berkembang dan sehati dan dijadikan sebagai budaya kehidupan TD. Usaha dan amalan berterusan perlu dilaksanakan agar perkara ini dapat direalisasikan.

Panglima Divisyen Ketiga Infantri, semasa Seminar Pegawai Memerintah berlangsung (ketika itu Mej Jen Dato' Abdul Aziz bin Hj Zainal) menerangkan bahawa etos dalam definisi yang mudah ialah cara hidup atau 'is a way of life'. Ia merujuk kepada cara hidup ketenteraan yang perlu dipupuk dan disuburkan pada sebilang masa. Daripada penerangan yang beliau berikan jelas menunjukkan bahawa beliau lebih mementingkan maksud sebenar isu yang dibincangkan dalam bahasa yang lebih mudah difahami. Pemahaman yang mudah adalah penting kerana 'end user' kepada etos dan nilai ketenteraan ialah anggota peringkat bawahan yang mana kelulusan akademik mereka rata-rata adalah lebih rendah berbanding dengan pegawai. Jika bahasa yang digunakan agak tinggi dan penerangan yang diberikan agak mengelirukan maka natijahnya ialah impak yang kurang berkesan terhadap sebarang perlaksanaan terhadap sesuatu dasar.

NILAI KETENTERAAN

Nilai-nilai ketenteraan ialah seperti semangat kekitaan, setia kawan, disiplin, bersatu, sedia berkorban, keseragaman dan kesegakan, mematuhi arahan, kemahiran kerja adalah merupakan nilai-nilai yang perlu disuburkan semula di kalangan warga tentera. Beberapa insiden yang berlaku mutakhir ini berpunca daripada menurunnya pengamalan nilai-nilai ketenteraan di kalangan warga tentera. Antara insiden tersebut ialah kejadian memukul dan membunuh rakan sendiri yang boleh diselesaikan dengan penuh semangat kekeluargaan dan kekitaan (Mej Jen Dato' Paduka Hashim bin Yahya, Diari Mutiara 2003).

Beberapa kejadian yang berlaku menimbulkan persoalan kenapa perkara sedemikian masih berlaku kerana seseorang anggota tentera mempunyai nilai-nilai tertentu yang disemai semasa mula menjalani latihan.

NILAI

Dari sudut Sains Pengurusan nilai merupakan suatu kepercayaan asas mengenai perilaku - perilaku tertentu atau tujuan di sebalik kepercayaan disebabkan sesuatu yang diterima oleh individu atau masyarakat sebagai satu perkara yang penting dan tahu bagaimana pentingnya perkara berkenaan. Nilai akan mempengaruhi individu atau masyarakat dalam menentukan hierarki kepentingan yang berasaskan perkadaran yang dilihat dari segi keutamaan. Nilai juga merupakan orientasi emosi yang akan menentukan kecintaan dan kebencian terhadap pekerjaan yang dilakukan. Nilai akan menentukan 'standard' di mana setiap sesuatu di dalam masyarakat akan dipertimbangkan berdasarkan kepada 'standard' yang diterima pakai. Nilai dianggap sebagai sesuatu yang sering bertentangan dengan perlakuan yang kebiasaannya yang disukai oleh kebanyakan orang (Ab. Aziz Yusof, 2000).

Robbins (1998) pula menerangkan bahawa Rokeach mengklasifikasikan nilai kepada dua jenis, iaitu 'Nilai Pengkalan' (terminal) dan 'Nilai Instrumental'. Jenis pertama iaitu nilai pengkalan memberi penekanan kepada tujuan utama kewujudan sesuatu nilai yang menjadi matlamat penting kepada individu berkenaan dan kehidupannya. Jenis kedua dipanggil nilai instrumental yang menumpukan kepada cara bagaimana hendak mencapai nilai pengkalan.

Menurut Robbins (1998) lagi, nilai adalah sesuatu yang pada dasarnya berlawanan dengan perlakuan individu atau masyarakat. Nilai meliputi perkara-perkara yang betul, baik atau disukai demi kepentingan sesebuah organisasi. Kajian-kajian terdahulu oleh para sarjana mendapati nilai terdiri daripada nilai pengkalan dan nilai instrumental.

Nilai Pengkalan

Hasil beberapa kajian yang telah dijalankan menunjukkan bahawa nilai pengkalan meliputi kehidupan yang ceria, kehidupan yang aman, kecintaan kepada keamanan, kesejahteraan sejagat, persamaan, keselamatan keluarga, kebebasan, kebahagiaan, keselamatan negara, penghormatan diri dan persahabatan abadi. Ia lebih merupakan kepada hasrat yang diinginkan oleh setiap individu yang perlu dijadikan keperluan asas. Dalam pendekatan strategik ia dikenali sebagai 'apa yang hendak dicapai?'

Nilai-nilai Instrumental

Ia merupakan ciri-ciri atau kualiti yang harus ada pada setiap individu bagi mencapai nilai pengkalan. Nilai-nilai instrumental merangkumi bercita-cita tinggi, kerja kuat, keinginan yang tinggi, berfikiran terbuka, berkebolehan, kegembiraan, keberanian, kemaafan, saling membantu, kejujuran, intelektual, logik, ketaatan, bertanggungjawab dan kawalan diri. Dalam pengurusan strategik ia merujuk kepada persoalan yang kedua iaitu 'bagaimana untuk mencapainya?'

Clare (1970) pula membahagikan nilai kepada tujuh peringkat, beliau menerangkannya sebagai nilai peribadi dan cara hidup seperti berikut:

- **Peringkat 1:** Reaktif. Kumpulan ini tidak menyedari wujudnya diri mereka dan juga orang lain. Mereka memberi reaksi berasaskan kepada keperluan fisiologi. Jarang didapati di dalam organisasi. Ia lebih merujuk kepada bayi yang baru dilahirkan.
- **Peringkat 2:** Tribalistik. Kumpulan ini mempunyai kebebasan yang tinggi. Kuat dipengaruhi oleh tradisi dan kuasa yang diberi oleh pihak atasan.
- **Peringkat 3:** Egosentrik. Menyukai perlakuan yang kasar, agresif dan mementingkan diri sendiri. Hanya memberi respons jika kuasa digunakan terhadap mereka.
- **Peringkat 4: 'Conforming'.** Mempunyai toleransi yang rendah terhadap sesuatu yang berlainan dari kebiasaan, sukar untuk menerima nilai yang berbeza dari mereka. Mereka mengharapkan individu lain akan menerima nilai-nilai mereka.
- **Peringkat 5: Manipulatif.** Mencapai hasrat mereka dengan memanipulasi orang lain. Mereka ini adalah materialistik dan mengharapkan status yang lebih tinggi dan juga pengiktirafan.
- **Peringkat 6:** Sosiosentrik. Lebih mementingkan perhubungan baik sesama individu. Mereka menolak ciri-ciri materialistik, manipulasi dan 'conformity'.
- **Peringkat 7: 'Existential'.** Mempunyai toleransi yang tinggi terhadap perbezaan nilai. Mereka berani menentang sebarang sistem, polisi yang ketat, penyalahgunaan kuasa dan status.

Drucker (1999), menerangkan bahawa seseorang itu mesti mempunyai nilai yang sama dengan organisasi di mana beliau bekerja. Sekiranya individu berkenaan mempunyai nilai yang berbeza mungkin akan melibatkan kekecewaan atau tiada kepuasan kerja atau beliau akan menemui kegagalan.

Prestasi seseorang itu berkait rapat dengan nilai yang dipegang. Seseorang itu akan melakukan segala-galanya terhadap organisasi jika nilainya bertepatan dengan nilai organisasi. Seseorang itu tidak sepatutnya menukar secara zahirnya diri mereka kerana mereka tidak akan berjaya.

Walker (1984) pula berpendapat, individu akan menentukan nilai yang berkait rapat dengan pekerjaan mereka. Individu akan menilai sesuatu berbanding dengan yang lain kerana ia boleh memberikan kepuasan atau untuk kepentingan individu berkenaan. Benda dan manusia mempunyai ciri-ciri tersirat, lain orang akan mempunyai tanggapan dan penilaian yang berbeza.

Nilai adalah merupakan keinginan atau kepercayaan yang menggerakkan atau mempengaruhi seseorang di dalam perlakuannya. Nilai adalah merangkumi kejujuran, kesaksamaan, kesetiaan, adalah sebahagian dari tanggungjawab moral yang mencerminkan sikap terhadap sesuatu tindakan itu sama ada baik dan bertepatan bukannya yang memuaskan hati atau menggembirakan pelakunya.

Kertas kerja yang dibentangkan oleh Cawangan Perisikan TD semasa Seminar Pegawai Memerintah mendedahkan beberapa kes pelanggaran senjata api seperti melepaskan tembakan, mengacukan senjata, membawa senjata tanpa kebenaran, rompakan, penyeludupan, rampasan dan penyalahgunaan senjata api. Terdapat juga kes pelanggaran maklumat seperti mencagarkan, memalsukan BAT C 10 kepada ceti haram atau 'Along'.

Selain daripada itu kes pelanggaran keselamatan anggota seperti dadah, mencuri harta perkhidmatan, peras ugut, melindungi PTI, memiliki kad pengenalan awam, membunuh, bunuh diri, mencuri, pecah rumah, peras ugut pegawai atasan, penyeludupan, salah laku seks, sumbang mahram, perhubungan luar tabii, persetubuhan haram, mencabul kehormatan khalwat dan rogol (Cawangan Perisikan Markas TD, 2003).

Panglima Medan Tentera Darat di dalam Perintah Ulungnya juga telah menyentuh tentang aspek nilai iaitu nilai keanggotaan. Beliau menyarankan supaya dilaksanakan usaha melalui strategi 'Perlindungan Keanggotaan' untuk melahirkan anggota-anggota yang berkualiti. Beliau tidak mahu kehilangan anggota akibat daripada kemalangan, penyakit, pemberhentian akibat jenayah dan gejala sosial seperti penyalahgunaan dadah dan salah laku yang merugikan organisasi. Perlindungan anggota merupakan strategi yang berkesan dalam usaha membangunkan ketumbukan Medan yang bermotivasi tinggi, unggul, disegani dan digeruni. Setiap pemimpin perlu menentukan anggota mereka dilindungi dari keadaan yang boleh menjejaskan keselamatan nyawa dan imej Tentera Darat melalui amalan budaya hidup yang selamat, bersih dan sihat (Lt Jen Dato' Abdul Aziz Bin Haji Zainal, 2003).

ANALISIS KEKUATAN, KELEMAHAN, ANACAMAN DAN PELUANG (SWOT)

Analisis perlu dilakukan bagi mengenal pasti apakah kekuatan, kelemahan, peluang dan ancaman yang dialami sekarang berhubung dengan etos dan nilai ketenteraan. Apakah kelemahan dan ancaman yang mengakibatkan berlakunya gejala-gejala tidak sihat di kalangan anggota TD? Kita tidak perlu gusar jika hasil analisis menunjukkan banyak kelemahan dari segi pengurusan organisasi yang menyebabkan terjadinya beberapa insiden yang telah menjejaskan nama baik TD. Melalui analisis SWOT juga kita akan dapat menjangka ancaman yang bakal menimpa jika kelemahan-

kelemahan yang dikenal pasti tidak ditangani dengan baik. Sebagai langkah penambahbaikan, segala kekuatan dan peluang yang dimiliki haruslah dimanfaatkan dengan sebaik mungkin untuk memupuk nilai-nilai murni atau nilai ketenteraan yang baik.

Di manakah kita sekarang? Tentera Darat pada masa ini telah berkembang pesat dari segi sumber manusia yang berintelektual, persenjataan dan teknologi yang canggih serta memiliki doktrin peperangan yang hebat berbanding dengan kebanyakan negara di dunia. Sejarah telah membuktikan TD telah berjaya menamatkan perjuangan pengganas komunis pada tahun 1989, suatu perjuangan yang amat sukar yang memakan masa yang panjang. Sejarah juga telah membuktikan TD telah menunjukkan prestasi yang cemerlang semasa bertugas di bawah panji-panji PBB seperti di Congo, Namibia, Kampuchea, Somalia dan Bosnia. Rumusannya, etos dan nilai ketenteraan yang dipupuk di kalangan warga TD tidak menunjukkan sebarang kecacatan dalam situasi peperangan atau semasa menjalankan tugas pengaman. Impaknya begitu hebat sehingga anggota TD amat dikagumi di mata dunia di atas sikap serta tahap profesionalisme yang telah ditunjukkan.

Apa yang menyedihkan ialah kebanyakan insiden pelanggaran keselamatan dan moral berlaku semasa tugas di masa aman. Beberapa kes yang dilaporkan telah menjejaskan nama baik TD. Ini menunjukkan bahawa etos serta nilai ketenteraan yang dipupuk selama ini mungkin hanya sesuai untuk masa perang sahaja. Sungguhpun kenyataan ini masih boleh dipertikaikan dan hanya boleh dianggap sebagai hipotesis sahaja, namun ia juga bukanlah suatu kenyataan yang tidak berasas apabila merujuk kepada kes-kes yang berlaku. Nilai-nilai ketenteraan berada pada tahap yang tertinggi semasa menjalankan tugas operasi lebih-lebih lagi apabila berada di luar negara tetapi apabila bertugas di masa aman berbagai kejadian yang berlaku telah mencemarkan nama baik TD. Kajian lanjut terhadap

perkara ini perlu dilakukan untuk mendapatkan data-data daripada responden-responden yang berkenaan. Analisis terperinci perlu dilakukan untuk mengenal pasti faktor-faktor yang relevan yang menyumbang kepada permasalahan yang dihadapi.

Persoalan yang kedua ialah 'apa yang ingin dicapai?' Jawapannya adalah jelas iaitu untuk mengurangkan kes-kes yang melibatkan disiplin dan moral anggota-anggota TD. Sungguhpun jumlah anggota yang terlibat dalam kes-kes yang berlaku sangat kecil berbanding dengan jumlah anggota dalam perkhidmatan, namun kesan yang dialami sangat serius kerana persoalan moral amat penting lebih-lebih lagi apabila melibatkan anggota tentera. Apabila beberapa kes yang melibatkan moral anggota Tentera Darat di siarkan oleh media-media tempatan, ia menunjukkan seolah-olah Tentera Darat sedang menghadapi krisis moral yang serius dan perlu ditangani segera.

Persoalan terakhir ialah 'bagaimanakah untuk mencapainya?' Ini adalah persoalan yang amat sukar untuk dijawab. Bak kata Tun Dr Mahathir Mohamed 'perjuangan kita belum selesai', perjuangan membanteras kes yang melibatkan moral adalah bersifat 'on going' yang memerlukan pemantauan secara berterusan. Apa yang perlu adalah Tentera Darat perlu menubuhkan suatu kumpulan yang bertanggungjawab mengurus, mengkaji dan mengambil tindakan penambahbaikan untuk meningkatkan kualiti nilai.

KELEMAHAN

Kelemahan yang mungkin wujud di dalam organisasi Tentera Darat pada masa kini ialah pengetahuan tentang nilai tidak diterapkan di dalam pelajaran secara formal semasa latihan asas ataupun kursus lanjutan. Pengetahuan tentang nilai mungkin pada masa ini hanya disarankan di dalam perintah ulung, seminar, ucapan dan perjumpaan-perjumpaan tetapi tidak disusuli dengan penerangan secara

terperinci terutamanya kepada anggota bawahan yang agak sukar untuk memahami kandungan perintah ulung yang pada lazimnya disusun dalam bahasa yang agak tinggi bagi golongan berkenaan. Seharusnya ada modul khas untuk memperjelaskan tentang nilai-nilai yang perlu ada bagi setiap anggota tentera. Ianya perlu dijadikan suatu budaya untuk menyemai, menyubur dan mengekalkan nilai yang baik pada sebilang masa.

Kemungkinan juga kebanyakan organisasi Tentera Darat agak lemah dari segi nilai instrumental. Keadaan ini menyebabkan berlakunya berbagai masalah yang berhubung kait dengan moral. Nilai instrumental adalah sesuatu yang sukar untuk dicapai jika tidak diberi pengetahuan secara formal dan dipupuk secara berterusan. Pendekatan selama ini lebih kepada pendekatan secara tidak langsung yang mana ia lebih menjurus kepada andaian bahawa seseorang anggota terlatih itu harus memiliki nilai instrumental yang sewajarnya.

Nilai Individu Tidak Sama Dengan Nilai Organisasi.

Seperti mana yang dijelaskan oleh Robbins (1998) nilai adalah sesuatu yang pada dasarnya berlawanan dengan perlakuan individu atau masyarakat. Anggota-anggota yang sering kali terlibat dengan pelanggaran disiplin adalah terdiri daripada mereka yang mempunyai masalah moral. Mereka tidak dapat menghayati nilai-nilai yang cuba dipupuk secara tidak langsung semasa latihan atau semasa menjalani tugas seharian di pasukan. Mereka sanggup melakukan apa sahaja asalkan dapat memenuhi hasrat hati mereka tanpa memikirkan kesannya terhadap organisasi. Anggota yang terlibat dengan penagihan dadah sanggup melakukan apa sahaja jenayah seperti mencuri dan meragut bagi mendapatkan wang.

Wujudnya Ciri Egosentrik

Terdapat juga kalangan anggota yang memiliki sifat egosentrik yakni menyukai perlakuan kasar,

agresif dan mementingkan diri. Sifat buruk sedemikian agak sukar dikesan di awal perkhidmatan seseorang, namun setelah sekian lama berkhidmat sifat itu akan mula bersemi. Jika perkara ini tidak dapat ditangani dengan sewajarnya, anggota berkenaan akan melakukan apa sahaja menurut kehendak hati seperti memukul malah membunuh kawan mereka sendiri walau dalam hal yang melibatkan masalah yang kecil.

Wujudnya Ciri Manipulasi

Sejak akhir-akhir ini Tentera Darat telah digemparkan oleh beberapa kes perolehan dan kerja-kerja senggaraan kem yang tidak diluluskan melalui Sijil Peruntukan Kewangan. Perbuatan ini adalah melanggar prosedur yang telah ditetapkan kerana tidak mematuhi peraturan yang telah digariskan. Seperti mana yang ditegaskan oleh Clare (1970), kumpulan Manipulatif mencapai hasrat mereka dengan memanipulasi orang lain. Mereka ini adalah materialistik dan mengharapkan status yang lebih tinggi dan juga pengiktirafan.

Kekurangan Infrastruktur Dan Keadaan Yang Serba Daif Dek Kerenah Birokrasi

Di kebanyakan tempat, di mana pembangunan begitu pesat berlaku namun keadaan di beberapa buah kem tentera masih dalam keadaan lama yang telah usang. Bangunan-bangunan kayu yang 'sakit mata memandang' masih berdiri menongkah arus pembangunan. Keadaan seperti ini jika dibiarkan berterusan akan menyuburkan benih kebencian kepada organisasi oleh individu yang tidak berfikir panjang di dalam melakukan sebarang tindakan.

Delima Status Sosial Yang Semakin Terbuka

Organisasi ketenteraan pada masa ini sedang menghadapi delima status sosial yang agak meruncing. Apakah ukurannya status sosial seseorang anggota tentera jika dibandingkan

kumpulan yang sama di sektor awam atau swasta? Apakah 'standard' yang ditetapkan untuk seseorang anggota tentera mengikut pangkat atau tangga gaji. Masalah gaji bersih atau 'take home pay' yang rendah amat merunsingkan pemerintah-pemerintah pasukan tentang bagaimanakah anggota berkenaan boleh meneruskan kehidupan dengan sempurna. Jumlah tanggungan didapati melebihi pendapatan. Kekeliruan juga timbul jika dinilai dari segi gaya hidup. Anggota tentera peringkat bawahan juga berkereta dengan jenis yang sama seperti mana para pegawai mereka. Apabila berlaku kes kecurian yang melibatkan harta awam atau harta perkhidmatan di kem-kem tentera, kes ragut, penipuan, cetai haram, berbagai persoalan boleh dibangkitkan. Kita boleh merangka beberapa hipotesis yang boleh dibuktikan melalui kajian saintifik tentang hubungan di antara masalah pelanggaran moral yang berlaku dengan delima status sosial yang dialami oleh anggota-anggota Tentera Darat.

Kelemahan Komunikasi

Sering kali kita mendengar ungkapan 'communication breakdown' apabila mengkaji semula beberapa permasalahan yang berlaku. Tentera Darat tidak kurang dengan arahan dan prosedur-prosedur yang mantap dan jika dipatuhi semuanya maka tidak akan berlaku beberapa masalah pelanggaran etika dan moral. Menyentuh tentang komunikasi, kita perlu menilai tahap kepuasan komunikasi di dalam organisasi Tentera Darat. Kepuasan komunikasi perlu dilihat daripada beberapa dimensi iaitu sumber maklumat, saluran komunikasi dan skil komunikasi. Sumber maklumat begitu banyak sekali terdapat di pasukan-pasukan, begitu juga dengan saluran komunikasi di mana Tentera Darat mempunyai sistem saluran komunikasi yang terbaik. Berkemungkinan dalam aspek skil komunikasi ada sedikit masalah yang mana jika tidak ditangani dengan berkesan boleh menyebabkan beberapa masalah yang dihadapi akan terus berlaku di masa hadapan.

Pengurusan Sumber Manusia

Pengurusan sumber manusia pada hari ini menjadi semakin kompleks. Kita tidak perlu membuat perbandingan di antara anggota tentera pada masa dahulu dan sekarang kerana keadaan telah banyak berubah. Aspek pemilihan anggota dan latihan perlu disesuaikan dengan corak anak muda pada zaman ini lebih-lebih lagi di zaman alaf baru ini. Proses pemilihan jika tidak dilakukan dengan terperinci akan mengakibatkan anggota-anggota yang pernah terlibat dengan berbagai masalah sosial dan gejala najis dadah akan terlepas masuk ke dalam perkhidmatan yang akan menjejaskan imej Tentera Darat.

Pemantauan dan kawalan terhadap anggota-anggota memerlukan kajian yang teliti untuk membentuk budaya hidup yang cemerlang. Status sosial yang banyak berubah mungkin memerlukan rutin seharian yang berbeza yang boleh mengawal cara hidup anggota tentera supaya tidak bertentangan dengan nilai-nilai ketenteraan. Anggota-anggota bujang lebih senang tinggal sendirian di bilik bujang yang dilengkapi dengan berbagai peralatan stereo yang mungkin boleh menjurus kepada aktiviti-aktiviti yang melanggar moral jika tiada kawalan dan pemantauan yang berkesan di pasukan.

ANCAMAN

Status Sosial Yang Terbuka

Setiap insan sentiasa inginkan yang terbaik untuk meneruskan kehidupan. Setiap individu itu mempunyai objektif yang tersendiri yang mungkin mempunyai persamaan di antara satu dengan yang lain. Persoalannya ialah bagaimanakah untuk mencapai matlamat hidup yang disasarkan? Keinginan manusia memang tidak terhad namun cara perlaksanaan untuk mencapainya agak berbeza dan terhad. Golongan yang berfikiran positif akan melakukan berbagai usaha untuk mencapai

matlamat hidup berlandaskan norma-norma kehidupan. Bagi golongan yang hanya mementingkan diri sendiri, mereka akan melakukan apa sahaja asalkan tercapai objektif mereka. Orang-orang yang terdesak akan melakukan apa sahaja tanpa memikirkan kepentingan organisasi. Masalah 'take home pay' atau gaji bersih yang terlalu rendah iaitu kurang daripada dua puluh peratus daripada gaji pokok adalah sesuatu yang sukar diterima akal. Masalah ini memerlukan kajian secara terperinci kerana jika masalah ini tidak ditangani dengan berkesan maka kes pelanggaran keselamatan dan moral oleh anggota-anggota yang bermasalah akan terus berlaku dan imej Tentera Darat akan sentiasa menjadi taruhan.

Pengaruh Dari Luar

Tentera Darat juga tidak terhindar daripada ancaman kesan daripada impak globalisasi terutamanya yang melibatkan keganasan dan berbagai lagi kegiatan puak-puak pelampau yang mungkin menjadikan anggota-anggota dan kem tentera sebagai sasaran. Jika nilai-nilai ketenteraan tidak kuat bersemi di kalangan anggota tentera maka sudah pastilah mereka akan mudah terpengaruh dengan hasutan, pujukan atau tekanan pihak-pihak tertentu. Kekuatan dalaman anggota Tentera Darat perlulah diperkukuhkan. Apakah sumbangan yang boleh diberikan oleh perkhidmatan dalam hal ini? Jika kita hanya mengharapkan hasil yang terbaik tanpa disertai dengan sumber yang munasabah maka hasilnya sudah boleh dijangka.

KEKUATAN

Kepimpinan Yang Baik

Tentera Darat memang terkenal dengan stail kepimpinan yang baik. Persoalannya jika perkara ini benar, kenapa anggota-anggota yang dipimpin masih melakukan perkara-perkara yang melanggar etika perkhidmatan. Kemungkinan juga kurangnya penekanan yang diberikan tentang aspek nilai tatkala

seseorang pemimpin di berbagai peringkat berinteraksi dengan anggota-anggota bawahan. Kekuatan kepimpinan yang baik seharusnya digunakan untuk menyemai nilai-nilai ketenteraan yang dapat membina kekuatan rohani anggota-anggota di dalam menghadapi segala cabaran.

Organisasi Yang Bersistematik

Setiap organisasi dalam Tentera Darat disusun dengan begitu bersistematik sekali. Pengurusan sumber manusia yang baik dapat dilaksanakan dengan berkesan. Fokus pengurusan mestilah jelas iaitu untuk membentuk seorang insan yang tinggi nilainya. Penekanan haruslah diberikan dalam menganalisis tentang kekuatan dan kelemahan yang berpotensi menimbulkan masalah. Organisasi juga perlulah berupaya mengenal pasti potensi masalah berdasarkan ancaman-ancaman yang bakal dihadapi jika kelemahan yang dikenal pasti tidak ditangani dengan sewajarnya.

Penyuburan Profil Tentera Darat

Profil Tentera Darat yang diwujudkan adalah baik untuk dihayati dan dipraktikkan. Ianya menerangkan tentang beberapa perkara penting berkaitan nilai ketenteraan. Jika pengurusan mendapati beberapa aspek yang digariskan kurang sesuai dengan peredaran masa, pengubahsuaian boleh dilakukan di mana perlu. Asas yang digariskan adalah baik untuk menjadikan Tentera Darat sebuah organisasi yang unik.

Prosedur Dan Perintah Tetap

Tentera Darat tidak ketinggalan dari segi prosedur dan perintah tetap. Kekurangannya ialah kebanyakan perintah tetap yang ada sudah lama dan tidak dibuat semasa kaji dari masa ke semasa. Pematuhan yang berterusan terhadap prosedur dan perintah tetap boleh mencegah anggota-anggota daripada terlibat dalam berbagai kegiatan yang boleh mencemarkan imej Tentera Darat.

PELUANG

Nilai Instrumental

Nilai instrumental boleh dipupuk dengan cara mendokumentkannya di dalam 'ISO 9001 2000' yang mana akan diimplementasikan oleh semua organisasi TD di masa hadapan. Penyesuaian boleh dilakukan di mana yang perlu bagi membolehkan ia dilaksanakan dengan teratur dan efisien.

Sukatan pelajaran bagi kursus atau latihan boleh disusun semula bagi setiap peringkat dengan memasukkan nilai-nilai penting ketenteraan. Subjek gelagat organisasi perlu didedahkan kepada semua peringkat anggota TD mengikut tahap-tahap yang bersesuaian kerana ia merupakan nilai yang perlu ada pada setiap individu untuk mengelakkan daripada berlakunya gejala-gejala yang tidak sihat.

Laporan penilaian prestasi juga perlu dikemas kini agar kualiti nilai ketenteraan bagi setiap anggota dapat diukur dengan tepat tanpa sebarang prejudis. Walaupun pada masa ini penilaian prestasi memang sudah dilaksanakan sejak sekian lama, namun persoalannya adakah perkara ini benar-benar dilakukan dengan sewajarnya. Kajian perlu dilakukan terhadap laporan penilaian prestasi yang dibuat oleh pegawai atasan terhadap anggota-anggota yang terlibat dalam beberapa kes yang melibatkan moral.

Menjadikan Perkara Tersirat Lebih Jelas (Tangible The Intangible)

Perkara ini perlu dilakukan kerana selagi perkhidmatan gagal membuat pengukuran terhadap perkara 'intangible' maka masalah yang dialami sukar dibendung kerana sindrom yang ada gagal dihapuskan. Apa yang dilakukan sekarang hanyalah menangani 'simptom' sahaja. Perkara ini boleh dilakukan dengan bantuan pakar-pakar IT yang telah terlatih di dalam TD untuk mereka cipta perisian khas bagi mengukur dan membuat penilaian terhadap nilai ketenteraan. Analisis boleh dilakukan dengan mudah

dengan adanya pakej seperti SPSS yang akan membolehkan data-data yang di kumpul dianalisis untuk mendapatkan rumusan yang konkrit terhadap permasalahan yang dihadapi.

Pendedahan Kepada Pengurusan Kewangan Peribadi

Kebanyakan kes pelanggaran moral yang berlaku di dalam Tentera Darat mempunyai kaitan dengan masalah kewangan. Adalah wajar pelajaran pengurusan kewangan peribadi didedahkan secara formal kepada semua peringkat anggota Tentera Darat semasa di peringkat awal perkhidmatan lagi. Seperti mana ditegaskan oleh Robert Kiyosaki dalam bukunya 'Rich Dad Poor Dad', wang adalah kuasa, tetapi yang paling penting sekali ialah pelajaran tentang kewangan. Pelajaran tentang wang tidak pernah diajar di sekolah. Wang datang dan pergi, tetapi jika kita mempunyai pengetahuan tentang kewangan dan tahu bagaimana memanfaatkan, kita akan memiliki kuasa untuk membina kekayaan (Kiyosaki, 2001).

Berbagai kursus dan seminar yang dihadiri oleh anggota Tentera, tidak banyak silibus tentang aspek pengurusan kewangan yang didedahkan. Tidak keterlaluan jika dikatakan kebanyakan anggota langsung tidak mempunyai pengetahuan tentang pengurusan kewangan (tidak celik kewangan) lantaran terlibat dengan gejala berhutang, pinjaman melalui ceti haram dan berbagai lagi aktiviti yang boleh mencemarkan nama baik Tentera Darat.

Kawalan Di Peringkat Atasan

Kemudahan-kemudahan pinjaman yang ada di dalam perkhidmatan seperti pinjaman perumahan, pinjaman kenderaan, Koperasi Tentera dan kemudahan PERNAMA turut menyumbang kepada masalah kewangan anggota-anggota Tentera Darat. Kawalan yang lebih ketat hendaklah dilakukan sebelum sesuatu pinjaman itu diluluskan. Adalah memmeranjatkan apabila

terdapat jumlah potongan anggota tentera melebihi lapan puluh peratus daripada gaji kasar bulanan. Bagaimanakah seseorang anggota tentera itu boleh meneruskan kehidupan dengan hanya gaji bersih dua puluh peratus sahaja. Kebanyakan anggota terpaksa menanggung jumlah potongan yang banyak kerana mengambil pinjaman perumahan. Kenapakah mereka harus membeli rumah sedangkan pada zahirnya mereka tidak mampu. Sebelum sesuatu pinjaman itu diluluskan, semakan secara terperinci hendaklah dilakukan kerana yang akan menanggung beban ialah anggota itu sendiri.

Adalah tidak adil jika ada pihak yang sengaja mengaut keuntungan hasil daripada kemudahan yang disediakan tanpa memikirkan masa depan anggota-anggota tentera. Sungguhpun sekatan boleh dilakukan di peringkat pasukan, namun kadangkala perkara ini dapat juga dibolosi tanpa dapat dikesan oleh pihak pemerintah pasukan. Semakan akhir oleh Urusan Gaji Angkatan Tentera atau oleh institusi yang berkenaan dengan sesuatu pinjaman boleh membantu untuk mengelakkan berlakunya masalah yang boleh menjejaskan imej Tentera Darat.

PENUTUP

Tentera Darat mempunyai kekuatan tersendiri berhubung dengan etos dan nilai ketenteraan. Walau bagaimanapun kekuatan ini hendaklah digembleng dengan sepenuhnya untuk membina kekuatan individu sebagai benteng terakhir untuk melakukan perkara-perkara yang melanggar etika dan moral. Anggota-anggota yang terlibat dengan kes pelanggaran moral tidak mepedulikan nilai-nilai yang ada kerana terdesak disebabkan kesempitan hidup atau pengaruh luaran yang lebih kuat mempengaruhi.

Sungguhpun etos dan nilai ketenteraan mempunyai hubungannya dengan kes-kes melibatkan disiplin dan moral anggota-anggota Tentera Darat, namun kajian terperinci hendaklah dilakukan untuk mengenal pasti apakah dimesi-dimensi nilai yang relevan. Pelan tindakan yang jitu hendaklah digubal berdasarkan kekuatan yang ada untuk mengatasi segala kelemahan dan menjadi perisai kepada segala ancaman yang bakal menjelma. Kekuatan itu hendaklah sentiasa dipupuk dan diperkukuhkan dari masa ke semasa. Tanpa kekuatan nilai ketenteraan yang jitu, anggota-anggota Tentera Darat akan sentiasa terdedah kepada pelbagai ancaman yang semakin hari semakin mencabar.

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Lt Kol Zulkefli bin Ismail telah ditauliahkan ke dalam Kor Ordnans Diraja pada tahun 1982. Beliau memiliki Ijazah Sarjana Sains (Pengurusan) pada tahun 2002 daripada UUM dan telah menghadiri beberapa kursus pengurusan di dalam dan luar negeri iaitu 'Creative Thinking and Problem Solving' di MIM pada tahun 1992 serta 'Defence Resource Management Course' di Naval Postgraduate School, California, USA pada tahun 1994. Beliau pernah menyandang beberapa jawatan penting di Markas Formasi, jurulatih di Cawangan Kadet, Maktab Tentera Diraja dan Jurulatih Kanan Cawangan Latihan Pegawai dan Pengurusan di PULNORD. Kini beliau menjawat jawatan Pegawai Memerintah 72 Batalion Kor Ordnans Diraja.

ISU PEMINDAHAN SENJATA GLOBAL DAN IMPAKNYA KEPADA SISTEM ANTARABANGSA

— Oleh : Kapt Mohd Andri bin Abdul Rahman —

“We recognised arms as not a means to starting a war, but as a means to stopping a war”

Sir Raymond Smith
(Arms salesman in Venezuela), 1975

PENDAHULUAN

Kata-kata hikmat di atas disebut oleh Anthony Sampson di dalam bab yang pertama di dalam bukunya **The Arm Bazaar**. Ianya bermaksud setiap negara yang membelanjakan peruntukan yang banyak untuk memperengkapkan angkatan tentera negara masing-masing bukan untuk persiapan berperang tetapi hanya untuk mempertahankan dan mengelakkan diri dari terlibat dengan peperangan adalah fahaman yang diperjuangkan oleh ‘realisme’. Di dalam perlumbaan senjata dunia, pejuang ‘realisme’ mengatakan **‘the best way to prevent war is to prepare for war itself’**. George Thayer mengatakan tanpa kuantiti senjata moden yang banyak presiden Nasser sudah pasti tidak akan mahu mengajak Israel untuk berperang pada tahun 1956 dan 1967, begitu juga Sukarno jika dia tidak mempunyai senjata yang banyak belum tentu tentera beliau mahu berkonfrontasi dengan Malaysia dan merampas Irian Barat. Peperangan di antara Pakistan dan India di dalam perebutan Kashmir sudah pasti tidak akan terjadi pada tahun 1965, juga tidak akan berlaku perang saudara Yemen atau di Congo, begitu juga di Korea dan Vietnam dan semua peperangan yang berlaku selepas tahun 1945.

George Thayer menambah lagi bahawa perdagangan senjata telah menggalakkan perlumbaan senjata dan telah mengubah konflik

politik kepada peperangan. Ini telah berlaku beberapa kali di Timur Tengah sejak dahulu dan kita telah menyaksikan bagaimana negara Iraq dimusnahkan dengan jumlah kuantiti senjata dan bom yang secara relatif lebih banyak dengan jumlah yang digunakan di dalam peperangan dunia pertama dan kedua.

Kita juga dapat saksikan peperangan yang berlaku sepanjang tahun di merata pelosok dunia terutama di Kashmir, Afrika dan di rantau Balkan adalah berpunca dari perlumbaan senjata. Perlumbaan senjata di Amerika Latin walaupun belum berlaku peperangan antara negara, namun ianya telah mendorong kerajaan negara-negara berkenaan untuk menggunakan kekerasan sebagai jalan penyelesaian kepada konflik antarabangsa. Didapati hampir 90% peperangan yang berlaku pasca perang dunia pertama dan kedua di kawasan ‘under developed’ dan konflik tersebut berlaku dengan menggunakan persenjataan yang diimport.

Sebarang negara boleh memperoleh senjata dengan mudah dari banyak pembekal yang hanya memikirkan keuntungan semata-mata dari senjata kecil hinggalah kepada kereta kebal dan jet pejuang, kapal selam dan sebagainya. Walaupun untuk mendapatkan persenjataan yang besar mungkin terpaksa melalui prosedur dan ianya adalah terhad, namun pengguna mampu membeli-belah melalui

sumber atau orang tengah yang tidak pernah memikirkan akibatnya. Walaupun ada berbagai peraturan dan larangan terhadap penjualan dan penggunaan senjata yang bertujuan baik, didapati tidak efektif dan kita pernah lihat banyak 'sekatan' yang tidak efektif dan tidak bernilai. Anthony Sampson memberi contoh konflik antara Pakistan dan India yang telah berlaku pada tahun 1965, walaupun 'sekatan' telah dikenakan terhadap Pakistan, namun ia telah menerima kira-kira 90 buah jet pejuang 'F 86 Sabre' untuk mempertingkatkan angkatan udaranya. Telah didapati jet pejuang tersebut telah dieksport oleh Jerman Barat yang sepatutnya ke Iran tetapi telah dihantar ke Pakistan oleh orang tengah.

PERDAGANGAN SENJATA ANTARABANGSA

Sejak tamatnya perang dingin, penjualan senjata konvensional telah menurun dari aspek nilai lebih daripada setengah purata tahunan tahun 1980an. Berdasarkan kepada penurunan yang drastik di antara tahun 1990 hingga 1992, paras tahunan telah mencapai asas baru di dalam lingkungan \$30 bilion. Hampir tiga perempat dari pengurangan ini adalah dari pasaran Soviet dan Pakatan Warsaw termasuk negara pelanggan bekas Soviet Union. Penurunan permintaan di kalangan negara sekutu NATO telah di 'offset' oleh pembelian berterusan dari Timur Tengah dan beberapa negara Asia Timur.

Berdasarkan kepada perangkaan awal untuk tahun 1995, nilai penghantaran mungkin telah meningkat berdasarkan kepada perangkaan sebenar berjumlah 15% jika dibandingkan pada tahun 1994. Hampir semua pertumbuhan ini dapat dilihat datangnya dari Timur Tengah dan Asia Timur.

Pembekal

Jika tidak ada pembeli maka sudah pasti tidak ada pembekal dan begitulah sebaliknya. Dewasa ini, perdagangan senjata adalah merupakan aktiviti penting yang dijalankan oleh kerajaan sesebuah

negara daripada syarikat-syarikat swasta. Kebanyakan negara pengeksport dan pembekal utama senjata mereka (kerajaan) adalah penjual dan sebagai pihak berkuasa pemberi lesen. Di negara Soviet, semua senjata dibuat di pusat-pusat kerajaan dan dijual oleh kerajaan sendiri manakala di Amerika Syarikat pula hampir 70% dari eksport senjata dianggap penjualan kerajaan dari swasta. Begitu juga di negara kita Malaysia, syarikat-syarikat pembuat peralatan pertahanan seperti senjata dan kenderaan tentera hampir sebahagian besar ekuitinya dipegang oleh syarikat-syarikat milik kerajaan.

Pihak pembekal di pasaran antarabangsa boleh dibahagikan kepada beberapa kumpulan berdasarkan kepada nilai persenjataan yang dieksport. Amerika Syarikat adalah pembekal yang dominan yang telah menguasai hampir setengah pasaran dunia dan menjual senjata bernilai lebih \$15 bilion setiap tahun sejak tahun 1992. Kumpulan kedua adalah Perancis, Rusia dan United Kingdom di mana purata penjualan tahunan mereka secara tetap adalah diparas \$1 bilion setiap tahun, diikuti oleh Jerman dan China yang jumlah eksportnya telah menurun sejak tahun 1993. Setiap tahun, keenam-enam negara ini mengeksport bekalan senjata bernilai hampir 80% hingga 90 % daripada keseluruhan perdagangan senjata antarabangsa.

Amerika Syarikat

Perdagangan senjata oleh Amerika Syarikat dengan negara luar merupakan satu isu yang hangat diperkatakan. Sejak beberapa dekad yang lalu, perdebatan awam ke atas bantuan ketenteraan dan bantuan senjata telah bertukar menjadi pertandingan hebat di antara kongres dan cawangan/bahagian eksekutif tentang polisi pemindahan senjata. Perdebatan hangat ini telah berpanjangan dan menimbulkan persoalan tentang peranan Amerika Syarikat terhadap dunia, konflik serantau dan di dalam mengekalkan perseimbangan kuasa dunia. Berdasarkan faktor sejarah, rancangan bantuan/

Jadual 1 : Negara Pembekal kepada Perdagangan Senjata Antarabangsa

\$10m- \$50m	\$50m- \$100m	\$100m- \$200m	\$200m- \$1b	\$1b- \$10b	\$10b +
(a)	(b)	(c)	(d)	(e)	(f)
Argentina	Australia	Bulgaria	Belgium	Perancis	USA
Belarus	Austria	Iran	Brazil	Rusia	
Denmark	Chile	Jepun	Kanada	UK	
Mesir	Indonesia	Korea Utara	Rep Czech	Jerman	
Finland	Malaysia	Poland	FRY	China	
Greece	Norway	Portugis	Israel		
Hungary	Romania	Korea Selatan	Itali		
India	Singapura	Ukraine	Belanda		
Kazastan	Slovakia		Afrika Selatan		
Mexico			Sepanyol		
Pakistan			Sweden		
Turki			Switzerland		
Uzbekistan			Zimbabwe		
Pasaran Saham (%)					
0-1 %	1-2 %	2-4 %	5-10 %	35 - 40 %	45%-55%

Sumber: *Military Balance 1996/97.*

pemindahan senjata oleh Amerika Syarikat satu ketika dahulu adalah sebagai sebahagian dari cara untuk membendung (**'contained'**) perluasan pengaruh komunisme. Sejumlah senjata telah diberikan kepada sesiapa yang sanggup menjalankan tugas ini. Namun apabila situasi berubah di mana fahaman komunisme tidak lagi menjadi ancaman, Washington telah tidak mengubah program bantuan persenjataannya bahkan telah terus melambatkan sejumlah besar senjata ke dalam pasaran dunia hingga sekarang.

Dewasa ini pemindahan senjata oleh Amerika Syarikat mencakupi hampir setengah perdagangan senjata global berbanding di antara satu perempat

dan satu pertiga sewaktu tahun 1980an. Amerika Syarikat mengambil bahagian utama di dalam pemindahan senjata kepada negara-negara yang mempunyai perjanjian keselamatan **'bilateral'** ataupun **'multilateral'** terutamanya NATO, Jepun, Korea Selatan, Taiwan dan Israel serta beberapa negara di Timur Tengah. Kebanyakan penjualan senjata berdasarkan transaksi di antara kerajaan dengan kerajaan yang dilaksanakan oleh **"Department of Defence"** melalui **'Foreign Military Sales Programme (FMS)'** tetapi penjualan komersial secara langsung (swasta kepada kerajaan) telah melebihi perbandingan jumlah penjualan disebabkan oleh transaksi perbelanjaan tambahan kepada **FMS**.

Rusia, Negara Bekas Republik Soviet dan Bekas Pakatan Warsaw

Penurunan mendadak oleh bekalan persenjataan sejak dari tahun 1992 adalah dari negara bekas Soviet terutama Rusia dan bekas negara satelit Eropah Timur Soviet. Sebab utama penurunan ini adalah kerana tamatnya perang dingin dan yang lebih penting ialah efek keruntuhan ekonomi bekas Kesatuan Soviet dan negara sekutunya. Rusia dewasa ini dilaporkan hanya menguasai lebih kurang 6-10% pasaran pemindahan senjata antarabangsa di mana pada kebiasaannya, kesatuan Soviet menguasai sekurang-kurangnya satu pertiga dari pasaran global. Sejak dari tahun 1992, perolehan pertahanan Rusia berkurang, lebih kurang dua pertiga dari tahap purata nilai yang dikeluarkan oleh Soviet. Ini disebabkan oleh kekangan fiskal yang juga mengakibatkan '**soft credit**' untuk membiayai pembelian persenjataan oleh pembeli luar telah jauh berkurang. Walaupun demikian, batasan ini tidak menghalang usaha pihak kerajaan dan industri untuk membina semula perdagangan senjata Rusia melalui asas komersial dan telah didapati ada tanda-tanda pemulihan.

Atas sebab-sebab ekonomi, Menteri Pertahanan Rusia, Igor Sergevyev berkata, pihak tentera sedang di dalam proses membuat keputusan untuk mengurangkan tenteranya dari 1.2 juta kepada hanya 850,000 orang kerana Rusia sudah tidak mampu untuk membiayai ketumbukan tentera yang sangat besar. Lagipun belanjawan pertahanan Rusia dewasa ini hanyalah kira-kira \$5.1 bilion berbanding dengan belanjawan tahunan Amerika Syarikat yang berjumlah \$290 bilion. Sewaktu berada di dalam pakatan Warsaw, Rusia mempunyai sebuah angkatan tentera yang besar lagi kuat tetapi faktor ekonomi menyaksikan Rusia telah terpaksa menyusun semula struktur tenteranya yang ternyata tidak mampu lagi untuk menghadapi tentera NATO. Tambahan pula angkatan tentera Rusia mempunyai simpanan peralatan tentera yang diisytiharkan berlebihan di bawah '**Conventional Armed Forces**

In Europe (CFE) Treaty' yang telah ditandatangani pada 19 November 1990. Perjanjian tersebut telah dibuat semakan semula dan telah ditandatangani oleh pemimpin 30 buah negara pada bulan November 1999 di mana perjanjian tersebut akan mengurangkan jumlah pesawat tempur/kapal terbang, kereta kebal (MBT), artileri dan senjata konvensional yang lain di bumi Eropah.

Walaupun dengan runtuhnya kesatuan Soviet (SU), di mana Rusia kini telah hilang kuasa serta reputasi dan dengan masalah ekonomi yang teruk, Rusia masih lagi menjadi pembekal yang dominan. Di antara negara bekas sekutu Warsaw, Rusia masih lagi terus membekalkan sistem persenjataan utama kepada Hungary, Slovakia dan Bulgaria. Terdapat juga transaksi dengan India serta Iran dan Rusia telah melanjutkan semula perdagangan senjata dengan China (berjumlah lebih \$2.5 bilion di antara tahun 1992-1995) yang telah terhenti sejak 30 tahun yang lalu. Selain dari itu, Malaysia, UAE dan Kuwait adalah antara negara yang merupakan pelanggan baru yang bernilai.

Negara-negara yang dahulunya menikmati subsidi penjualan senjata seperti Iraq, Libya, Syria, Korea Utara, Vietnam dan Cuba kini sudah tidak lagi mendapat kemudahan berkenaan. Walaupun tidak dinafikan Rusia akan terus kekal di kedudukan nombor dua sebagai pengeksport senjata utama di pasaran antarabangsa, prospek negara bekas Soviet yang lain seperti Ukraine untuk muncul sebagai pengeksport senjata konvensional yang utama tidak boleh dipandang ringan.

UK, Perancis dan Negara Barat Eropah Barat

Negara dari Eropah Barat membekalkan di antara satu pertiga daripada pasaran senjata antarabangsa. Kebanyakan pusat industri pertahanan terletak di UK, Perancis, Jerman, Itali dan Sweden. Daripada pembekal utama Eropah tersebut, pasaran saham UK telah meningkat sejak perang teluk pada tahun 1991 disebabkan oleh

pembelian yang berleluasa yang berlaku pada tahun 1980 telah berterusan hingga tahun 1990 oleh beberapa negara Teluk. Namun demikian, pengeluaran Perancis dan German telah

('well-established links') di Asia terutama di Pakistan, Sri Lanka, Myanmar, Thailand, Bangladesh, dan Iran. China juga bergerak aktif di negara-negara sub-Sahara Afrika seperti Sudan dan Zaire.

Jadual 2 : Penghantaran Senjata oleh Pembekal Nilai Eksport \$ 200m - 1b, 1987-95

Year	Italy	Other Western Europe	Canada	Czech	Israel	Brazil	South Afrika
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1987	914	3285	914	1764	882	819	25
1988	583	3398	881	1214	558	850	158
1989	314	1372	610	1016	987	109	232
1990	223	1414	696	412	367	78	656
1991	322	808	590	257	461	86	11
1992	313	1617	1251	46	292	209	162.5
1993	357	698	791	214	347	51	228
1994	90	740	230	300	470	80	218
1995	150	272	225	150	800	90	272

Sumber: *Military Balance 1996/97*

berkurangan jika dibandingkan pada tahun 1980 disebabkan oleh kebolehan dapatan sistem persenjataan generasi baru yang masih di dalam proses pembangunan.

China

Walaupun China adalah di antara enam pembekal utama dunia, namun perdagangan senjata China pada amnya telah menurun sejak tahun 1980an. Pada dekad yang lalu, ia menjadi pembekal utama kepada kedua-dua negara Iran dan Iraq. China masih menjadi pembekal sistem persenjataan dan senjata ringan yang bererti terutamanya dengan rangkaian yang baik

Pembekal Lain

Selain dari kumpulan enam negara utama tersebut, terdapat satu lagi kumpulan yang mengeksport peralatan ketenteraan yang dikeluarkan secara domestik yang bernilai antara \$200m-1b setiap tahun. Antara negara yang menonjol adalah beberapa negara Eropah Barat dan Kanada. Israel, Afrika Selatan dan Republik Czech juga terlibat secara giat di dalam penjualan senjata antarabangsa. Eksport negara Brazil yang termasuk di dalam kumpulan ini telah banyak berkurangan jika dibandingkan pada tahun 1992. Antara yang lain ialah Yugoslavia, Serbia-Montenegro dan juga Ukraine.

Terdapat juga kira-kira 20 buah negara lain yang kadar eksportnya lebih \$10m-\$200m yang kebanyakannya terdiri dari negara ketiga yang akan diterangkan secara lebih terperinci nanti.

Pengeksport Negara Dunia Ketiga

Catrina (1988), menyatakan bahawa perubahan penting di dalam pasaran senjata global adalah dengan meningkatnya pengeluaran dan kadar eksport dari negara ketiga. Adalah penting untuk dapat membezakan di antara negara pengeluar dan pengeksport kerana negara membangun yang hanya mengeluarkan senjata yang relatif banyak tetapi tidak termasuk di dalam kumpulan pengeksport yang signifikan ('significant exporters') (Contoh India).

Catrina menambah, kadar pengeluaran senjata di negara sedang membangun telah meningkat dengan banyak sejak tiga puluh tahun yang lalu. Namun demikian ianya ternyata masih kecil jika dibandingkan dengan keseluruhan pengeluaran senjata global dan ianya hanya tertumpu di beberapa negara yang secara relatifnya kecil. Pada kebanyakan negara tersebut, pengeluaran senjata merupakan komponen utama ekonomi mereka.

Senjata dan peralatan yang dikeluarkan merangkumi seluruh spektrum senjata konvensional, tetapi ianya adalah ciptaan yang secara relatifnya lama dan kurang canggih ('less sophisticated') jika dibandingkan dengan yang dikeluarkan oleh negara maju. Catrina menambah, lesen, teknologi, komponen dan pengetahuan ('know-how') daripada negara maju adalah penting untuk pengeluaran senjata di negara membangun dan eksportnya menjadi penting untuk sebahagian dari negara berkenaan.

Dasar utama yang menyebabkan negara ketiga membina industri senjata adalah disebabkan ingin mengurangkan penggantungan ekonomi dan politik dari Timur dan Barat. Catrina memberikan lima positiif

utama apa yang dipanggil '**acquisition of arms production capabilities**' oleh negara ketiga seperti berikut:

- Penentuan untuk mempertingkatkan keselamatan nasional dan untuk mendapatkan kebebasan politik melalui autonomi yang lebih besar di dalam teknologi ketenteraan.
- Keinginan untuk mempertingkatkan pengaruh politik serantau.
- Keinginan untuk membantu pertumbuhan pengeluaran industri dan bidang pekerjaan
- Keinginan untuk mengekalkan sumber tenaga yang berkemahiran.
- Keinginan untuk mengurangkan imbalan defisit bayaran.
- Kemunculan negara ketiga sebagai pengeksport senjata telah menarik minat ramai pemerhati. Catrina telah memetik satu kenyataan dari satu buku bertajuk '**New Arms Bazaar: The Third World Arms Industries**' oleh Judith Vidal-Hall yang menulis:

'The entry of the Third World into the inner sanctum of the arms bazaar is changing the rules and causing a flurry among its high priest. Traditionally at the receiving end, of the arms merchants advances, Third World supplies are challenging the sales monopoly of the big powers and cutting costs, corners and red tape in a bid move in on the big-time'.

Pembeli Utama

Setelah mengetahui siapakah pembekal utama, kita beralih pula kepada siapakah pembeli utama pasaran senjata global. Keseluruhan pengurangan permintaan terhadap senjata berbeza-beza mengikut rantau. Pengurangan permintaan senjata agak ketara

di negara-negara bekas sekutu Soviet terutama Cuba, Vietnam, Korea Utara, Iraq, Syria, Libya, Ethiopia dan Angola. Disebabkan oleh hilangnya pengaruh Rusia, pemindahan senjata ke negara Amerika Latin telah juga berkurangan ke tahap yang rendah.

Timur Tengah kekal sebagai rantau pasaran senjata yang terbesar. Perbelanjaan ketenteraan keseluruhan di Timur Tengah adalah yang tertinggi jika dibandingkan dengan pasaran global yang lain. Arab Saudi adalah negara pembeli senjata antarabangsa yang terbesar dan terus kekal selama

Negara sekutu **NATO** di Eropah Barat pada dasarnya merupakan pasaran kedua terbesar selepas Timur Tengah. Walaupun tujuh negara industri pertahanan terbesar (US, Kanada, Perancis, UK, Jerman, Itali dan Sweden) membekalkan hampir keseluruhan keperluan import pertahanan (terutama subsistem, komponen dan bahan mentah) ia masih menjadi bahagian yang bererti (dari satu perempat ke satu perdua) kepada keluaran industri pertahanan nasional negara ini kecuali Amerika Syarikat.

Jadual 3 : Penghantaran Senjata ke Timur Tengah dan Utara Afrika

Tahun	S.Arabia	Iraq	Iran	Mesir	Israel	Syria	UAE	Libya	Kuwait
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1987	8570	7310	2521	2395	2521	2521	189	756	252
1988	7525	6796	3155	1001	1355	1578	146	1153	6316
1989	6851	2787	1742	1045	1394	1277	1558	412	312
1990	8681	3116	2003	890	779	1057	1558	412	312
1991	8039	0	2551	965	670	884	397	439	515
1992	8864	0	375	647	886	396	375	83	1043
1993	6940	0	6940	1021	1429	1123	225	0	765
1994	6900	0	500	1500	1200	200	410	0	900
1995	800	0	400	1900	NK	200	600	0	1000

Sumber : *Military Balance 1996/97*

seabad. Kuwait telah meningkatkan pembelian sejak perang Teluk pada tahun 1991. Israel dan Mesir terus menerima semua geran tahunan '**Foreign Military Fund**' (FMF) yang berjumlah \$1.8b dan \$1.3b dan Jordan juga telah menerima '**Assistance**' (FMA) Amerika Syarikat di dalam bentuk peralatan terpakai seperti Jet F16A/Bs dan peralatan tentera yang lain yang berjumlah \$200m melalui FMF dan \$100m melalui EDA pada 1996-97. Iran tetap kekal sebagai pembeli utama persenjataan Rusia yang bernilai lebih \$1.5b pada tahun 1992-95.

Terdapat spekulasi yang mengandaikan bahawa perlumbaan senjata akan berlaku di Asia Timur. Berdasarkan perangkaan awal tahun 1995, rantau ini merupakan pasaran kedua terbesar selepas Timur Tengah. Apa yang pasti adalah perbelanjaan pertahanan di rantau ini telah meningkat dan dalam masa yang sama di tempat lain sedang berlaku penurunan. Tambahan pula, beberapa negara Asia Timur mampu untuk berbelanja lebih untuk pertahanan kerana telah mengalami pertumbuhan ekonomi yang kekal tanpa sebarang ancaman yang

Jadual 4: Penghantaran Senjata Ke Selatan Dan Asia Timur

Tahun	India	Jepun	Taiwan	Korea Selatan	Vietnam	Pakistan	China	Thailand	Korea Utara
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1987	3781	1386	1891	882	2795	416	819	529	529
1988	3484	1001	1092	819	1820	583	413	698	1214
1989	3484	1974	697	697	697	639	453	360	697
1990	2003	1336	723	1224	1224	890	223	300	223
1991	991	1501	1179	724	214	236	214	616	96
1992	991	1173	886	730	10	469	12.51	386	10
1993	265	2635	816	1327	10	536	510	122	505
1994	320	1900	950	1000	80	260	130	360	50
1995	450	1140	1200	1100	1200	500	480	500	NK

Sumber: *Military Balance 1996/97*

kelas terhadap keselamatan negara. Masalah dan isu-isu domestik pada kebiasaannya mempengaruhi permintaan seperti ketegangan serantau yang melibatkan China dan Taiwan serta China dan beberapa negara **ASEAN** di sebabkan masalah Kepulauan Spratly di Laut China Selatan dan di antara kedua-dua Korea.

Import pertahanan dua penerima terbesar dan utama pemindahan senjata dari Soviet, Vietnam dan Korea Utara telah menurun sejak sedekad ini tetapi telah menunjukkan peningkatan sejak tahun 1992. Beberapa negara seperti Jepun, Korea Selatan, Taiwan dan China serta negara ASEAN seperti Thailand, Malaysia dan Singapura telah didapati meningkatkan nilai purata tahunan import pertahanan mereka jika dibandingkan dekad yang lalu.

Walaupun demikian, pemindahan senjata di negara Asia Selatan telah menurun dengan mendadak jika dibandingkan dengan tahun 1980an, disebabkan oleh pengunduran Soviet dari Afghanistan dan pengurangan besar-besaran

import negara India terutamanya dari jenis buatan Soviet. India telah memperluaskan kemampuan skop industri pertahanannya setelah Rusia keberatan untuk memberikan subsidi senjatanya kepada India yang telah menjadi semakin nyata sejak tahun 1992. Namun demikian, eksport pertahanan Rusia ke India akan diteruskan walaupun di dalam bentuk yang kecil. Di samping itu, China merupakan pembekal senjata yang dominan kepada Pakistan dan disyaki Chinalah yang telah membiayai program peluru berpandu dan program nuklear Pakistan yang telah menyebabkan Amerika mengehendkan pengaliran senjatanya ke Pakistan. Dalam pada itu, China juga adalah pembekal utama senjata dan peralatan ketenteraan kepada Sri Lanka di dalam peperangannya menentang 'Tamil Tigers'.

IMPAK PEMINDAHAN SENJATA

Di dalam memperkatakan tentang impak pemindahan senjata oleh negara maju, kemunculan negara ketiga di dalam perlumbaan senjata amat

Jadual 5 : Penjualan Senjata Dan Kontrak Yang Ditanda Tangani, 1991-1995

Tahun	Total	US	%	UK	%	France	%	Russia	%	Top Four	%
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
1991	33.5	14.2	40.0	6.3	17.7	6.0	16.9	1.6	4.5	28.1	79.2
1992	48.8	23.4	48.0	9.3	19.1	8.6	17.6	1.6	1.3	42.9	87.9
1993	61.4	23.0	53.7	10.6	17.3	6.9	11.2	1.8	2.9	52.3	85.2
1994	45.0	17.0	37.0	7.0	15.6	7.0	15.6	4.4	9.8	35.4	78.7
1995	40.8	19.1	46.8	7.8	19.1	7.4	18.1	2.4	5.9	36.7	90.0
TOTAL	231.5	106.7	45.3	41.0	17.7	35.9	15.9	11.8	5.3	195.4	84.2

Sumber: *Military Balance 1996/97*

dirasakan. Wujudnya apa yang dipanggil '**Newly Industrialising Countries**' (NIC) yang menjadi pembekal senjata di dalam pasaran dunia bukan sahaja telah memberi saingan hebat tetapi juga telah membuka mata banyak pihak. Walaupun begitu, berdasarkan purata nilai jumlah senjata yang dikeluarkan oleh negara ketiga ini, ianya didapati tidak begitu bererti di dalam pasaran antarabangsa.

Menurut Catrina, negara ketiga memerlukan sumber ekonomi dan guna tenaga yang banyak sebelum dapat bersaing dengan negara maju dan dapat memberi impak kepada pasaran global. Beliau menambah, pengeluaran senjata negara dunia ketiga mungkin sekadar mengisi ceruk di pasaran ('**market niche**') di mana telah wujud ruang di dalam pasaran senjata global di antara penjual teknologi tinggi dan pembeli teknologi pertengahan. Ini memberi peluang yang luas kepada mana-mana penjual untuk mengeluarkan sistem senjata berasaskan teknologi pertengahan. Pembangunan di dalam pengeluaran senjata di masa depan berhubung kait dengan pembangunan untuk mengisi ruang ini dan di atas kebolehan untuk melebar ke dalam segmen-segmen lain pasaran senjata.

Dalam memperkatakan tentang masa depan '**market niche**' oleh senjata yang ringkas dan murah

akan wujud dua persoalan iaitu sama ada akan ada permintaan berterusan ataupun apakah pembekal akan mula bersaing di dalam segmen yang sama? Kejayaan menghasilkan senjata yang berteknologi tinggi mungkin memaksa kerajaan dan agensi perolehan untuk menumpukan sepenuhnya kepada pembuatan senjata yang demikian daripada reka bentuk yang ringkas dan murah. Walaupun demikian, negara yang mempunyai bala tentera yang besar yang tidak mampu membeli senjata yang canggih dan mahal sudah pasti akan terus bergantung kepada senjata yang murah dan ringkas, ini adalah pasaran utama Negara Dunia Ketiga.

'Offset Bazar'

Salah satu sebab utama kenapa kebanyakan negara bertukar kepada industri pertahanan adalah disebabkan oleh selain dari tawaran ataupun pakej menarik yang telah disediakan oleh pembekal adalah apa yang dipanggil '**offset value**'. Kebanyakan negara yang terlibat di dalam pembelian persenjataan pertahanan semakin keberatan untuk menanggung sepenuhnya kadar pertukaran asing yang terlibat di dalam pembelian tersebut. Kerajaan akan mengurangkan kadar pertukaran asing dengan syarat sebenar pembelian yang dibuat dengan pembekal. Prosedur ini dikenali sebagai '**offset**' tetapi kadangkala juga dipanggil sebagai pampasan. Dalam masa yang sama, negara yang mengeksport senjata

keluar akan meningkat prospek eksport mereka apabila mereka bertemu di meja perundingan dengan cadangan imbalan yang menarik. Malaysia juga tidak terkecuali di dalam perkara ini di mana salah satu syarat yang dikenakan di dalam perjanjian perolehan peralatan pertahanan adalah pemindahan teknologi. Seperti kita dapat lihat perjanjian pembelian kereta perisai **NURUL** dari Turki di mana sebahagian dari kereta perisai tersebut akan dibuat di Malaysia dengan usaha sama di antara anak syarikat DRB HICOM Deftech dan **NURUL** dari Turki.

Selain dari Jerman yang telah mengalami imbalan bayaran yang berbeza berlebihan telah memecah tembok pasaran senjata '**Eropah**' yang penjualan kereta kebal '**Leopard**'nya kepada Belgium pada tahun 1967 dan Belanda serta Norway pada tahun 1968. Perjanjian dengan Belgium dan Jerman telah memberikan nilai '**offset**' seratus peratus di mana antaranya ialah jumlah nilai pembelian kira-kira 334 buah kereta kebal '**Leopard**' telah diimbangi dengan Jerman menandatangani perjanjian pembelian peluru dan peralatan elektronik dan baik pulih kereta perisai Jerman akan dihantar ke kilang di Belgium.

Contoh imbalan yang dikira menarik ialah apabila Brazil telah cuba untuk menjual '**kopi Brazil**' dan '**udang-kara**' kepada Perancis sebagai imbalan pembelian jet pejuang **Mirage**. Selepas berunding, perjanjian telah dibuat tetapi tidak diketahui sama ada dengan kopi dan udang-kara ataupun tidak.

Adakah Sekatan Perlu?

Menurut Uri Ra'anani, kawalan senjata adalah penting dan perlu dengan tujuan untuk menghalang peperangan, mengelak kematian dan kemusnahan jika perang terjadi dan langkah ini juga dapat mengurangkan perbelanjaan pertahanan sesebuah negara.

Adalah didapati bahawa lambakan peralatan pertahanan dan persenjataan telah semakin

meningkat dengan begitu drastik sekali disebabkan oleh beberapa perkara:

- **Pasca Perang Dingin.** Kewujudan konflik serantau kerana tidak wujudnya perseimbangan kuasa.
- **Pengurangan Pengaruh Amerika.** Pengunduran Amerika dari Filipina menyebabkan wujudnya ruang.
- **Industri Pertahanan.** Penglibatan negara membangun di dalam industri pertahanan terutamanya negara dunia ketiga dan NIC. Industri ini mendatangkan pulangan yang amat lumayan kepada ekonomi negara.
- **Keganasan Antarabangsa.** Wujudnya keganasan yang diakibatkan oleh penganasan seperti penculikan, tebusan, rampasan kapal terbang dan sebagainya.
- **Pengisytiharan Unclos.** Pengisytiharan ini telah menyebabkan Zon Ekonomi Eksklusif negara menjadi lebih luas dan memerlukan peralatan yang besar dan moden untuk mengawasi seperti pesawat maritim dan 'surveillance'.

Pengawalan senjata yang wujud sejak dahulu sehingga sekarang dapat menjanjikan tidak berlakunya konflik di mana-mana. Kewujudan kawalan senjata telah dapat mengelakkan beberapa konflik dari berlaku (US-Greece-Turki-1967) namun banyak peperangan lain yang telah gagal dielakkan seperti perang India-Pakistan 1965 dan US-Greece-Turki-1974. Manipulasi kuasa besar yang memainkan peranan penting di dalam aspek kawalan ini seperti yang berlaku pada Iraq membuatkan kawalan senjata sukar dan tidak efektif. Amerika Syarikat telah melambatkan berbagai-bagai jenis senjata dan peralatan ketenteraan ke Iraq melalui FMF dengan tujuan untuk menyekat pengaruh Iran. Apabila perang Iran-Iraq tamat, Iraq

telah menjadi kuat dan ditakuti dan inilah yang membuatkan Iraq mencari jalan penyelesaian masalah sempadannya dengan Kuwait dengan menaklukinya pada tahun 1991.

Kita dapat lihat bagaimana Amerika Syarikat menjadi dalang apa yang dipanggil taktik kotor kuasa besar. Iran adalah sebuah negara sekutu Amerika Syarikat sewaktu zaman pemerintahan Shan Reza Palavi tetapi sewaktu Ayatulla Khomeinei memerintah, Amerika Syarikat telah mendidik Iraq sebagai sekutunya tetapi sewaktu Iraq melawan Kuwait, Iraq telah dihukum dengan hukuman yang dahsyat hingga ke hari ini.

PENUTUP

Berdasarkan perbincangan di atas, kita telah dapat melihat bagaimana dominasi Amerika Syarikat di dalam pasaran senjata global yang begitu ketara dan kelakuannya yang bermuka-muka di dalam mencari kawan dan lawan. Masalah perpecahan kesatuan Soviet Union dan masalah ekonomi telah membuat Rusia ketinggalan jauh ke belakang tidak lagi mampu untuk membiayai ketumbuhan bala tentera yang besar di dalam menghadapi NATO. Walaupun Amerika Syarikat menjadi kuasa hegemoni tunggal, saingan dari negara **'middle power'** yang lain seperti China dan India tidak dapat dinafikan. Berdasarkan kepada perkembangan teknologi moden yang semakin hari semakin maju, andaian dan kajian membolehkan kita mengenal pasti bentuk dan corak perdagangan senjata masa depan yang dinamik. Amerika Syarikat menjadi dominan dan terbesar di dalam perdagangan pasaran senjata global kerana ia mempunyai kompleks perindustrian yang jitu walaupun mempunyai reputasi yang buruk di tempat sendiri. Amerika Syarikat mempunyai rangkaian pusat penyelidikan dan pembangunan (R&D) antara yang terbaik dan mampu menghasilkan senjata yang moden dan murah. Amerika Syarikat menitikberatkan pembangunan infrastruktur ketenteraan sebagai sebahagian dari perjanjian penjualan senjatanya dan

reputasi sebagai pembekal alat ganti, berbanding Rusia yang mempunyai rekod yang buruk sebagai pembekal senjata. Rusia hanya mementingkan perkakasan ketenteraan dari infrastruktur dan latihan yang hanya akan memberi kepuasan yang lebih singkat kepada pelanggan.

Faktor teknologi memainkan peranan penting di dalam menentukan trend pemindahan senjata global. Pembeli terpaksa membuat pilihan di antara peralatan yang moden tetapi mahal dan jumlah sedikit dengan peralatan yang agak **'inferior'**, murah dan tetapi dengan kuantiti yang banyak. Jika saingan teknologi dan kecanggihan berterusan, Amerika Syarikat dan sekutu barat akan kehilangan kedudukan yang bersaing dengan negara bekas Soviet terutama Rusia dan pembekal blok Timur Eropah yang lain. Ini bukan sahaja disebabkan oleh faktor harga tetapi disebabkan oleh kecanggihan senjata tersebut membuat ianya sukar untuk diselenggarakan berbanding senjata Rusia yang walaupun agak **'inferior'** dari segi keberkesanan tetapi aspek lain agak **'superior'**, amat mudah dikendalikan oleh kebanyakan soldadu biasa yang terlatih. Disebabkan oleh kekurangan saintis dan pakar tetapi mempunyai ramai anggota tentera, sudah pasti peralatan dari Rusia ternyata lebih berdaya saing.

Bagi negara kaya, mereka mampu untuk mendapatkan peralatan dan sistem persenjataan yang canggih dan terkini. Walaupun tidak mempunyai tentera yang ramai dan kekurangan pakar untuk mengendalikannya, mereka sanggup mengeluarkan belanja yang besar untuk penyelenggaraan, kita lihat UAE, negara teluk pertama yang memperoleh kereta kebal **'Leclerc'** dari Perancis yang dianggap antara kereta kebal yang terkini dan termoden di dunia, penyelenggaraan dan baik pulih kenderaan tersebut telah diwastakan.

Anne Hessing Cahn menyatakan, walaupun industri pertahanan mendatangkan pulangan yang besar, mesti ada had dan limitasi kepada kebolehan

mana-mana negara yang terlibat untuk menentukan corak perdagangan senjata global. Amerika Syarikat merupakan kuasa ekakutub yang mampu untuk mempengaruhi dan menentukan tentang kuantiti dan kualiti perdagangan senjata dunia dari lain-lain negara. Antara langkah-langkah yang perlu diambil ialah :

- Memberi galakan untuk pengekatan pembelian senjata serantau dan negara. Amerika Syarikat boleh menggunakan bantuan ekonomi sebagai pulangan dan pampasan kepada sebuah negara yang mengehadkan perbelanjaan pertahanan. Sebarang pengurangan kepada belanja pertahanan akan digantikan dengan lebih banyak bantuan dan sebarang penambahan perbelanjaan akan menyebabkan bantuan dikurangkan. Walaupun dewasa ini bantuan Amerika Syarikat kepada negara membangun telah berkurangan, namun langkah ini mungkin akan dapat dilaksanakan dengan pertukaran peralatan perang. Amerika Syarikat sedang memperkenalkan teknologi baru dan canggih ke dalam inventori pertahanannya yang mana telah menjadikan banyak peralatan-peralatan lama menjadi berlebihan. Terdapat banyak jet pejuang lama seperti F4 dan kereta kebal M60 untuk dijadikan 'umpan' memandangkan ianya masih

dikira moden dan canggih jika dibandingkan dengan apa yang digunakan oleh kebanyakan negara membangun.

- Memperkenalkan kod etika ('**Code of Ethics**'), di kalangan pengeksport senjata. Kod ini hendaklah mengambil kira perjanjian bekalan senjata Nuklear sebagai model yang akan menubuhkan mekanisme perundingan tentang eksport peralatan dan teknologi nuklear. Peralatan dan sistem persenjataan yang bertujuan untuk menyerang bandar-bandar seperti misil jarak jauh dan '**area weapon**' hendaklah diharamkan di pasaran antarabangsa. Begitu juga senjata ofensif yang mungkin disalahgunakan oleh golongan tertentu hendaklah dihindari dari dieksport ke kawasan-kawasan yang berpotensi menjadi konflik seperti Timur Tengah dan sebagainya.

Begitu juga dengan penglibatan orang tengah di dalam perdagangan senjata antarabangsa hendaklah dihapuskan demi untuk mengelakkan peralatan-peralatan tersebut dari jatuh ke tangan kumpulan pengganas antarabangsa atau untuk mencero bohi negara lain. Golongan ini hanya mementingkan keuntungan semata-mata seperti kata Adnan Khashoggi:

"If one offers money to your government to influence it. That is corruption, but if someone receives money for services rendered afterwards, that is a commission."

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Kapt Mohd Andri bin Abdul Rahman telah ditauliahkan di dalam Kor Armor DiRaja pada 3 Ogos 1991. Sepanjang perkhidmatan, beliau telah berkhidmat di beberapa buah pasukan dan formasi seperti Rejimen Ke 4 Kor Armor DiRaja, PUSASDA, Rejimen Pertama Kor Armor DiRaja, Markas 3 Divisyen dan Rejimen Ke 2 Kor Armor DiRaja. Beliau kini bertugas sebagai Pegawai Staf 3 Logistik di Markas 8 Brigid, Kem Pengkalan Chepa, Kota Bharu Kelantan.

KUASA TENTERA DAN KEBERKESANANNYA

Oleh : Lt Kol Saiful Anwar Bin Md Ali

"A people without walls is a people without choice."

Aristotle

PENDAHULUAN

Kuasa tentera memainkan peranan penting dalam menentukan keselamatan, kestabilan, keamanan dan keunggulan sesebuah negara. Athen dan Sparta telah terlibat dalam beberapa siri peperangan bagi menentukan siapakah yang mempunyai kuasa tentera yang terkuat dan mampu mengatasi yang lain. Jepun, Jerman dan Itali semasa Perang Dunia Kedua telah menggunakan kuasa tentera untuk menakluki hampir tiga perempat negara di dunia. Amerika Syarikat dan Kesatuan Soviet juga menggunakan kuasa tentera mereka dalam memperkembangkan ideologi mereka semasa era Perang Dingin. Pengeboman Hiroshima dan Nagasaki pada 6 dan 9 Ogos 1945 telah melenyapkan kuasa tentera Jepun serta merta yang telah menjadi hero dalam Perang Dunia Kedua. Dengan contoh-contoh yang diberikan, jelas menunjukkan bahawa kuasa tentera mempunyai impak serta kepentingannya yang tersendiri dalam sistem hubungan antarabangsa.

KUASA TENTERA

Menurut Colin S. Gray "strategy concerns the relationship between military power and political purpose."¹ Ini jelas menunjukkan bahawa sesebuah negara itu mempunyai objektif politiknya sendiri dan kuasa tentera mempunyai kaitan langsung dalam

menentukan tercapainya objektif berkenaan. Oleh itu kuasa tentera adalah penting dalam menentukan kepentingan nasional sesebuah negara dalam konteks hubungan antarabangsa. Klaus Knorr berpendapat bahawa, konsep kuasa boleh diuraikan kepada dua alternatif, pertamanya ialah kuasa yang mempunyai pengaruh sebenar yang dipanggil sebagai 'actualized power' dan keduanya kuasa yang mempunyai keupayaan untuk memaksa berbuat sesuatu dan dikenali sebagai 'putative power.' Putative power merupakan alat manakala actualized power ialah kesannya. Oleh itu kuasa tentera dirujuk kepada putative power yang mempunyai kapasiti untuk melaksanakan pertahanan dan juga sebagai alat untuk melakukan 'coercion.'² Beliau juga menjelaskan bahawa "the effectiveness of a state's military forces or capabilities depends on their size, composition, equipment, logistical reach, and availability for new application ... armies, air forces, and navies are instruments of military power-capabilities from which power may be derived. They are a necessary but not a sufficient condition of military power."³

Beliau juga menjelaskan bahawa tiga perkara utama dalam mengenal pasti kuasa tentera nasional iaitu:

"One is military power potential-that is, resources capable of being mobilised for the establishment of military forces. The second

1 Gray, Colin S., *Strategic Studies. A Critical Assessment*. Connecticut: Greenwood Press, 1982, ms 24.

2 Knorr, Klaus. *Military Power and Potential*, Massachusetts: Princeton University, 1970, ms 3.

3 Ibid. ms 4 dan 5.

determinant is the value placed on military power by a nation, and hence the proportion of potential actually transformed into military strength. The third is the skill with which resources are cast into ready military strength and with which the use of the resulting military power is directed politically as well as militarily."⁴

Julian Lider berpendapat bahawa mengikut teori tradisional bahawa "military instrument or military force referred to armed forces." Namun disebabkan perkembangannya dari segi saiz dan kekuatan, serta kepentingan senjata nuklear dan teknologi peluru berpandu, penekanan terhadap 'military capability' dan 'military instrument' dipertingkatkan, maka perubahan kepada teori tradisi ini perlu dibuat dengan memasukkan 'military potential' selain dari kekuatan tentera.⁵ Terdapat juga beberapa konsep kuasa tentera yang telah diinterpretasikan dengan mengambil kira kekuatan tentera sesebuah negara berbanding dengan seterunya, tujuan sesuatu peperangan, masa dan kedudukan geografinya. Bagaimanapun, penggunaan kuasa tentera dianggap berjaya apabila objektif bagi kepentingan nasional dapat dicapai dengan jayanya.

Menurut Julian Lider pengukuran terhadap komponen kuasa tentera dibuat dengan mengambil kira saiz kekuatan tentera; pasukan simpanan dan keupayaan untuk mengatur gerakannya; keupayaan industri untuk membekalkan keperluan-keperluan yang hilang dan rosak; bilangan dan kualiti sistem persenjataan; sistem logistik; kualiti, kesesuaian doktrin dan strategi; kualiti kepimpinan politik, tentera dan ketua-ketua di semua peringkat; moral rakyat dan tentera; dan akhir sekali kualiti dan kekuatan perikatan.⁶ Selain dari itu, faktor-faktor seperti Keluaran Dalam Negara Kasar (KDNK), sumber manusia dan material, tahap perkembangan

budaya serta perkara-perkara yang berhubung kait dengan politik, ekonomi, ideologi dan lain-lain komponen sosial juga memberi kesan kepada kuasa tentera.

John Garnett pula menyatakan bahawa "...military power refers to the capacity to kill, maim, coerce, and destroy and although occasionally this power may be possessed by individuals within the state..."⁷ Beliau juga berpendapat bahawa kuasa tentera boleh dieksploitasi sebagai satu teknik yang rasional dalam menentukan objektif dasar luar sesebuah negara.

Setelah mengupas beberapa pendapat, dapatlah dibuat kesimpulan bahawa kuasa tentera boleh didefinisikan sebagai kekuatan tentera sebenar (actual) apabila dibandingkan dengan negara lain yang dianggap sebagai seterunya atau potensi menjadi seteru. Kuasa tentera dianggap sebagai 'potential' apabila boleh diatur gerakan semasa diperlukan dan sebagai 'putative' seperti mana yang digambarkan oleh negara yang lain.

FUNGSI KUASA TENTERA

Kuasa tentera dapat dilihat memainkan dua peranan utama dalam hubungan antarabangsa iaitu kegunaannya dalam peperangan dan kegunaannya dalam membantu polisi atau dasar sesebuah negara semasa aman. Kuasa tentera juga merupakan asas dalam oder antarabangsa. Ini adalah kerana hubungan antarabangsa adalah bersifat anarki dan sebarang pertelingkahan adalah bergantung kepada kuasa tentera sesebuah negara apabila sebarang bentuk penyelesaian seperti penggunaan diplomasi, sekatan ekonomi, propaganda dan kaedah-kaedah yang lain menghadapi kegagalan. Oleh itu, kuasa tentera bukan muncul secara tidak sengaja sebaliknya dirancang dan disusun atur oleh

4 Garnett, John. (ed). *Theories of Peace and Security*, London: Macmillan St Martin's Press, 1970, ms 51.

5 Lider, Julian. *Military Theory: Concept, Structure, Problems*. New York: St Martin's Press, 1983, ms 39 dan 40.

6 Ibid. ms 40.

7 Baylis, John., Booth, Ken., Garnett, John., Williams, Phil. *Contemporary Strategy I. Theory and Concepts*, London: Croom Helm, 1987, ms 71.

sesebuah negara yang merdeka dan ianya mempunyai keabsahan dalam mengambil sesuatu tindakan. Terdapat juga pendapat yang menyatakan bahawa pemilikan kuasa tentera merupakan satu pembaziran disebabkan keperluan terhadap peralatan-peralatan dan persenjataan yang sofistikated walhal perbelanjaan tersebut boleh digunakan bagi tujuan yang lebih manfaat kepada rakyatnya. Presiden Eisenhower antara mereka yang telah menyuarakan bahawa, "The cost of one modern bomber is this: a modern brick school in more than thirty cities. It is two electric power plants each serving a town of 60,000 population. It is two fine fully equipped hospitals. It is some fifty miles of concrete highway."⁸ Tegasnya, ramai yang berpendapat bahawa kuasa tentera merupakan pembaziran kepada perbelanjaan sesebuah negara, tetapi perlu diingat bahawa ianya adalah sebagai kuasa alternatif sekiranya penyelesaian konflik menggunakan kaedah diplomasi tidak memberangsangkan dan gagal memainkan peranannya.

Sebenarnya jika dilihat dari perspektif ekonomi, pemodenan ke arah keupayaan military memberi manfaat kepada perkembangan ekonomi. Ini adalah kerana 'spill over technology' dari pemodenan military memberi peluang kepada sektor awam dalam meningkatkan teknologi mereka, misalnya seperti pembinaan satelit dan radar yang merangsang ke arah pertumbuhan ekonomi. Gambaran ini menunjukkan bahawa perkembangan ekonomi dan pemodenan military adalah 'on going process' yang mempunyai kaitan rapat di antara satu sama lain. Oleh itu, apabila ekonomi sesebuah negara itu kukuh, maka pemodenan terhadap peningkatan military akan turut bersama. Begitu juga sebaliknya.

Kuasa tentera yang terdapat pada sesebuah negara berfungsi untuk melaksanakan pertahanan

(defence), cegah rintang (deterrence), paksaan (compellence) dan mempamerkan kekuatan (show of force).⁹ Dengan memiliki kuasa tentera yang kuat, sesebuah negara itu dapat mempertahankan negaranya dari sebarang serangan atau ancaman dari luar. Selain dari itu, kepentingan nasional dapat dipertahankan dalam meneruskan kelangsungan hidup negaranya. Dalam konteks pertahanan, ianya dapat dilihat dengan jelas bagaimana Saddam Hussein mempertahankan negaranya dari serangan Amerika Syarikat dan sekutunya dari 26 buah negara dalam Operasi Desert Storm yang mula dilancarkan melalui kempen udara pada 17 Januari 1991 dan kempen gerakan darat pada 24 Februari. Begitu juga semasa serangan AS dalam usaha menakluki Iraq pada bulan Mac 2003. Walaupun gagal dalam mempertahankan negaranya dari serangan tersebut, namun kegunaan kuasa tentera Iraq telah dipamerkan dalam memainkan peranan dari sudut pertahanan. Vietnam pula dianggap berjaya melaksanakan pertahanannya dalam Perang Vietnam hingga memaksa Amerika Syarikat berundur dari negara berkenaan.

Konsep cegah rintang mula diperkenalkan dalam era Perang Dingin apabila munculnya senjata nuklear dan masih dipraktikkan hingga kini. Menurut Phil Williams, "deterrence is an attempt by one government to prevent an adversary from undertaking a course of action (usually an attack on itself or its allies) that the government regards as undesirable, by threatening to inflict unacceptable costs upon the adversary in the event that the action is taken."¹⁰ Tiga elemen kepada cegah rintang ini ialah komunikasi, capability dan kredibiliti. Komunikasi amat diperlukan untuk menerangkan tentang implikasi yang akan diterima oleh sesebuah negara yang menjadi seteru akibat dari sesuatu tindakan yang diambil. Semasa Perang Korea,

9 Art, Robert J., Article To What Ends Military Power, *International Security*, Vol. 4, No. 4, Spring 1980.

10 Ibid. ms 117.

8 Ibid. ms 72.

China cuba untuk menyampaikan mesej kepada Amerika Syarikat tentang akibatnya sekiranya mereka mara ke Korea Utara. Namun Amerika Syarikat tidak mengendahkan mesej yang disampaikan oleh China dan meneruskan kemaraan mereka. Akibatnya Amerika Syarikat telah mengalami satu kejutan dengan campur tangan China ke atas Korea Utara walaupun kemenangan telah dilihat berpihak kepada tentera Amerika Syarikat dan PBB. Bagaimanapun, cegah rintang tersebut dianggap tidak berjaya kerana komunikasi melalui mesej yang disampaikan berhubung ancaman yang bakal diterima adalah tidak jelas.

Menyentuh tentang capability pula, sesebuah negara itu mestilah mempunyai kemampuan secara fizikal untuk melaksanakan ancaman yang telah digambarkan. Selain itu, gambaran berhubung ancaman yang bakal diterima akibat dari tindakan yang akan diambil juga amat penting. Capability berkait rapat dengan kredibiliti. Kredibiliti memberitahu bahawa ancaman yang bakal diterima akibat dari perbuatan atau kemungkinan tindakan yang akan diambil itu sememangnya wujud. Oleh itu, pihak seteru perlu berfikir dengan lebih berhati-hati atau melupakan sahaja tindakan yang akan dilaksanakan kerana sudah pasti akan menerima padahnya, akibat dari ancaman yang telah digambarkan. Sebagai contoh, Britain telah memberi jaminan kepada Poland bahawa mereka akan hanya menerima impak yang kecil akibat dari kebangkitan Hitler dalam tahun 1939, tetapi tidak mengambil sebarang tindakan dalam menghentikan dasar perluasan wilayah oleh Jerman. Ini jelas menunjukkan bahawa Britain tidak mempunyai kredibiliti terhadap jaminan yang telah diberikan.

Dalam melaksanakan fungsi paksaan, ianya memerlukan kuasa tentera yang jitu. Ini adalah kerana paksaan boleh mencetuskan peperangan sekiranya sesebuah negara itu gagal melaksanakan perkara yang dikehendaki oleh sebuah negara yang lain. Dalam era Perang Dingin Amerika

Syarikat dan Kesatuan Soviet masing-masing memperkembangkan dan mempromosikan ideologi mereka masing-masing dan secara langsung atau tidak langsung memaksa negara-negara lain memilih untuk berpihak kepada salah satu dari mereka. Dalam konteks ini, ia tidak dilihat sebagai satu paksaan yang diterima secara terus daripada satu pihak, tetapi ianya adalah lebih kepada tindakan yang diambil oleh sesebuah negara itu sendiri. Contoh paksaan ini boleh dilihat semasa berlakunya Krisis Cuba dalam tahun 1962. Pada 16 Oktober, Rusia telah menempatkan peluru berpandu nuklear di Cuba dan dalam masa 13 hari segala perundingan dan bentuk paksaan telah dilaksanakan oleh Presiden Kennedy dan Khrushchev. Akhirnya pada 28 Oktober, Khrushchev terpaksa memenuhi kehendak Kennedy dengan mengundurkan peluru berpandu nuklear dari Cuba.¹¹ Berbagai-bagai persoalan timbul akibat dari krisis ini, misalnya, kenapa Rusia mengambil risiko yang begitu besar hingga hampir mencetuskan Perang Nuklear? Apakah matlamat sebenar Rusia? Mengapa mereka berundur setelah mengambil risiko begitu besar? Mengapa Rusia tidak mengambil tindakan yang drastik selanjutnya? Walaupun tiada jawapan konkrit yang boleh diberikan, namun konsep paksaan yang digariskan dalam konteks fungsi kuasa tentera dianggap telah berjaya dalam krisis ini.

Berhubung dengan mempamerkan kekuatan, ianya adalah bertujuan untuk menimbulkan keadaan bimbang dan gerun kepada pihak seteru apabila melihat kekuatan tentera yang dipamerkan. Sebagai contoh ialah krisis Selat Taiwan dalam tahun 1995-1996. Krisis ini bermula apabila Presiden Lee Tee-hui melawat Amerika Syarikat pada bulan Mei 1995 dan ini telah menimbulkan kemarahan China. China telah mengambil tindakan untuk mempamerkan kekuatan dengan mengadakan beberapa siri latihan tentera secara intensif dan telah membuat beberapa siri ujian peluru berpandu lebih

11 Kennedy, Robert F. *Thirteen Days. A Memoir of the Cuban Missile Crisis*, USA: A Mentor Book, 1969, ms 18.

kurang 90 batu dari Taiwan. Pada 5 Mac 1996 China memberi amaran bahawa mereka akan melancarkan ujian peluru berpandu dan telah melaksanakannya pada 8 Mac kira-kira 50 batu dari pelabuhan terpenting Taiwan. Akhirnya pada 12 hingga 25 Mac pelaksanaan latihan secara besar-besaran telah dibuat dan ini termasuklah latihan amphibi dan 'aerial bombing,' yang melibatkan 40 buah kapal, 260 kapal terbang dan jet pejuang serta terup dianggarkan seramai 150,000.¹²

Mempamerkan kekuatan ini dilakukan kerana beberapa sebab, pertamanya, ia bertujuan untuk memaklumkan kepada Taiwan tentang ketidaksenangan China berhubung lawatan Presiden Lee Teng-hui ke Amerika Syarikat. Kedua, sebagai amaran tentang pilihan raya presiden yang akan diadakan oleh Taiwan kerana China menekankan bahawa hanya ada satu China. Ketiganya, untuk mencegah Taiwan dari meneruskan perjuangan mereka menuntut kemerdekaan dari China, dan yang keempat, mesej ditujukan kepada Amerika Syarikat bahawa China memandang amat serius berhubung isu Taiwan dan bersedia untuk menggunakan kuasa tentera jika perlu, bagi tujuan penyatuan Taiwan-China sama ada melalui campur tangan Amerika Syarikat atau tidak. Ianya bermaksud menghalang Amerika Syarikat untuk mempromosikan kemerdekaan Taiwan. Krisis ini berakhir apabila Amerika Syarikat mempamerkan kekuatannya dengan menghantar dua 'aircraft carrier' iaitu U.S.S. Nimitz dan Independence ke Selat Taiwan. Tegasnya, mempamerkan kekuatan dengan menggunakan kuasa tentera mempunyai cara dan objektifnya yang tersendiri. Paling perlu, mesej yang ingin disampaikan adalah jelas kepada negara yang menjadi seterunya.

Dalam mempergunakan kuasa tentera, adalah amat mustahak untuk memikirkan apakah tujuan yang ingin dicapai dan apakah limitasi terhadap

kegunaannya. Oleh kerana kuasa tentera bersifat relatif, maka kebergunaannya adalah berbeza di antara satu sama lain. Terdapat kemungkinan yang mana kuasa tentera boleh digunakan bagi tujuan cegah rintang tetapi tidak boleh digunakan bagi tujuan pertahanan. Begitu juga dengan mempamerkan kekuatan dan paksaan. Malaysia, misalnya mempunyai keupayaan untuk menggunakan kuasa tentera bagi tujuan pertahanan, tetapi tidak mempunyai keupayaan untuk mempamerkan kekuatan disebabkan oleh limitasi yang tertentu. Robert J. Art dalam artikelnya 'To What Ends Military Power?' menyatakan bahawa:

"A state that can compel another state can also defend against it and usually deter it. A state that can defend against another state cannot thereby automatically deter or compel it. A state can deter another state without having the ability to either defend against or compel it. A state that can swagger vis-a-vis another may or may not be able to perform any of the other three functions relative to it. Where feasible, defense is the goal that all state aims for first. If defense is not possible, deterrence is generally the next priority. Swaggering is the function most difficult to pin down analytically; deterrence, the one whose achievement is the most difficult to demonstrate; compellence, the easiest to demonstrate but among the hardest to achieve."¹³

CORAK DAN KEBERKESANAN KUASA TENTERA

Si vis pacem para bellum (If you want peace, prepare for war), tetapi persoalannya ialah berapa banyak persiapan yang harus dibuat untuk mencapai keamanan? Jawapan yang sesuai ialah mempunyai peralatan dan persenjataan yang mencukupi. Ianya

¹² *Journal of Political Science Quarterly*. Vol. 115 No. 2, 2000.

¹³ Art, Robert J., Article *To What Ends Military Power*, *International Security*. Vol. 4, No. 4, Spring 1980.

bertujuan untuk mencegah pihak seteru menyerang atau cuba untuk menyerang. Walaupun istilah mencukupi adalah bersifat subjektif, tetapi fenomena pada masa dan ketika persiapan dibuat mempengaruhi kehendaknya. Jika jawapan ini diterima, maka pencegahan kepada peperangan dapat dilaksanakan dengan memperlengkapkan negara dari sudut peralatan dan persenjataan (armament). Dengan memperlengkapkan atau melaksanakan pemodenan ke atas military, ianya akan menimbulkan rasa ketidaksenangan kepada negara lain dan akan menjurus ke arah perlumbaan senjata. Walaupun perlumbaan senjata mewujudkan suatu keadaan yang tidak stabil, namun kelengkapan persenjataan adalah perlu bagi memperkuat dan mempertingkatkan kuasa tentera supaya mempunyai kekuatan yang benar-benar kredibel.

Perikatan merupakan corak yang kedua bagi mempertingkatkan kuasa yang sedia ada. Dengan melaksanakan perikatan, kuasa akan bertambah kuat dan fungsi kuasa tentera akan dapat dipamerkan dengan lebih jelas. Sebuah negara itu tidak perlu memberi semua kuasa yang ada padanya, tetapi hanya memberi sebahagian kuasa yang ada pada negaranya. Ini bererti bahawa matlamat negaranya akan dapat dicapai dengan hanya menggunakan sebahagian dari kuasanya. NATO misalnya, melaksanakan pengeboman ke atas Kosovo dengan menggunakan kuasa tentera berjaya mencapai misi mereka, walaupun keputusannya agak lewat. Masalah yang timbul dalam perikatan ialah kepentingan dan matlamat yang tidak sama bagi setiap negara. Kepentingan ini biasanya dimonopoli oleh negara yang mempunyai kuasa yang lebih kuat dalam perikatan berkenaan dan tindakan yang diambil adalah lebih menjurus kepada kepentingan negaranya. Walau bagaimanapun, ianya merupakan satu cara bagaimana kuasa tentera dapat dipertingkatkan dan dapat melaksanakan fungsinya dengan berkesan.

Terdapat tiga mekanisme bagaimana kuasa tentera sesebuah negara dapat mengubah laku

sebuah negara yang lain. Pertamanya ialah dengan menggunakan peperangan, kedua, mengancam untuk menggunakan kuasa tentera dan ketiga, berharap atau bergantung kepada negara lain untuk mengambil tindakan menggunakan kuasa tentera apabila berlaku sesuatu pertelingkahan.¹⁴ Negara yang diharapkan untuk mengambil tindakan mestilah mempunyai kuasa tentera yang kredibel dan mampu untuk mempengaruhi negara yang lain untuk mengikut kehendaknya.

Keberkesanan kuasa tentera ini mempunyai beberapa syarat yang tertentu, yakni ia mestilah 'actual, potential, and putative military power.'¹⁵ Tentera darat, laut dan udara adalah instrumen kepada kuasa tentera dan ianya merupakan capability kepada pembentukan kuasa tersebut. Sungguhpun ketiga-tiga instrumen berkenaan merupakan keperluan kepada kuasa tentera, namun ianya masih belum memenuhi syarat yang sebenar. Reputasi kuasa tentera mestilah dipamerkan kerana ianya melibatkan kredibiliti dalam penggunaan kuasa tentera. Justifikasi terhadap penggunaan kuasa tentera bagi tujuan mempertahankan kepentingan nasional melibatkan reputasi sesebuah negara. Pun begitu, saiz tentera yang besar, sistem persenjataan yang moden bukan bermakna ianya mempunyai kuasa tentera yang kuat dan ini telah dibuktikan dalam Perang Vietnam. Amerika Syarikat walaupun mempunyai keupayaan untuk menghancurkan dunia, tetapi tidak berupaya untuk mengalahkan gerila yang hanya menggunakan 'rice-based' dan 'bicycle-powered economy.'

PERANAN DAN MOTIF KUASA TENTERA

Kuasa tentera merupakan prasyarat penting kepada kelangsungan hidup sesebuah negara. Oleh itu peranan dan tujuannya merangkumi berbagai-bagai aspek terhadap kepentingan

14 Knorr, Klaus., *Military Power and Potential*, Massachusetts: Princeton University, 1970, ms 3.

15 Ibid, ms 4-5.

nasional sesebuah negara. Peranan pertama adalah dari sudut keselamatan. Keselamatan merupakan satu fenomena psikologi dan ianya bersifat relatif. Apakah dengan mempunyai bilangan senjata yang banyak akan menyebabkan sesebuah negara itu merasa lebih selamat? Apakah dengan membuat persediaan untuk berperang menyebabkan dilema keselamatan berlaku? Yang pasti, kuasa tentera akan terus dapat memainkan peranan penting dalam menentukan kestabilan dan keamanan yang berpanjangan, walaupun tiada tanda-tanda ke arah peperangan, ataupun terdapatnya ancaman untuk berperang.

Keduanya ialah untuk membentuk prestij sesebuah negara. Prestij adalah kuasa yang menunjukkan sebuah negara merdeka dan berdaulat dalam sistem antarabangsa. Ini bermakna sesebuah negara itu mempunyai kuasa ke atas negaranya sendiri. Bagi mengekalkan prestij ini, sesetengah negara seperti Israel dan Singapura mengimplementasikan 'national service' yang memestikan semua rakyatnya menyertai perkhidmatan ini apabila mencapai umur yang tertentu untuk beberapa tahun. Dengan ini, seluruh rakyat mereka memainkan peranan dari sudut pertahanan dan mendedahkan minda rakyatnya terhadap kepentingan kuasa tentera. Selain dari itu, prestij ini akan terus berkekalan.

Ketiga, kuasa tentera memainkan peranan dari sudut pembentukan dan perpaduan sesebuah negara khususnya bagi negara-negara yang baru merdeka. Kuasa tentera dalam konteks ini tidak menjurus ke arah peranan untuk keselamatan atau prestij, tetapi ianya lebih bertumpu kepada bagaimana untuk membangunkan negaranya yang baru merdeka. Kesejahteraan merupakan motif kuasa tentera yang keempat. Kuasa tentera yang

menyumbang ke arah kestabilan serantau akan dilihat sebagai tindakan yang positif, akan tetapi, sekiranya ia digunakan sebagai simbol kepada kuasa besar, berbagai persoalan akan timbul tentang kesahihan komitmennya. Sebagai contoh, kehadiran kuasa tentera Amerika Syarikat adalah perlu di rantau Asia Pasifik untuk memainkan peranan dari sudut keselamatan dan kesejahteraan. Ianya bertujuan untuk mengimbangi kuasa serantau yang ada. Peranan kuasa tentera yang kelima ialah menentukan perolehan nilai dan sumber kepada negara, misalnya dari sudut sempadan dan wilayah. Pengawalan terhadap sempadan dan sumber bahan mentah yang terdapat pada negara haruslah diberi perhatian yang sewajarnya.

PENUTUP

Dalam politik antarabangsa, kuasa tentera merupakan elemen terpenting yang akan digunakan sekiranya pelbagai cara telah digunakan untuk menyelesaikan sebarang konflik menemui kegagalan. Senario oder dunia telah berubah pada masa kini dan Amerika Syarikat telah muncul sebagai sebuah kuasa unipolar yang unggul dan dilihat memainkan peranannya dari sudut keselamatan dan kestabilan dengan komprehensif. Faktor-faktor seperti perkembangan ekonomi dan diplomasi dilihat telah berjaya memainkan peranannya di peringkat antarabangsa dalam menyelesaikan isu-isu semasa. Namun perlu diingat bahawa konflik-konflik bersifat tradisional seperti tuntutan wilayah tidak mempunyai kompromi kerana ianya melibatkan kedaulatan negara dan kelangsungan hidup sesebuah negara masih lagi wujud. Ianya dianggap sebagai 'flashpoint' yang akan meletup pada bila-bila masa dan keunggulan kuasa tentera dipamerkan adalah tidak mustahil.

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Lt Kol Saiful Anwar bin Md Ali telah ditauliahkan ke dalam Rejimen Askar Melayu Diraja pada 23 Feb 1985. Beliau pernah memegang berbagai jawatan dalam Kor dan Markas Formasi serta jurulatih di ATMA. Memiliki Diploma Lanjutan Pengajian Strategi dan Keselamatan (UKM), Diploma Strategi dan Pertahanan (UM) serta memperolehi Ijazah Sarjana dalam bidang Kajian Dasar dan Keselamatan dari UKM. Beliau kini menjawat jawatan Pegawai Memerintah 6 RAMD.

PEMBANGUNAN TEKNOLOGI DALAM PEMANTAUAN KEADAAN ENJIN- KAEDAH PANCARAN AKUSTIK

Oleh: Othman bin Inayatullah



PENDAHULUAN

Teknologi di dalam ketenteraan telah berkembang dengan pesat selepas perang dunia pertama yang mana Negara Jerman sebagai pendahulunya. Kesan perubahan dari teknologi ketenteraan ini telah menyebabkan peningkatan teknologi di aktiviti-aktiviti lain seperti automotif, perubatan, pertanian, tenaga dan sebagainya. Perluasan teknologi lebih ketara selepas berakhirnya perang dunia ke 2 di mana teknologi-teknologi baru mula tumbuh dan bercambah dengan pesat di dalam ketenteraan. Wujudnya teknologi semikonduktor, optronik, digital, robotik dan kini teknologi virtual yang digunakan dengan meluas di dalam pembuatan semua peralatan pertahanan.

Dengan kewujudan beberapa teknologi baru di dalam ketenteraan, ianya telah membantu kerja-kerja operasi ketenteraan. Ini telah dibuktikan di dalam penaklukan Tentera Perikatan yang diketuai

oleh Amerika Syarikat ke atas Iraq pada tahun 2003. Kepantasan penaklukan tentera perikatan adalah disebabkan penggunaan peralatan berteknologi tinggi seperti teknologi satelit, teknologi peluru berpandu yang terkini serta bom yang berteknologi.

Penggunaan peralatan ketenteraan yang berteknologi tinggi tidak dapat dipisahkan dari semua agensi pertahanan setiap negara di dunia ini. Lantaran itu, Angkatan Tentera Malaysia tidak terkecuali dari penerimaan teknologi baru terutama di bawah perkhidmatan Tentera Darat. Penerimaan peralatan Tentera Darat yang berteknologi tinggi telah menyebabkan Kor Jurutera Letrik dan Jentera Diraja mengorak langkah yang proaktif di dalam menentukan semua peralatan tersebut boleh guna dan boleh gerak.

Di dalam merealisasikan keperluan ini, Kor Jurutera Letrik dan Jentera Diraja telah menggariskan tiga kaedah di mana salah-satunya ialah pembaikan sebelum kerosakan. Ini bermaksud kerja-kerja pemeriksaan berjadual dititikberatkan dalam mengenal pasti tahap jangka hayat (*life time*) atau kedudukan hayat (*life position*) sesuatu peralatan terutama sekali kenderaan. Ini adalah sebahagian dari kerja-kerja pemantauan. Namun adakah pemantauan dengan deria manusia dapat menentukan jangka hayat (*life time*) atau kedudukan hayat (*life position*) peralatan tersebut dengan tepat? Ini merupakan persoalan yang boleh dijawab kerana teknologi pemantauan keadaan telah berkembang serta meliputi industri automotif.

Namun di tahap manakah kemampuan kita menguasai teknologi ini?

TEKNOLOGI PEMANTAUAN KEADAAN

Setiap sistem yang melibatkan pergerakan atau tindak balas dinamik seperti sistem elektrik, hidraulik, mekanik dan pada lazimnya mempunyai ciri-ciri tertentu. Bunyi lazimnya dihasilkan semasa pergerakan dan tindak balas dinamik. Pada keadaan normal, deria pendengaran manusia boleh mendengar bunyi yang berjulat antara 20 Hz sehingga 20 kHz. Bunyi yang dihasilkan pada getaran atau gelombang yang melebihi julat 20 kHz dikenali sebagai gelombang ultrasonik yang boleh bergerak melalui medium udara, pepejal atau cecair.

Lazimnya, pembentukan kerosakan sesuatu pergerakan atau tindak balas dinamik dapat dikesan oleh deria pendengaran manusia. Ini adalah disebabkan perubahan bentuk bunyi yang dihasilkan oleh tindak balas dinamik tersebut. Perubahan ciri tersebut tidaklah semestinya terlalu besar dan mudah difahami tetapi ianya juga melibatkan perubahan yang terlalu kecil dan sukar difahami. Perubahan kecil yang terbentuk selalunya dilenyapkan oleh hingar yang dihasilkan oleh sistem tersebut serta persekitarannya. Ini pastinya menyukarkan seseorang mengenal pasti sama ada sistem itu mengalami pembentukan kerosakan pada peringkat awal (Howlett, 2001).

Pada masa kini, penggunaan peralatan pengumpulan data yang moden bersama teknik analisis isyarat (*signal analysis techniques*) memudahkan kerja-kerja pengasingan dan menentukan antara variasi rawak (*random variations*) yang tulen dengan aliran yang signifikan. Dengan ilmu pengetahuan berkaitan dengan parameter sistem dan ciri kebiasaannya, ia boleh digunakan dalam meramal jenis kerosakan. Justeru itu kaedah ini dikenali sebagai **Pemantauan Keadaan (*Condition Monitoring*)** (Howlett, 2001).

PEMANTAUAN KEADAAN PADA ENJIN

Pada mulanya, teknologi pemantauan keadaan dibangunkan untuk kegunaan dalam memantau dan meramal masa kerosakan sistem gear kelajuan tinggi untuk industri aero angkasa. Namun pada masa kini, teknologi ini telah berkembang dengan begitu meluas serta digunakan di dalam pelbagai industri termasuk industri pemesisan, automotif dan sebagainya.

Teknologi pemantauan keadaan banyak digunakan dalam kerja-kerja pemantauan yang melibatkan parameter yang kritikal termasuk kelajuan, tekanan, suhu, potensi berubah dan arus elektrik. Teknologi pemantauan keadaan ini juga digunakan di dalam industri automotif. Di dalam industri automotif, teknologi ini digunakan untuk memantau sistem gear dan sistem enjin. Kedua-dua sistem ini dipantau kerana ia merupakan nadi utama serta sistem yang kritikal di dalam sesebuah kenderaan berenjin. Kesukaran untuk mengesan dan memantau keadaan dua sistem ini secara visual menyebabkan teknologi pemantauan keadaan amat penting. Penggunaan cara pancaran gamma (x-ray) yang biasa digunakan di dalam bidang perubatan adalah tidak sesuai kerana kos yang tinggi dan penggunaan yang terhad.

Teknologi pemantauan keadaan juga berfungsi di dalam merancang kerja senggaraan dan pembaikan enjin. Teknologi ini digunakan untuk kerja-kerja mengesan kerosakan awal enjin. Sekiranya kerosakan awal yang kecil ini dibiarkan ianya akan menghasilkan kerosakan besar serta meningkatkan kos pembaikan. Penggunaan teknologi ini juga dapat meramal dengan lebih tepat jangka hayat komponen enjin tersebut serta mengurangkan kos senggaraannya.

KEADAAN MEKANIK DAN PENCAPAIAN OPERASI

Kemampuan sesebuah enjin boleh ditentukan dari keadaan mekanik dan pencapaian operasinya. Keadaan mekanik dan pencapaian operasi boleh dikenal pasti melalui analisis enjin berjadual,

pengukuran perubahan keadaan lazim dan pemeriksaan berjadual. Kekerapan kerja-kerja pemantauan dan analisis data pemantauan dapat menentukan keadaan mekanik, pencapaian operasi serta meningkatkan atau mengekalkan keberkesanan enjin yang ekonomi (Boutin, 2001). Data yang diperoleh semasa analisis enjin dapat digunakan untuk mengesan beberapa kerosakan di dalam enjin. Permasalahan yang sering berlaku di dalam enjin adalah berikut:

- Perubahan tekanan di dalam silinder enjin.
- Perubahan nisbah mampatan silinder.
- Penurunan tekanan pada sumpitan bahan api.
- Perubahan putaran masa pembakaran di dalam silinder.
- Perubahan putaran masa injap.

Perubahan Tekanan Di Dalam Silinder

Kerosakan yang biasanya disebabkan oleh perubahan tekanan di dalam silinder adalah berikut:

- **Ledakan (*Detonation*)**

Ledakan berlaku apabila tekanan maksimum melebihi purata puncak tekanan pembakaran. Ledakan disebabkan sumpitan bahan api yang lebih pantas menghasilkan titisan bahan api berkeadaan kabus di dalam silinder. Ini menyebabkan bahan api terlalu lama berada di dalam ruang pembakaran.

Tekanan maksimum (P_{max}) meningkat ke tahap yang lebih tinggi dari kebiasaannya ketika sudut tekanan maksimum (θP_{max}) lebih besar. Pada masa itu omboh memberi hentaman (*impact*) kepada pelapik silinder (*cylinder liner*) di titik tekanan maksimum silinder yang menghasilkan kejutan getaran kepada enjin. Kebanyakan enjin bebanan tinggi yang mengalami ledakan adalah disebabkan tak seimbang (*unbalancing*). Ledakan boleh menyebabkan kerosakan yang besar pada enjin. Kebiasaannya tak seimbang enjin menyebabkan pancaran bunyi yang tinggi pada ekzos (Boutin, 2001).

- **Ketidakseimbangan (*Unbalance*)**

Ketidakseimbangan mudah dikesan dengan pemeriksaan lengkung tekanan pada setiap silinder secara serentak. Pada kebiasaannya purata tekanan pembakaran akan menurun 5% dari purata puncak tekanan pembakaran (*peak firing pressures*). Enjin bebanan tinggi sering mengalami ketidakseimbangan yang disebabkan tekanan dalaman dan suhu pembakaran yang tinggi. Tekanan yang tinggi menyebabkan tegasan (*stress*) pada cemat sendi (*wrist pin*) dan rod galas meningkat.

Suhu yang tinggi pula menyebabkan keberkesanan minyak pelincir menurun. Ini disebabkan pengembangan haba (*thermal expansion*) pada omboh menjadikan kelegaan antara omboh dengan pelapik silinder berkurangan. Ini meningkatkan kadar geseran di dalam silinder dan menyebabkan berlakunya ledakan (Boutin, 2001).

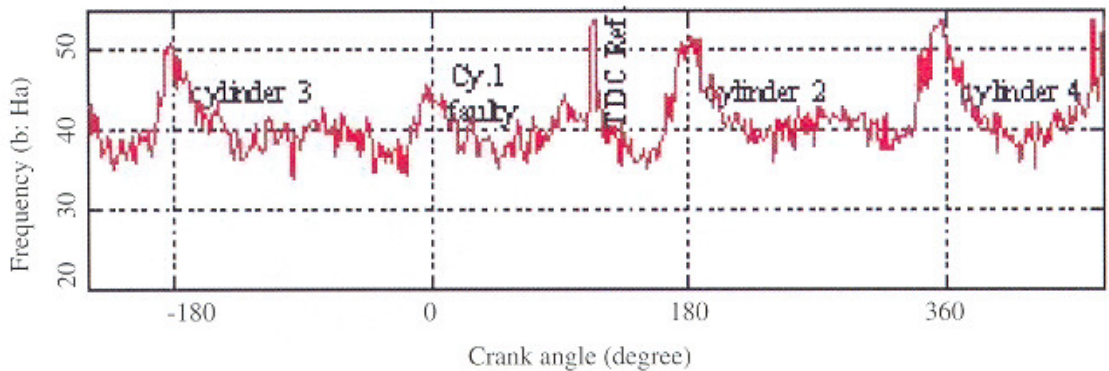
Perubahan Nisbah Mampatan Silinder

Kerosakan yang biasanya dihasilkan dari perubahan nisbah mampatan silinder adalah seperti berikut:

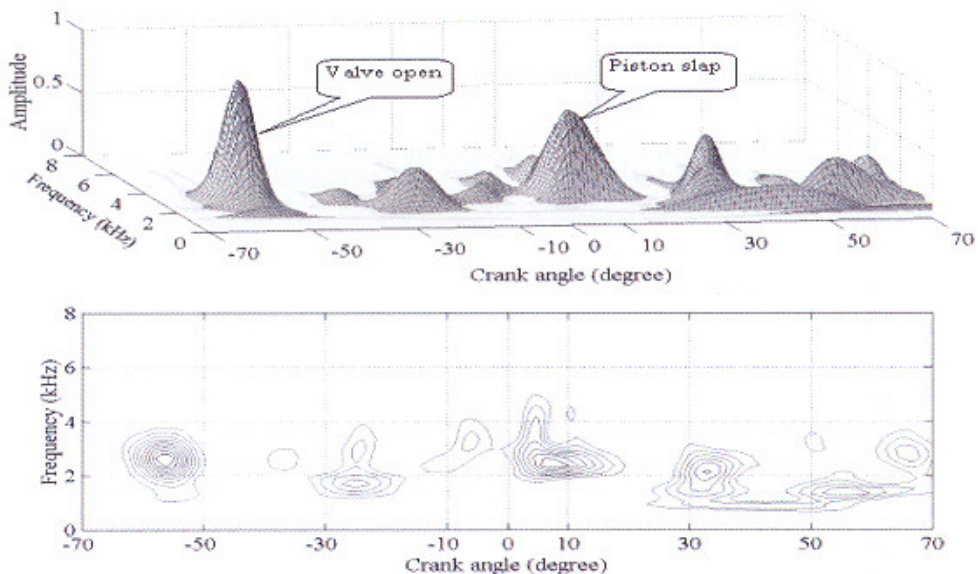
- **Salah Cetusan (*Misfires*).** Salah cetusan adalah disebabkan tekanan mampatan bahan api (*fuel compression pressure*) yang rendah. Ini menyebabkan nisbah bahan api dengan udara rendah (*lean*). Apabila nisbah bahan api dengan udara berkurangan, ianya menyebabkan suhu kebuk pembakaran (*combustion chamber*) rendah dan suhu pada dinding silinder juga menurun. Tekanan maksimum dengan sendirinya menurun apabila keadaan di atas berlaku (Boutin, 2001).

Perubahan Putaran Masa Injap

Putaran masa injap yang tidak sekata atau berubah mengundang beberapa permasalahan pada enjin. Permasalahan itu adalah:



Rajah 1: Frekuensi rendah berlaku pada silinder nombor 1 yang mengalami kebocoran gas (Gu et al., 2000).



Rajah 2: Frekuensi yang berbentuk tajam terbentuk semasa hentaman mekanik (Gu et al., 2000)

• Masalah Aturan Injap

Untuk enjin empat lejang (*stroke*) ke atas, masalah aturan injap disebabkan oleh pelarasan injap yang tidak betul, kehausan pada sesondol atau pengangkat injap (*valve lifter*) jatuh ke bawah. Permasalahan ini dapat dikesan melalui data getaran melawan sudut aci engkol. Kebocoran gas di dalam silinder boleh dikesan dengan merujuk Rajah 1. Pembakaran tidak

lengkap atau hentaman mekanik terhasil dan menyebabkan injap tidak boleh tutup sepenuhnya serta menghasilkan getaran yang berbentuk tajam seperti di Rajah 2 (Boutin, 2001).

Kekasaran (*roughness*) atau geseran (*friction*) yang disebabkan oleh kebocoran gas menghasilkan getaran yang berciri bentuk amplitud (*amplitude*) rendah seperti yang ditunjukkan di Rajah 2 di atas. Kerosakan yang biasa dikesan dari permasalahan

aturan injap yang tidak betul atau berubah adalah berikut:

- Jatuhnya pengangkat injap ekzos.
- Injap melantun (*bouncing*).
- Kerosakan pada pusat kedudukan injap (*valve seat*) dan pengangkat injap.
- Injap ekzos tidak berkedudukan betul serta kebocoran (*leaking*).

Perubahan Putaran Masa Pembakaran Di Dalam Silinder

Perubahan putaran masa pembakaran di dalam silinder boleh menyebabkan tampar omboh (*piston slap*) berlaku di dalam enjin. Tampar omboh biasanya disebabkan hentaman omboh ke atas pelapik silinder. Bila tampar omboh berlaku ia menghasilkan getaran yang kuat semasa tekanan maksimum silinder atau pada titik daya maksimum omboh. Kebiasaannya tampar omboh berlaku apabila wujud perubahan di dalam kelegaan pelapik omboh, beban yang meningkat kepada gegelang (*ring*) dan ledakan di dalam silinder (Boutin, 2001).

Penurunan Tekanan Pada Sumpitan Bahan Api

Penurunan tekanan pada sumpitan bahan api sering dikaitkan dengan permasalahan sistem FIP (*fuel injector pump*). Kebiasaannya permasalahan ini berlaku apabila muncung sumpitan tersumbat atau bertukar dimensi. Kedudukan semasa penyempit terbuka dan tertutup dapat diketahui melalui getaran. Dari analisis getaran, ketepatan nisbah pemotongan bahan api (*fuel cut-off ratio*) dapat dikenal pasti (Boutin, 2001).

MINYAK PELINCIR (ENGINE OIL or LUBE OIL)

Minyak pelincir adalah bahan cecair yang amat penting di dalam sistem automotif. Keberkesanan minyak pelincir adalah untuk mengurangkan geseran dan mengurangkan suhu panas pada dua permukaan yang bergeser. Terdapat beberapa

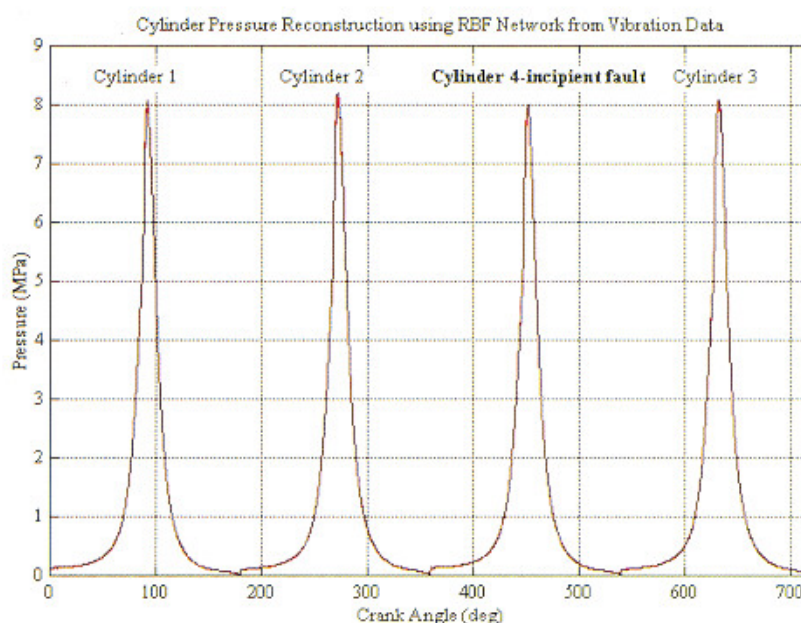
kriteria yang berkaitan dengan minyak pelincir. Kriteria yang sering dipertimbangkan dalam penggunaan minyak pelincir adalah darjah sentuhan antara bahagian yang bergeser, kekasaran permukaan, suhu dalaman yang dihasilkan dan suhu persekitaran. Kriteria inilah yang menentukan tahap kelikatan dan keberkesanan minyak pelincir.

Aliran minyak pelincir disalurkan kepada pelapik silinder melalui gegelang minyak yang mempunyai omboh untuk mengurangkan kehausan dan menyerap haba yang disebabkan geseran. Pemantauan minyak pelincir dapat mengelakkan kerosakan gegelang omboh enjin yang bergerak antara 250,000 hingga 350,000 km setahun dengan kelegaan 5 hingga 10 mikrometer dari dinding pelapik silinder.

PEMANTAUAN KEADAAN ENJIN DIESEL

ANALISIS TEKATAN SILINDER

Getaran yang dihasilkan oleh enjin diesel digunakan sebagai analisis tekanan silinder. Data getaran yang lebih tepat dapat diperolehi dengan meletakkan alat pemantauan di atas kepala silinder (*cylinder head*). Dengan penggunaan jejarian fungsi asas (*radial basis function*) rangkaian anatomi (*neural network*) akan membentuk gelombang tekanan silinder antara lejang mampatan dan lejang kuasa. Berkemungkinan pembentukan gelombang tekanan silinder yang sama berlaku pada setiap silinder di semua sudut engkol (*crank angle*) dari permulaan lejang mampatan sehingga lejang kuasa. Penggunaan analisis tekanan silinder secara getaran juga boleh digunakan untuk analisis julat ciri-ciri pembakaran (*combustion*) termasuk puncak tekanan (*peak pressure*), peningkatan tekanan (*pressure rise*) dan permulaan pembakaran (*commencement of combustion*). Rajah 3 di bawah menunjukkan silinder yang keempat mengalami permasalahan penurunan tekanan di dalam silinder. Penurunan tekanan dijelaskan melalui penurunan ralat mampatan melebihi 4%.

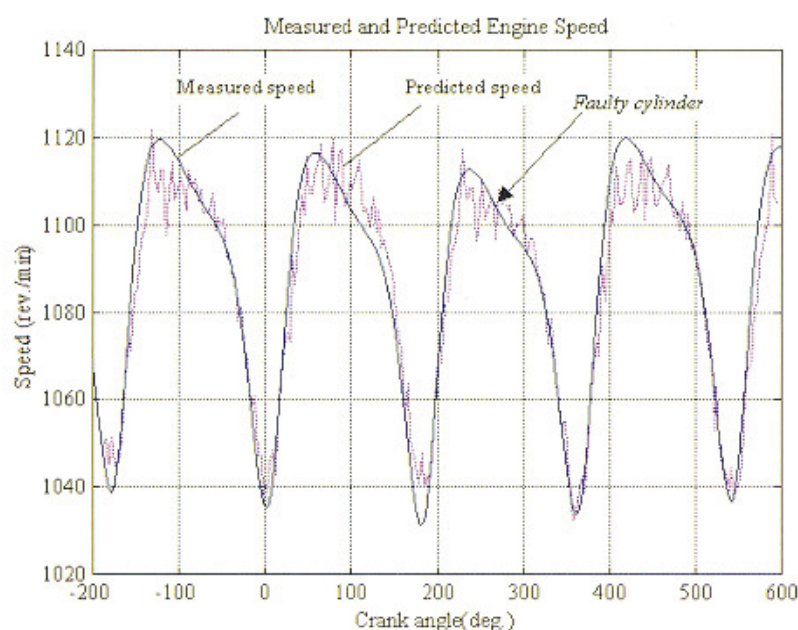


Rajah 3: Permasalahan ciri-ciri pembakaran (Gu et al., 2000).

ANALISIS PENCAPAIAN SILINDER

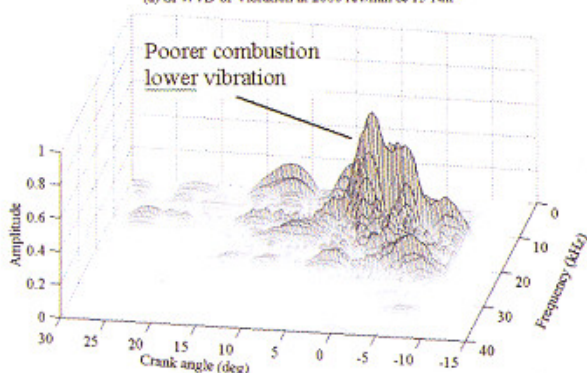
Data kelajuan sudut yang diperoleh boleh digunakan dalam menganalisis pencapaian silinder. Pungutan magnet lazim (*conventional magnetic*

pickup) diletakan pada gegelang gear roda tenaga (*flywheel*). Di samping itu penggunaan aci pengkod (*shaft encoder*) ialah satu keperluan. Isyarat yang disalurkan ke enjin merupakan had kuasa putaran (*torque*) pada setiap silinder. Analisis ini mengambil



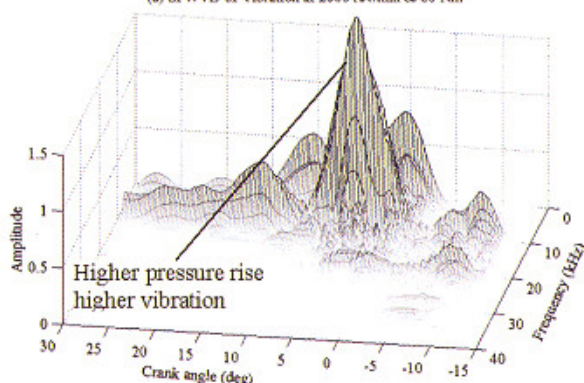
Rajah 4: Perbandingan antara silinder semasa analisis pencapaian silinder (Gu et al., 2000).

(a) SPWVD of Vibration at 2000 rev/min & 15 Nm



(a)

(a) SPWVD of Vibration at 2000 rev/min & 60 Nm



(b)

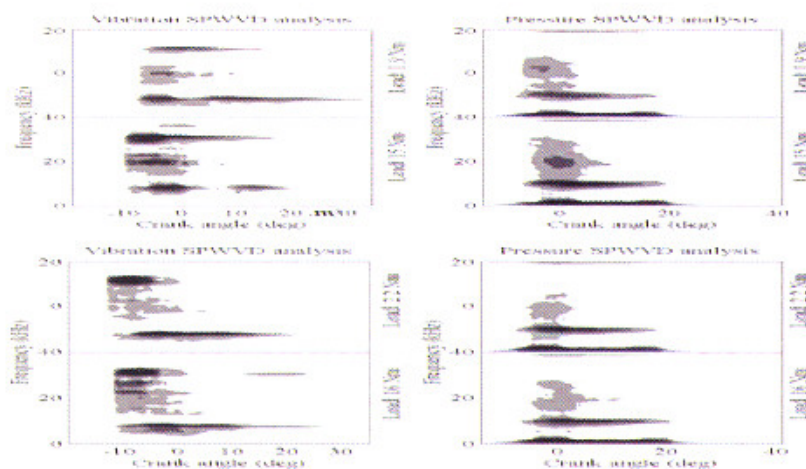
Rajah 5: Dua keadaan yang berbeza. Rajah (a) menunjukkan pembakaran yang tidak sempurna yang menyebabkan getaran yang rendah. Rajah (b) pula menunjukkan tekanan tinggi semasa pembakaran yang mengakibatkan getaran tinggi (Gu et al., 2000).

kira setiap kuasa yang dikenakan pada setiap silinder dengan matlamat untuk mengesan mana-mana silinder di bawah tahap pencapaiannya. Kebiasaannya analisis ini adalah untuk mengesan berlakunya ledakan (*detonation*) yang disebabkan aturan pembakaran yang tidak betul atau perubahan sumpitan bahan api.

Perbandingan yang dapat ditunjukkan dengan menggunakan analisis pencapaian silinder seperti

rajah 4. Silinder yang bermasalah mengalami penurunan halaju.

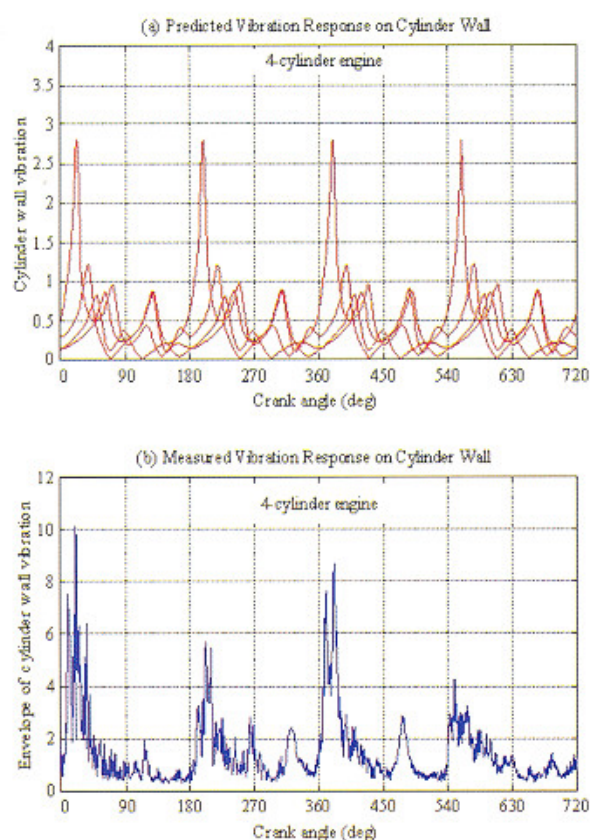
Analisis pencapaian silinder juga dilaksanakan secara getaran kepala silinder (*cylinder head*). Kaedah ini adalah untuk saringan maklumat aturan pembakaran (*extract combustion timing information*) dan mengukur keamatan proses pembakaran. Rajah 5 menunjukkan dua keadaan pembakaran di dalam silinder.



Rajah 6: Dua gambar di atas menunjukkan getaran dan tekanan silinder yang normal. Dua gambar di bawah menunjukkan berlakunya pemecahan tekanan pada beban 2.2 Nm (Gu et al., 2000).

ANALISIS PENCAPAIAN SUNTIKAN BAHAN

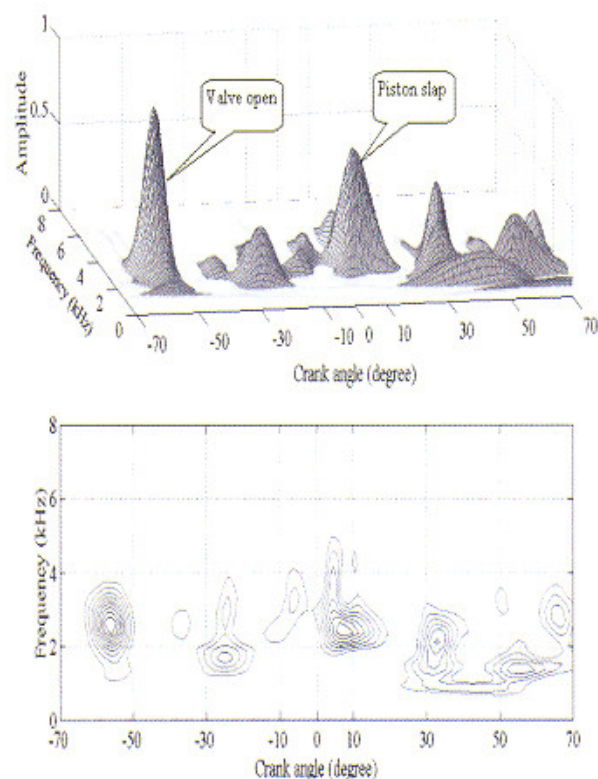
Analisis ini menggunakan teknik getaran badan sumpitan (*injector body vibration*) dan analisis frekuensi masa. Maklumat dari analisis ini dapat menentukan aturan suntikan bahan api semasa permulaan, pertengahan dan akhir. Maklumat ini juga digunakan dalam menentukan tekanan suntikan secara terperinci serta mengukur keberkesanan pam suntikan bahan api (*fuel injection pump*). Teknik ini biasanya adalah untuk mengesan bunyi asas dalam pemantauan keadaan pada keseluruhan proses suntikan bahan api. Rajah 6 menunjukkan kegunaan analisis pencapaian suntikan bahan api.



Rajah 7: Silinder 2 dan 3 mengalami permasalahan pada omboh dan lubang omboh (Gu et al., 2000).

ANALISIS KEADAAN OMBOH DAN LUBANG OMBOH

Analisis ini adalah untuk menganalisis maklumat keadaan omboh (*piston*) dan lubang omboh (*bore*) dari getaran dinding silinder (*cylinder wall*) dan gelombang akustik dari kotak engkol (*crankcase*). Dengan kaedah ini ianya sesuai di dalam mengesan kehausan lubang omboh, gegelang omboh, alur omboh dan berlakunya calaran pada lubang omboh. Rajah 7 di bawah menunjukkan keadaan sebenar silinder 2 dan 3 yang mengalami kehausan pada omboh atau lubang omboh.



Rajah 8: Permasalahan aturan injap (Gu et al., 2000).

PENGUKURAN KAWALAN INJAP

Analisis menggunakan peralatan akustik lazim (*conventional acoustic instrumentation*) seperti mikrofon dan amplifier yang digunakan untuk mengukur pancaran medan bunyi bebas dari enjin. Data bunyi yang terhasil diguna untuk mengesan permasalahan masa buka dan tutup injap, tamparan omboh dan permulaan pembakaran. Dengan ini aturan injap dapat dipastikan bagi memenuhi kecekapan yang tinggi. Rajah 8 menunjukkan permasalahan aturan injap yang dinyatakan dengan jelas sebelum ini.

TEKNIK PANCARAN AKUSTIK

KONSEP AKUSTIK

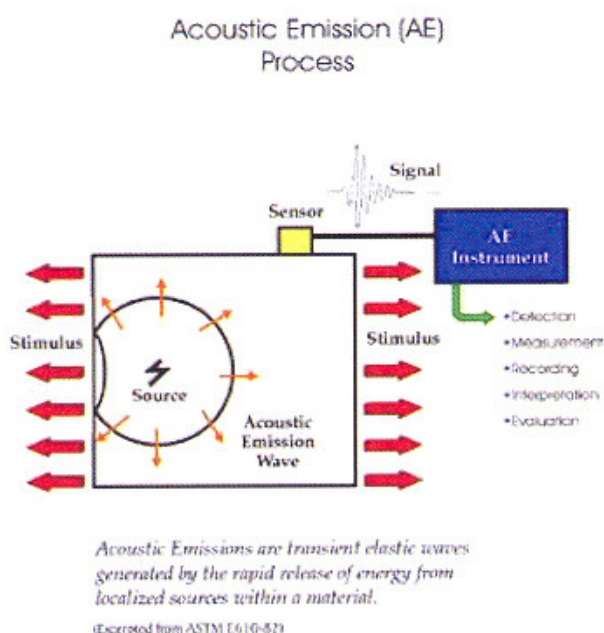
Akustik adalah sains kebunyian (*science of sound*) yang merangkumi pengeluaran, proses penyebaran (*transmission*) dan tindak balas (*Pierce, 2003*). Pada masa kini, perkataan bunyi tidak hanya melibatkan fenomena penghantaran udara untuk deria pendengaran tetapi apa saja yang dipengaruhi oleh prinsip fizikal analog. Oleh itu, gangguan berfrekuensi yang amat rendah (*infrasound*) selalu digunakan untuk kajian sifat-sifat mekanik bahan yang berdasarkan kepada pemalar seperti halaju dan pemalar penyerapan. Gangguan yang berfrekuensi terlalu tinggi (*ultrasound*) pula digunakan untuk kajian terhadap gelombang serta kesan terhadap media.

Ada pendapat mengatakan bahawa keadaan bunyi boleh didengari di dalam suasana di bawah air (*underwater sound*), di dalam kepadatan (*solid sound*) atau tanda struktur (*structure borne sound*). Akustik adalah kenal beza dari optik di dalam bunyi yang dibentuk secara mekanik sama ada dalam bentuk elektromagnet atau gerakan gelombang.

TEORI PANCARAN AKUSTIK

Pancaran akustik (*acoustics emission*) dikenali juga sebagai gelombang tegasan (*stress wave*). Pancaran akustik ialah fenomena terbitan pancaran elastik fana dari sesuatu bahan yang mengalami perubahan mendadak kepada terikkan atau tegangan. Pancaran akustik dapat dikesan melalui terjemahan ultrabunyi min terganding pada bahan seperti di Rajah 9. Pancaran akustik boleh dibahagikan kepada beberapa bahagian penting iaitu:

- Pancaran elastik.
- Pancaran visko elastik.
- Pancaran plastik.
- Pancaran kejutan.



Rajah 9: Proses gelombang tegasan
(Envirocoustisc SA, 2003).

ANALISIS ISYARAT PANCARAN AKUSTIK

Analisis isyarat pancaran akustik mempunyai banyak kaedah tetapi kaedah *ringdown counting* adalah kaedah yang sering digunakan pada masa

kini. Selain kaedah *ringdown counting*, kaedah taburan amplitud juga sering digunakan. Taburan amplitud yang diperoleh mencirikan keadaan ubah bentuk struktur yang dikaji. Bagi sesetengah keluli, taburan amplitud meningkat dengan rekahan yang berlaku dalam bahan tersebut. Ini disebabkan isyarat yang dihasilkan oleh lurah rekahan menghasilkan amplitud yang lebih besar.

Sifat ini dapat digunakan dalam mengesan saiz dan tahap kerosakan yang berlaku pada sesuatu komponen. Selain itu, analisis frekuensi juga merupakan salah satu kaedah yang biasa digunakan. Kaedah ini menggunakan penapis akustik yang menunjukkan nilai bacaan amplitud pada frekuensi tertentu. Dari data yang diperoleh, penterjemahan dapat dilakukan berdasarkan maklumat frekuensi.

PENGESANAN PANCARAN AKUSTIK

Peralatan yang mampu mengubah gelombang bunyi kepada getaran arus elektrik (*electric circuit vibration*) digunakan di dalam pengesanan pancaran akustik. Terdapat tiga jenis maklumat yang penting semasa kerja-kerja pengesanan dilaksanakan. Maklumat tersebut adalah amplitud, frekuensi dan fasa bagi setiap gelombang. Peralatan osiloskop mampu untuk memaparkan maklumat yang dikehendaki dan transducer pula digunakan untuk mengubah gelombang kepada tenaga getaran. Maklumat yang diperoleh oleh transducer akan dipaparkan oleh osiloskop untuk pembacaan masa dan amplitud gelombang.

Semasa isyarat pancaran akustik dikesan oleh transducer, isyarat elektrik akan terhasil. Keamatan isyarat pancaran akustik adalah berkadar dengan kadar terikkan. Galangan (*impedance*) bahan penghantar juga mempengaruhi keamatan isyarat pancaran akustik. Kebanyakan isyarat yang dihasilkan boleh diklasifikasikan sebagai 'burst' iaitu isyarat yang mengandungi denyutan amplitud yang agak besar dari hingar latar belakang. Dua jenis

analisis pancaran akustik yang biasa digunakan ialah analisis domain frekuensi dan analisis domain masa.

PANCARAN AKUSTIK DAN PEMANTAUAN KEADAAN ENJIN

Penggunaan teknik pancaran akustik di dalam pemantauan keadaan enjin merupakan satu kaedah yang baru. Pada masa kini pemantauan keadaan enjin menggunakan kaedah teknik getaran. Kaedah pancaran akustik biasanya digunakan pada keamatan rendah yang terhasil semasa pembebasan tenaga dalaman (*strain energy*) di dalam enjin. Pengukuran frekuensi pancaran akustik adalah antara julat 150 kHz - 300 kHz iaitu melebihi tahap kebolehdengaran bunyi. Ianya dihasilkan oleh getaran di dalam enjin yang disebabkan oleh gelombang elastik (Othman, 2003). Getaran ini dikesan oleh transducer piezo elektrik yang dikenakan pada enjin tersebut. Transducer pula akan menukarkan tenaga kepada isyarat elektrik. Isyarat yang terhasil pula boleh dibesarkan, ditapis, disimpan dan dipaparkan (Kerita et. al., 2001).

KAEDAH PANCARAN AKUSTIK

Sebelum penggunaan kaedah pemantauan yang terkini, manusia menggunakan gelombang bunyi melalui deria dengar sebagai rujukan dan meramal sesuatu keadaan enjin atau sistem. Kaedah yang lama ini telah diterangkan dengan ringkas sebelum ini. Namun ketepatannya boleh dipertikaikan dan kadangkala bunyi tersebut dipengaruhi oleh hingar persekitaran. Dengan adanya kaedah pancaran akustik, ketepatan sesuatu analisis itu adalah lebih baik disebabkan oleh tahap kepekaan yang tinggi (*high sensitivity*). Selain itu kelebihan kaedah pancaran akustik ialah ianya merupakan alat pengesan awalan dan berterusan terhadap sesuatu kerosakan, kecacatan, retak dan sebagainya (Othman, 2003). Pemantauan masa nyata dan pengurangan kos merupakan sebahagian kelebihan kaedah pancaran akustik yang meningkatkan tahap kecekapan sesuatu sistem. Pancaran akustik boleh dinyatakan sebagai

pancaran tenaga yang bergerak dan berkembang pada struktur elastik semasa ianya dikenakan daya.

Bahan-bahan logam merupakan bahan yang sesuai dalam membenarkan gelombang tenaga bergerak dan berkembang. Ianya merupai dengan tahap keberkesanan aliran elektrik terhadap sesuatu bahan (Othman, 2003). Isyarat pancaran akustik terbahagi kepada tiga jenis frekuensi iaitu:

- Bunyi infra - kurang 16 Hz
- Gelombang bunyi - 16 hingga 16 kHz
- Bunyi ultra - melebihi 16 kHz

Sesuatu perubahan keadaan dalaman enjin dapat ditentukan melalui perbezaan frekuensi semasa enjin di dalam keadaan 'idling'. Pancaran yang terhasil dikategorikan sebagai pancaran bunyi ultra iaitu melebihi 16 kHz.

BENTUK PANCARAN

Bentuk pancaran yang biasa dihasilkan semasa berlakunya kerosakan, keretakan dan sebagainya merupakan sumber isyarat kepada pancaran akustik. Bentuk pancaran yang terhasil di dalam enjin biasanya berbentuk pancaran mampatan dan pancaran permukaan (Othman, 2003). Pancaran mampatan merupakan pancaran membujur yang terdiri daripada zon ulangan mampatan dan pengembangan di sepanjang arah perambatan. Ini menyebabkan wujudnya daya elastik antara zarah-zarahnya. Perambatan adalah disebabkan oleh getaran yang selari dengan arah perambatan dan ikatan elastik antara zarah (Krautkramer, 1990).

Pancaran permukaan pula telah ditemui oleh Lord Rayleigh pada tahun 1980 (Krautkramer, 1990). Pancaran ini merambat pada permukaan bahan iaitu medium gas dan pepejal. Kedalaman tusukan adalah lebih kurang separuh dari jarak pancaran. Zarah-zarah pancaran permukaan ini bergerak menegak secara elips dengan arah perambatannya dan halajunya pula bersamaan dengan 90% halaju pancaran melintang.

Secara prinsipnya imej sesuatu pancaran itu dikesan melalui molekul pada logam seperti pegas yang bergetar. Tenaga yang dihasilkan semasa pegas bergetar bergerak secara pancaran tegasan dapat dikesan oleh alat pengesan. Pergerakan pancaran bunyi pula dipengaruhi oleh faktor seperti balikkan serta kesan penyerapan di persekitaran. Kesan ini adalah penting dalam memilih lokasi uji kaji untuk diletakkan alat pengesan pancaran akustik. Lokasi yang tepat dapat mengurangkan kadar kehilangan maklumat. Maklumat yang tepat dan betul dapat membantu di dalam analisis pancaran akustik. Memandangkan keadaan enjin yang besar, pemilihan lokasi yang tepat amat penting untuk perolehan data yang tepat.

KESIMPULAN

Kajian terhadap kemampuan teknologi pemantauan keadaan enjin melalui Pancaran Akustik telah dibuktikan berkesan dengan jaya dalam satu kajian peringkat Sarjana Kejuruteraan di Universiti Kebangsaan Malaysia (Othman, 2003). Pada keseluruhannya, teknologi pemantauan keadaan enjin boleh digunakan di dalam memantau keadaan minyak pelincir dan permasalahan di kepala silinder dengan mengambil kita beberapa parameter penting iaitu amplitud maksimum, amplitud puncak, kuasa ketumpatan spektrum dan tenaga. Ianya juga berkesan untuk memantau keadaan minyak pelincir di dalam enjin, uji kaji pada badan enjin adalah sesuai di mana sentuhan antara permukaan omboh dengan pelapik silinder menghasilkan perambatan pancaran akustik di mana minyak pelincir bertindak sebagai medium. Perubahan kelikatan minyak pelincir iaitu penurunan kelikatan akan menyebabkan penurunan perambatan pancaran akustik. Pada teorinya perubahan kelikatan minyak pelincir berkait rapat dengan haba yang dihasilkan semasa pembakaran. Peranan minyak pelincir di dalam enjin adalah untuk mengurangkan geseran serta menyerap haba yang dihasilkan semasa pembakaran. Sekiranya kelikatan minyak pelincir tidak dipantau secara sistematik, ianya akan memudaratkan bahagian dalam enjin. Parameter yang digunakan untuk memantau keadaan

minyak pelincir adalah amplitud puncak dan kuasa ketumpatan spektrum.

Kesukaran untuk melihat keadaan dalaman enjin serta tindak balas minyak pelincir semasa enjin dihidupkan membawa kepada penggunaan kaedah suntikan denyutan pancaran akustik. Kaedah ini merupakan sebahagian dari teknologi pemantauan keadaan yang terus berkembang.

Ketepatan kaedah suntikan denyutan pancaran akustik merupakan amaran awal kerosakan komponen dalaman enjin dan menentukan tahap kelikatan minyak pelincir. Parameter yang dikaji adalah:

- Amplitud maksimum.
- Frekuensi.
- Amplitud puncak.
- Kuasa ketumpatan spektrum.

Dari hasil uji kaji hanya terdapat dua (2) parameter yang sesuai dijadikan rujukan dalam menentukan kelikatan minyak pelincir serta keadaan dalaman enjin. Parameter tersebut adalah amplitud puncak dan kuasa ketumpatan spektrum.

Pembuktian menunjukkan bahawa amplitud puncak dan kuasa ketumpatan spektrum minyak pelincir menurun mengikut tempoh penggunaannya.

Pengurangan ini adalah disebabkan haba yang terhasil di dalam enjin yang mana diserap oleh minyak pelincir. Parameter yang terhasil dari uji kaji memantau keadaan minyak pelincir dapat membantu dalam kerja-kerja senggaraan enjin tersebut. Ini lebih tepat dan ekonomi dari mengikut jadual yang sedia ada iaitu 5000km atau 6 bulan sekali yang mana sampai dulu.

Di dalam pemantauan keadaan di kepala silinder, perubahan amplitud maksimum dan kuasa ketumpatan spektrum yang meningkat membuktikan bahawa terdapat pemindahan minyak pelincir yang melampau ke bahagian atas enjin. Ini menunjukkan berlakunya kerosakan komponen-komponen di dalam enjin tersebut.

Pada keseluruhannya pembuktian dari uji kaji ilmiah telah membuktikan teknologi pemantauan keadaan dengan kaedah pancaran akustik boleh digunakan dalam pemantauan keadaan enjin.

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Lt Othman bin Inayatullah telah ditauliahkan ke dalam Kor Jurutera Letrik dan Jentera Diraja pada tanggal 29 Sept 1997. Beliau pernah menjawat jawatan sebagai Ketua Woksyop di 92 DSP, Batu Kantonmen, Kuala Lumpur. Beliau juga telah memperoleh Ijazah Kejuruteraan Jentera pada tahun 2003. Kini beliau berkhidmat sebagai Pegawai Woksyop di 12 Wksp Bgd, Kem Sungai Buloh, Selangor.

TERRORISM - THE NEW FORM OF ASYMMETRIC WARFARE AND ITS CHALLENGES TO THE FIVE POWER DEFENCE ARRANGEMENT NATIONS

By : Lt Kol Hassan Bin Ali



INTRODUCTION

The new world order after the cold war has led to many changes in managing conflicts and threats as the expectations of individual states and non-state actors are different as from before. The world has become borderless and the war is fought in many dimensions. Wars are no more between two forces or coalitions and so are the security issues and threat perception. The world is also witnessing the resurfacing of ethnic-cum-religious conflicts in Eastern Europe, Southern Russia, parts of Africa and Southeast Asia. The globalisation has changed the concept of security from all dimensions making it more difficult for us to identify our threats, from where it comes, and more so without frontlines.

There is an increasing non-traditional sources of threats to national security resulting from the illegal drug trade, human trafficking, transnational crime, smuggling

of weapons and the most dangerous one is the act of terrorism. Increasingly, these non-traditional threats especially terrorism goes global. Al Qaeda as example is a global networks that cooperates with more or closely with national or regional groups like the Jemaah Islamiyah in Indonesia. Thus terrorism has become a new nightmare and form of asymmetric threat against the more superior forces in order to attain their political goals.

ASYMMETRIC THREATS AND THE NEW WORLD ORDER

Asymmetric conflicts tell us that the weaker powers often rationally pick fights with stronger powers by developing methods of war-fighting that neutralize the advantages enjoyed by a stronger adversary. Asymmetric means to offset superior capabilities and terrorism is a weapon of the weak. Asymmetric threat involves the use of non-conventional or conventional irregular means to circumvent the adversary's strength.

Asymmetric warfare is an approach where the victim is not a target but as part of a communication strategy. Terrorism succeeds according to how big it can portray itself than it really is. The September 11 incident was a perfect example of asymmetric warfare. Only 19 suicide attackers and a financial input of probably US\$500,000 killed more than 3,000 civilians and caused material damage of at least US\$40 Billion on the world superpower the United States of America. The repercussions of September 11 resulted in a decrease of world economic growth

and it showed that the terrorists are targeting soft targets. It was also as a wake up call to all of us that even with more sophisticated intelligence it will hardly be possible to predict the exact venue and time of a terrorist attack.

A successful attack on a soft target might well entail the same overall result as an attack against a hard target. It sends a shock wave proliferated by the international media all over the world, intimidating not only the local population or those being geographically close to the scene of a terrorist attack but also to people thousands of miles away, deterring them from visiting or investing in the country where the attack took place. In fact the victims themselves have no particular importance for the terrorists, except as part of a communication strategy with a message that the war against terrorism has not been and will not be successful.

Asymmetric threat in the form of terrorism is threatening the peace and stability of the world. The problem posed by terrorism has received serious global attention. Nevertheless, the international community has not yet formulated a uniform definition of terrorism. The saying, *“one man’s terrorist is another man’s freedom fighter”* remains an attractive perspective on the definitional problem of terrorism. Paul Pillar, a former CIA Deputy Chief of the Counter-Terrorist Centre defines terrorism in the context of four elements; it is premeditated - planned in advance, rather than an impulsive act of rage, it is political - not criminal, like the violence that groups such as the mafia use to get money, but designed to change the existing political order, it is aimed at civilians - not at military targets or combat-ready troops and it is carried out by sub-national group - not by the army of a country.¹

After the September 11 and the Bali Bombing incident on 12 October 2002 proved that more and

more religious motivated terrorism has superseded other forms motivation of terrorism. Thus the definition of terrorism requires re-conceptualisation. It is the emergence of new post-modern terrorism. ***Post-modern terrorism that have less comprehensible nationalistic or ideological motivations, embrace more amorphous religious and millenarian aims, are less cohesive in their organization and are potentially far more lethal than traditional terrorist groups. They do not bother to justify their attacks, as they see violence as an end in itself.***²

Southeast Asia is not exempted from the shortcoming of generating a regional definition of terrorism. ASEAN as a whole has already recognized the threat of terrorism even before the September 11 incident as early as 1997.³ In 1998 a Declaration on the Prevention and Control of Transnational Crime was signed in Manila and lead to the establishment of the ASEAN Centre for Combating Transnational Crime in Manila. On 5 November 2001, ASEAN members signed the 2001 Declaration on Joint Action to Counter Terrorism and it regards terrorism as a profound threat to international peace and security that require concerted action to protect and defend all peoples and the peace and security of the world.⁴ Among actions taken by members of ASEAN are exchange of information, overcoming legal matters, law enforcement matters, training, institutional capacity building and extra-regional cooperation. Finally, ASEAN through the Trilateral Agreement signed by Malaysia, Indonesia and Philippines on 7 May 2002 defined terrorism as:

“Any act of violence of threat thereof perpetrated to carry out within the respective territories of the Parties or in the border area

1 Quoted in Council on Foreign Relations, “Terrorism: An Introduction” at <http://www.terrorismanswer.com/terrorism/introduction.html> (Accessed on 7 Oct 2003).

2 Andrew T.H.Tan, The Emergence of Post-modern Terrorism and Its Implications for Southeast Asia. Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore at <http://www.ntu.edu.sg/ids/perspective/research>. (Accessed on 10 Oct 2003).

3 Sheldon W. Simon, Southeast Asia and the War on Terrorism. NBR Analysis. Vol 13, No 4, July 2002. pp. 25 - 37.

4 See <http://www.aseansec.org/4960.htm> cited in Banlaoi, Rommel C. The War on Terrorism in Southeast Asia. Strategic and Integrative Studies Center, Inc. Quezon City, 2003.

of any of the Parties an individual or collective criminal plan with the aim of terrorizing people of threatening to harm them or imperil their lives, honour, freedom, security or rights or exposing the environment or any facility or public or private property to hazard or to occupying or seizing them, or endangering a national resource, or international facilities, of threatening the stability, territorial integrity, political unity or sovereignty of independent States”.

However the definitions above are more on conceptualisations of the new terrorism and fail to provide a useful working definition with universal application. To provide a useful working definition of terrorism applicable to the Asia Pacific region after September 11, the Council for Security Cooperation in the Asia Pacific (CSCAP) offered the following conceptualisation definition of terrorism:

*“The use of violence, often against people not directly involved in a conflict, by parties which generally claim to have high political or religious purposes, and behave that creating a climate of terror will assist attainment of their objectives. Terrorism of this kind almost always appears to be non-governmental, but terrorism can also be conducted by states. Movement engaging in terrorism may also have a degree of clandestine support from governments”.*⁵

Like most countries in the Five Power Defence Arrangement (FPDA), Malaysia condemned the terrorist attacks on America. Malaysia has its own view on terrorism and it is not a new issue in Malaysia. Malaysia recognized that terrorism is a global issue. Malaysia has consistently condemned all acts, methods and practices of terrorism and regarded them as criminal acts regardless of their

motives and manifestations particularly those that threaten international peace and security. Malaysia's foundation of definition on terrorism is *“terrorism should not be associated with any race, religion and culture”*. Fight against terrorism should not be seen as targeting any race, religion or culture. The international community should not view the fight against terrorism as a fight against Islam. Islam does not condone nor propagate violent acts against innocent civilians and which threaten peace and security.⁶ Terrorism has indeed no colour or face. Islam and Muslims have continued to be wrongly associated with terrorism and terrorists. Islam is a religion of peace and is against the killing of innocent people.

Dr Mahathir bin Mohamad the former Prime Minister of Malaysia has carefully supported the war on terrorism with no anti-Islamic undertone. In his speech before the Asia Society, he underscored:

*“Clearly Islam the religion is not the cause of terrorism. Islam, as I said, is a religion of peace. However through the centuries, deviation from the true teachings of Islam take place. And so Muslims kill despite the injunction of their religion against killing especially of innocent people”.*⁷

Dr Mahathir further stressed, *“Terrorists are not people who advertise their intention to commit terror. The operative word here is terror. Terrorists use terror as their weapon. If we have to determine who is a terrorist is and who is not then we have to base it on the act - not on the person, the group, the race or the religion”.*⁸

We cannot rule out that terrorism is not an internal asymmetric threat anymore as the world has become

5 CSCAP Study Group Meeting, “Report on International Terrorism”. Kuala Lumpur, Malaysia, 25-26 March 2002.

6 Meeting for ASEM Seminar on Anti-Terrorism, Beijing. 22-23 September 2003.

7 Mahathir bin Mohamad. Islam, Terrorism and Malaysia Response. Speech delivered before Asia Society, New York, 4 Feb 2002.

8 A speech delivered at the Conference on Terrorism in Kuala Lumpur, Malaysia on 16 November 2001.

borderless as result globalisation. In the world today, nothing happens in one part of it that does not have repercussions on the rest. Terrorism cannot be separated between internal and external security. It need not stay in a particular country; it can be everywhere and anywhere. Therefore the security of our country is not anymore almost exclusively in the hands of our own and other governments, in the hand of politicians but to all. International terrorism and state sponsored terrorism pose more and more direct risk on our globe.

Terrorism is also recognized to have a links with other transnational organized crimes such as money-laundering, illicit arms trafficking and the production and trafficking in illicit drugs.⁹ Terrorism has become a common enemy and it will harbour in one country in one day and attack another country in the next day. One country's internal threat may pose an external threat to her neighbouring countries.

THE CHALLENGES TOWARD THE FIVE POWER DEFENCE ARRANGEMENT

The FPDA is a loose arrangement with the intention of providing consultation in the event either Malaysia or Singapore is attacked from external aggression. However this arrangement does not guarantee that military assistance will be provided to a member state being attacked by an aggressor. This arrangement is still relevant in so far as to provide the platform and framework for bilateral and multilateral exercises and training, change of expertise and others.

The FPDA has now embarked on new a role that is fighting asymmetric threats primarily terrorism. ***"A five-nation grouping dedicated to the defence of Malaysia and Singapore is to shift its focus from conventional threats to terrorism. We are steadfast against any form of terrorism and we will continue to work together to combat the***

menace of terrorism. The FPDA is flexible and it can meet any new challenge. The ministers agreed we should look at non-conventional forms of threats, in particular global terrorism, piracy and illegal immigrants" - Malaysia's Defence Minister Najib Razak.¹⁰

There are expending roles for military for the FPDA nations. The combination of lingering traditional threats, the prospect of increased internal tensions and the emergence of new security challenges will place unprecedented demand on members of the FPDA nations' militaries. Military organizations will have to take on new roles, a trend that may stretch the armed forces capabilities. The war on terrorism has also created an opportunity for Malaysia to improve our strained relationship with the FPDA nations especially with Singapore and Australia.

The FPDA nations should actively participate in the global campaign against terrorism because, aside from their responsibilities as members of the international community dedicated to working together to preserve global security, they must recognize that the recruitment and organizational tentacles of terrorism spread far and wide. Terrorists can strike in any of their countries even though the ultimate targets may lie outside the region. Terrorism is a threat to each and everyone.

There are no set standard strategies and procedures to overcome asymmetric threats especially on terrorism. This due to the saying ***"one man's terrorist is another man's freedom fighter"*** Since these five countries (Malaysia, Singapore, Australia, New Zealand and United Kingdom) have come under one security umbrella or a coalition of the FPDA, still it is not too late to start with the FPDA as a foundation to fight against terrorism globally. The FPDA nations can contribute

9 ASEM Seminar on Terrorism, Beijing, 22-23 September 2003.

10 Najib Razak, Five Power Defence Group Shifts Focus to Terrorism, AFT, 2 June 2003.

best to the campaign against international terrorism by cleaning up their own backyard first and making the environment hostile to international terrorists and their overtures towards local militants. Kuala Lumpur was cleaning its own house after a rash of domestic arrests and deported a Philippine Muslim separatist leader in January 2002 for suspected involvement in terrorist activities.¹¹ There is a great need to intensify efforts that address root causes as well as the symptoms. This can be achieved through socio-economic development and restoring law and order.

In order for the FPDA to be effective, responses to asymmetric threats must be multilateral in nature. All member states must be call for the signing or ratification of or accession to all relevant counter-asymmetric threat conventions including the convention for the Suppression of the Financing of Terrorism. The FPDA must also work in hand with other regional and extra-regional co-operations because of the convergence of interest especially in the aftermath of September 11.

Fighting internal asymmetric threats can only be effective if all member countries are transparent on defence policies on fighting against asymmetric threats. Apart of other governmental policies such as immigration, customs, foreign and home affairs, defence policy will dictate the direction and stance of various members towards the FPDA. The defence white paper must be able to show and convince our neighbouring countries, members of the FPDA and the international community on how we look at asymmetric threats and ways to overcome it. The defence white paper will become our base and foundation for cooperation, co-ordination and the establishment of a working framework as to protect our common interest against internal and external asymmetric threats.

The FPDA nations must however take into consideration of other criteria such as respect of the sovereignty of other state, cultures and values. The FPDA must be an alliance, which is based on the common and shared values. For example, as a result of the Bali Bombing on the 12 October 2003, Australia embarked into the doctrine of pre-emption, that is to use force in neighbouring countries to stem terrorist threats whether the host country agrees or not.¹² This doctrine was not welcomed by most Southeast Asian countries. Malaysia also condemned a similar action taken by Israel recently when its Prime Minister Ariel Sharon said that ***“the army was ready to hit its enemies any place in any way”*** after an air raid deep inside Syria.¹³ The Former Prime Minister of Malaysia, Dr Mahathir said that:

“Any attempt by another country to carry out assassinations or enforce its laws within the border of Malaysia will be considered an act of war. Malaysia as a sovereign nation, would never allow anyone or any country to carry out its laws within Malaysian territory. If they intrude into our country, we will take action according to our own laws to protect our sovereignty and independence”¹⁴

With the recent development in Southeast Asia, such as the crackdown on the Jemaah Islamiyah and al-Qaeda networks, Malaysia agrees and will always support Australia's calls for countries in Southeast Asia to strengthen regional cooperation against terrorism with the reason that the ***“link between extremist organizations in Southeast Asia underline the need for improved cooperation within the region”***.¹⁵ The FPDA shall continue to promote solidarity and cooperation.

12 Dan Murphy. Terror-Preemption Talk Roils Asia: Malaysia Threatens to Break Off Anti-Terror Cooperation in the wake of Australia's Tough Rhetoric. Christian Science Monitor, 5 December 2002.

13 Ariel Sharon. We'll hit Enemies Any Place. New Straits Times, 8 October 2003.

14 Sim Leoi Leoi and Mergawati Zulfakar, PM: We will act against those who intrude into our country. 3 December 2003, The Star.

15 Australia's National Security: A Defence Update 2003. Canberra: Commonwealth of Australia, 2003. p 14.

11 Alan Boyd. Southeast Asia Tackle Crime Without Borders. Asia Times, 24 May 2002.

Regional cooperation or cooperation among FPDA nations must on equal terms and status without taking military might into consideration. This cooperation will only be effective when member countries can overcome their differences. Otherwise this coalition will be fragile and not able to resolve asymmetric threats that may arise.

The FPDA shall establish a centre for counter terrorism as an on-going effort and commitment towards counter asymmetric threats especially on terrorism. This centre would among other things, organize courses, seminars and specific forum related to counter-terrorism among members in the FPDA. It is also to upgrade the capabilities of participants from all member states in various fields related to combat terrorism. Malaysia is committed to materialize such a centre. To show its commitment, Malaysia had on 1 July 2003 launched the establishment of the Southeast Asia Regional Centre for Counter-Terrorism (SEARCCT). This centre can be a model for FPDA officials and delegates to work with and training for counter-terrorism.

The FPDA must set-up its joint-intelligent committee to gather and analyse information and disseminate the intelligence to all members, in particular, on terrorists and terrorist organizations, their movement and funding, and any other information needed to protect lives, property and the security of all modes of travel. These include measures to upgrade and protect C3I (command, control, communication and intelligence) capabilities, develop intelligence and surveillance capabilities, including technical intelligence and psychological warfare capabilities.

There is a need for good and predictive intelligence. The sharing and passing of intelligence among the FPDA nations is important in order to be ahead and anticipate asymmetric threats. Sharing of intelligence is not only within the military community but also between agencies and ministries. The information must be correct, accurate

and reach the right person at the right time. This will enable the various members in the FPDA to act accordingly and well ahead before the terrorists are able to conduct their activities. ***"If anybody has any information on activities in Malaysia which can affect or cause harm to other nations, it is the person's duty to alert us and we will take action according to our laws, provided of course there is a basis for the accusation".***¹⁶

The FPDA nations must discuss and explore practical ideas and initiatives to increase the FPDA's role in and involvement with other regional and international communities within the existing framework such as the ASEAN, the ASEAN Dialogue Partners, the ASEAN Regional Forum, and others to make the fight against terrorism a truly global endeavour. The FPDA nations must strengthen the cohesion in combating terrorism in a comprehensive manner and affirm that at the international level the United Nations should play a major role in the regard.¹⁷

At the same time there must be an exchange of experiences, practices and expertise among member countries at the strategic, operational and tactical levels in combating asymmetric threats especially on terrorism. Efforts to combat terrorism should not only emphasize on the military aspect but must also include other areas such as the economic and social aspects. Asymmetric threats can come in the form of chemical and biological attacks and spread of diseases as what happened in Japan when Aum Shinrikyo used sarin gas to attack an underground railway station. Threats such as this not only exceed the capabilities of individual nations to deal with them, but they also tend to cross military and civilian jurisdictions and typically have internal as well as external ramifications. There is a need for cooperation between the military and

16 Sim Leoi Leoi and Mergawati Zulfakar, PM: We will act against those who intrude into our country. 3 December 2003, The Star.

17 Mohamed Jawhar Hassan, Terrorism: Southeast Asia's Responses. CSIS, 4 January 2002.

other agencies such as those dealing with public health, agriculture and environment as well as executive functions to co-ordinate such multi-dimensional policy responses. It requires initiatives at both national and international levels. The FPDA nations that are capable and have the capacity to provide assistance in these capacity must assist other nations to overcome such threats should they arise or helping in setting up such a task force within FPDA nations.

Joint training and operations are another area to be considered under the FPDA. In the past there were bilateral and multilateral exercises conducted within the framework of the FPDA. However most of the exercises were focused on the conventional warfare setting and search and rescue missions. It is not impossible to have joint training to counter terrorism or other asymmetric threats. The roles and charters of the FPDA need to be revised as to meet the present requirement and enable the FPDA to embark into a new dimension of roles that is not only to defend Malaysia and Singapore but also to fight terrorism globally.

The FPDA is an avenue for every member to have the opportunity to use or be exposed to the new state of art technologies, weapon systems, communication systems and new techniques to combat terrorism. Although Malaysia has a vast experience in combating terrorism since 1948 against communist terrorists, we are lacking and behind with the new technologies, communication systems and weapon systems to combat terrorism. Defence and internal security resources in Malaysia and many Southeast Asian nations are exceedingly low and the defence budget is limited. Countries like United Kingdom and others can sell or transfer their technology and expertise and work together to make the world a better and safer place to live.

Malaysia believes that not only the FPDA but also international cooperation and inter-agency co-ordination among law enforcement agencies should

be enhanced. Legal implications need to be studied and differences must be overcome to make the law effective and acceptable by all the FPDA nations and international community. There is a need to revise existing domestic laws and regulations in individual countries of the FPDA as to ensure that existing laws are sufficient to address the security issues regarding asymmetric threats especially terrorism. Effective legal cooperation might include the provision of mutual legal assistance on criminal and terrorist matters, assistance in investigating and freezing criminal proceeds and the extradition of persons suspected or convicted of these crimes and act of terrorism.

Cyber-terrorism and cyber-war are other forms of asymmetric threats as our computer systems are generally vulnerable and asymmetric attacks generally exploit vulnerabilities. Malaysia was affected by cyber-terrorism as its struggles to become the region's powerhouse through its Multimedia Super Corridor. Cyber-terrorism does not recognize boundaries and therefore tackling the problem requires international cooperation. At a recent meeting among senior officials from the ASEAN, delegates talked of an operational centre for transnational crime that would deal with cyber-crime. The FPDA at the same time should take a similar step as ASEAN has established their own centre and provide expertise to formulate procedures and mechanisms and training for law enforcement as to fight against cyber-terrorism.

CONCLUSION

The asymmetric threats especially terrorism cannot be handled alone by one country, not even by a superpower. Collective political will is needed to implement the various measures to counter asymmetric threats. Existing cooperation among members in the FPDA has to be harnessed and taken to greater levels. Just as terrorism manifests itself in more advanced ways and novel measures too have to be researched and adopted to contain terrorist activities.

Terrorism is a multi-dimensional problem that requires a multi-dimensional solution. The short-term reactive measures to counter-terrorism need to be complemented with long-term strategies. Addressing the root causes would inhibit support for the terrorists in the future. As terrorism would continue to pose serious security concerns to the world, we should therefore strengthen our resolve and never let our determination wane in the war against the terrorists. All of this requires a greater

degree of political will than what the FPDA has so far demonstrated.

There are challenges ahead and gaps still remain like identifying asymmetric threats and predicting the next. We are all vulnerable to variations of commitment and priorities. However the very notion of terrorism makes us all victims is the most powerful reason for an integrated response to fight back under one strong FPDA coalition.

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THE PROFESSIONAL MILITARY ETHICS: VERY IMPORTANT, LITTLE ATTENTION

By : Kol Abu Muslim Bin Ismail

SINOPSIS

This essay assumes that the military is a profession, hence must be guided by a set of professional ethics. The essay then analyses the importance and the state of the Professional Military Ethics (PME) in the Malaysian Army. It discovers that the manner the PME is treated by the Army is far from being sufficient. Therefore, it calls for the Army to take positive actions to remedy the situation.

INTRODUCTION

The Professional Military Ethics (PME) "is the implicit or explicit set of rules and standards accepted by military professionals, taught to entering soldiers... and generally held up as the model for professional conduct."¹ This definition inevitably raises few questions. Are there any implicit or explicit set of rules and standards regarding ethical conduct accepted by the Army? Is PME taught to entering soldiers at Pusat Latihan Asas Tentera Darat (PUSASDA) or entering officers at Kolej Tentera Darat (KTD)? Is there any model for professional conduct to be upheld up by the members of the Malaysian Army?

The commandants of our training institutions will give differing answers whether there is such an implicit or explicit set of rules and standards accepted by the Army relating to professional ethics, and whether it is taught in their establishments.

Some commandants might quickly agree that there is, but some might have some reservations over the subject. Some might even quickly call for their Chief Instructors to validate the situation. Posing similar questions to some serving soldiers and officers in the Army saw blank faces and shrouded shoulders.

All of the above questions require positive answers, as they may be the determinant of the level of professionalism in the Army. In order to ascertain the situation, this essay aims to analyse the manner PME is treated in the Malaysian Army. It will first set out to define some important aspects of the subject. Following which, the essay will highlight the importance of professional ethics in the military, review its present state in the Army, reflect upon the future ethical challenges and finally to point the way ahead for the Army. This essay will argue along the lines that PME is very important to the military profession but very little attention has been given by the Army to instil it. Hence, it calls for the Army authorities to take some positive actions.

¹ Hartle, AE, *Moral Issues in Military Decision Making*, Lawrence, Kansas: University of Kansas Press, 1989, p.160.

DEFINITIONS

The word profession is said to have been derived from the thirteenth and fourteenth centuries Middle English verb “profess”, meaning to make public declaration of solemn religious vows.² However, its meanings had evolved and had taken ideological, cultural, theoretical, and chronological specifics.³ To date, the words profess and profession maintained their core meaning but gradually have broadened their scope and intention.⁴ It is to include, among others; a commitment to a higher calling, service to the community, acquisition of specialised skills and knowledge, governed by some codes of conduct, and the right by the society to control their work.

There had been debates whether the military is a profession. Many argued otherwise, some agreed in partial, and few agreed in total that the military is a profession. American sociologist Abraham Flexner’s suggested criteria define only medicine, law, engineering, literature, painting and music as professions.⁵ On the other hand, Samuel Huntington defined profession as having three defining characteristics: expertise, responsibility, and corporateness. He also posited that ‘the modern officer corps is a professional body and the modern military officer a professional man.’⁶ However, R. B. Byers suggested ‘enlisted personnel that have made a career commitment, especially non-commissioned officers, should certainly be included within the profession.’⁷ This essay will consider the military as

a profession. Although this move will raise the brows of the civilians and other professionals, it would relieve arguments within the Army community.

Ethics is the study of human actions in respect to their being right or wrong.⁸ A professional ethic is thus, a code, which consists of a set of rules and standards governing the conduct of members of a professional group.⁹ It is designed to assure high standards of competence in a given field of endeavour.

THE IMPORTANCE OF ETHICS IN THE MILITARY PROFESSION

The concepts of right and wrong are deeply rooted in all great religions and humanity. It is from this belief of the infinite value of human life flows the thesis that ‘whatever protects and enhances human life is good, and whatever destroys or degrades human life is evil’.¹⁰ In the context of the Malaysian Army whose mission is to defend the integrity and sovereignty of the nation and its interests from external threats; whatever actions that protects and enhances the integrity and sovereignty of Malaysia and its interests from external threats is ethical, and whatever destroys or degrades them is unethical. Hence, there is need for both; implicit and explicit sets of rules and standards accepted by the Army; to be taught or to provide guidelines to entering soldiers and officers and throughout their careers. These will enhance their ethical leverage to perform the given role and accomplish the given tasks.

Ethics is very important to the officers corps. Each officer must be taught to take responsibility not only for his own actions but also for the actions of the entire military profession. Every officer should

2 Ron A. Dickenson & C. Tony Joyce, *The Military As A Profession: An Examination*, Paper prepared for the Canadian Forces Leadership Institute, May 2002, with references made to the word “profess” and its derivatives in Oxford Dictionary of English Etymology (Oxford: The Clarendon Press, 1966) and The Century Dictionary and Encyclopedia Vol. VI (New York: The Century Co. 1897).

3 *ibid.*

4 *ibid.*

5 Abraham Flexner, *Is Social Work a Profession?*, School and Society I, (June 26, 1915), p. 901-911 in Ron A. Dickenson & C. Tony Joyce, *The Military As A Profession: An Examination*.

6 Huntington, S.P. *The Soldier and the State*, Cambridge Massachusetts: Belknap Press, 1957, p. 7.

7 Byers, R.B., *The Nature Of Military Professionalism*. In R.B. Byers & Colin S. Gray (Eds.), *Canadian Military Professionalism: The Search For Identity*. Toronto: Canadian Institute of International Affairs, 1973, p. 13. as quoted in Ron A. Dickenson & C. Tony Joyce, *The Military as A Profession* paper prepared for the Canadian Forces Leadership Institute, May 2002.

8 Major General Clay T Buckingham, United States Army (retired), *Ethics and the Military Profession*, presentation at International Military Ethic Symposium, Riga, Latvia, 5-10 March 2002, Accessed online at http://www.accts.org/ethics/latvia/Papers/Ethics_mil_profession.htm on 14 Feb 2004.

9 Hartle, AE, *ibid.*, p.24.

10 Major General Clay T Buckingham, *ibid.*

assume responsibility for the ethical content of the decisions made by and within the profession.¹¹ Therefore, from the beginning of their military education and throughout their careers, they should be made to study the elements of ethical decision-making. Each officer must be fully convinced of the legitimacy of the military profession and the actions taken by it. Since ethical decision-making cannot be learned overnight or taught in a course at an institution, it must be introduced at the cadet level and pursued at every level of the officer's career. More importantly, every officer must be compelled to make the study of military ethics a lifetime pursuit. To some soldiers and officers, the Army may just be an occupation. However, the organization feels otherwise. Being part of a force instituted by the Federal Constitution where all members take an oath of service to the organization and the nation, the members have corresponding responsibilities to return. These responsibilities ought to have been clearly laid out together with their terms of service. The Army is not at any time exclusive of the society where the members come from. The members live within it and will eventually return to the society they came from at the end of their service. Therefore a set of rules and standards that governs soldier-civilian relationship in times of peace or conflict must be made known.

To date, the Army had contributed forces to more than thirty peacekeeping, observer and staff missions under the auspices of the United Nations. There is likelihood that the Army will continuously be engaged in such missions in the future. Being in direct contact with foreign friendly forces and foreign nationals requires for a greater need of a high standard of PME. Having successfully conducted previous missions gives no excuse for not reviewing the present state of ethics training. The situations, circumstances and challenges change over time and the need for an ethically balanced force may arise someday.

War and armed conflict today has no clearly defined lines. Further, modern battle space places great demands and challenges on soldiers and officers. They will be challenged with the demanding task to draw the line between; when to kill and when not to kill; and when the law of war permits and when the law of war forbids. The Nuremberg process and the international courts and tribunals have confirmed that no rule of engagement, no regulation or code of action is freeing the individual behind the weapon from such very difficult personal evaluations and decisions.¹² These challenges must be considered and digested seriously by the Army, professionally and in advance.

Finally, but most important; professional competence is an ethical imperative.¹³ Soldiers and officers cannot effectively contribute to the accomplishment of the Army's legitimate purpose unless they are; individually and organizationally as well as professionally competent. In order to be able to defend the nation and its interests effectively; vis-à-vis ethically, all soldiers and officers must also be technically and tactically proficient in their respective employments. Anything that falls short, and that leads to individual or organizational inefficiency is unethical.

THE PRESENT STATE IN THE ARMY

Browsing through the syllabus of cadet and recruit training, as well as the officers and other ranks career training found no specific module on PME. The closest PME subjects taught in cadet training are military law, leadership and etiquette. Even so, the orientation is merely on the introduction of military law, leadership traits, manners, dress codes and awarding compliments. This is aggravated by little or no emphasis on PME in the following respective career trainings, in any military training institutions

12 General Fredrik Bull-Hansen, *Ethical Challenges For The Military Profession*, Accessed online at <http://www.pacem.no/2000/2/ethics/bullhansen/> on 14 Feb 2004.

13 Major General Clay T Buckingham, *ibid*.

11 *ibid*.

right up to Armed Forces Defence College; except for some periods on leadership and laws of war.

Searching for manuals relating to PME met only with the Armed Forces Acts 1972, T 3009 A Guide To The Professional Conduct Of An Army Officer, T 3146 'Profil Ketenteraan', Joint Publications on Law Of Armed Conflict and Rules Of Engagement, and a few leadership manuals. A newly published philosophical manual M 1 TD - 'The Army' outlined the Army ethos. Paging through the indexes of the 'SOROTAN DARAT' caught only a few articles on leadership. There was hardly any seminar or conference on military ethics held. Those are all of the literature and references that help to make up the Army professional ethics today.

The present standard of ethics in the Army is questionable and could not be exactly determined. This deserves a study by itself. However, there are unhealthy signs that may or may not be directly related to poor ethics training. For instance, there have been occasions of fraud and misappropriation that caught the headlines of local dailies and news. Cases of AWOL, misuse of drugs, theft and sexual related offences are continuously occurring and reported. There have also been cases of suicide. Esprit-de-corps and comradeship is said to be on the decline. Although these unwarranted occurrences may be circumstantial, they may have some bearing on poor ethical training in the Army.

Elsewhere, in developed countries' armed forces especially in the United States, Canada and the United Kingdom, PME is given serious attention. There are specific modules on PME in military training and in some cases a department is responsible for it. There are also ethics courses offered in military higher institutions like the US National Defence University, the US Naval Academy and Naval War College, and the US Air War College. Conferences that saw international participations such as the Joint Services Conference on Professional Ethics (JSCOPE) are also regularly

held. Despite this fact, there are still unethical acts and misconducts of soldiers (and officers?) such as the abuses of Iraqi prisoners at a detention centre in Abu Ghraib, Iraq. At the local scene but outside the military environment, the newly elected Prime Minister introduced a Code of Ethics for Members of Parliament. Some even suggested that there should also be codes governing the conduct of the Members of Parliament's spouses.

The degree of the attempts and efforts by the Army to instil PME and the present state of discipline and morale of soldiers and officers in the Army deserves attention. Are those existing attempts and ethical guides sufficient for a professional army? Certainly, it is far from being sufficient. With due respect, even the 'Yang Berhormat's have an implicit Code of Ethics. Our society expects army officers to make hard choices and difficult decisions and soldiers for displaying an exemplary standard of discipline and morale. Our nation demands the army to conduct and execute missions successfully and legitimately. All of these expectations and demands require a strong moral basis. But how can the Army expect and demand a strong moral basis and legitimacy if it has not been committed to giving the officers and soldiers adequate training and education in ethics?

FUTURE ETHICAL CHALLENGES

The future military ethical challenges are uncertain as the present trend points to greater non-linearity in the battle space, use of long range precision weapons and employment of asymmetrical forces and tactics. There is also a growing trend of non-state enemies. These factors cumulatively make planning and conduct of military operations difficult.

At the higher level, the military will likely be facing with two major ethical challenges. Firstly, under what circumstances should military force be employed? Secondly, to what extent should senior military leaders seek to influence national level policy

decisions, which may lead to the use of military force?¹⁴

There have been debates over what is and is not ethical military behaviour focussing on just and unjust war. Revolutionary thinking of military ethics calls for a re-examination of the concepts of the ethical and legal. For example, in the light of the arising new war on terrorism, some suggested that it is only ethical to strike evil at its source.¹⁵ The argument is that it is no longer ethical and legal to cause a large number of soldier and civilian deaths and property destruction by not attacking those that had caused or initiated the war. The basis of such arguments is found in the cases of the Afghanistan and Iraq wars.

In arguing the extent of the roles that senior military officers should seek to influence national level policy decisions in the future, one must understand Clausewitz's dictum in international relations where 'war is a continuation of politics by other means'. The military is one tool available to political leadership for the achievement of national political goals. The decision to use the military coercive force is a political decision; hence is the exclusive province of the political leaders.¹⁶ Nevertheless, because it may lead to the employment of military force and that they may eventually be held accountable for that policy; senior military leaders must have a legitimate role in the formulation of national policy and subsequently decisions regarding the use of military force to attain national goals and objectives. The traditional old days soldier saying 'not to ask why, but to do or die' may not find its place anymore. Questions of just and legitimacy place greater importance. Although Sun Tzu had given little consideration on ethics, he nevertheless rightfully said that, 'there are commands of the sovereign which must not be obeyed.'¹⁷

Further down the line and ranks, the future ethical challenges are different. The fielding of non-state 'armies' and the employment of asymmetrical forces and tactics make military targets scarce. The probability of civilian casualties and property destruction is higher. These situations require skilful and ethical soldiers. The sources to meet these demands are the younger generations that are said to be less patriotic; hence a national service program was instituted.¹⁸ There are likely problems to instill and harness the ethos that is developed from the requirements and demands of the battlefields.¹⁹

As the Revolutionary in Military Affairs (RMA) continues, there would be greater challenges over the horizon confronting the individual as well as the Army. The individual and the Army may both be praised or blamed for their performance. The final responsibility, however, rests with the individual. Ethical responsibility can seldom be collectivised as the Army consists of individuals.

PROPOSAL FOR ARMY ACTIONS

The military, perhaps, is the only profession that devotes most of its time to training for an eventuality that might never come. Even if the event, be it war or armed conflict, which may eventually come some day, the consequences of military action can never be fully anticipated. Nevertheless, the effort to prepare for the eventuality and to anticipate the consequences, from an ethical perspective, must be made.

At the outset, it is crucial for a cadet or a recruit to understand the very meaning of the oath he or she had taken. The Army owes the cadets and the

14 Major General Clay T Buckingham, *ibid*.

15 Ralph Peters, *A Revolutionary in Military Ethics, Parameters*, Summer 1996, pp. 102-108.

16 Eliot Cohen distinguished between policy formulation and implementation, implying that the former is the exclusive province of political leaders. Cohen, Eliot A., *Supreme Command: Soldiers, Statesmen, and Leadership in Wartime*, The Free Press, New York, 2002.

17 Major General Clay T Buckingham, *ibid*.

18 Malaysia to make NS a must, *New Straits Times*, 13 November 2002.

19 The US Army listed loyalty, duty, respect, selfless service, honor, integrity and personal courage. *US Army Field Manual FM 1-The Army*, Headquarters Department of the Army, Washington, 14 June 2001, p. 9. The UK Army listed their core values as selfless commitment, courage, discipline, ADP Vol. 5 Soldiering - The Military Covenant, February 2002. The Canadian Forces listed integrity, courage, loyalty, selflessness and self-discipline, Canadian Army, The Military Ethos, *The Army Doctrine and Training Bulletin*, 1 (2), p. 27. The Malaysian Army ethos are Belief in God, Discipline, Loyalty, Sacrifice, Esprit-de-corps, Integrity, Courage, Honour and Professionalism, Malaysian Army Doctrine Manual M 1 TD - The Army.

recruits at least that much: he or she ought to know the ethics of the profession that he or she is about to pursue. In today's philosophical jargon, this is called 'informed consent'.²⁰ Therefore their basic training must include sessions providing them with clear information and understanding of the oath and contract that they had entered and the ethics they are to adhere to. Studies of ethics, progressively and invariably in stages according to the level of maturity and seniority, must include the history, theories, case studies and challenges. It should also include those dilemmas likely to be encountered in conflict and in peacetime.

Ethics are of primary importance to officers as they are liable to make decisions. Ethics also builds character that in many ways is everything in leadership. Therefore, ethical training must be infused in all officers career courses. However, education in ethical decision-making could not be accomplished purely through attending courses at training institutions. It can only be accomplished through a lifetime pursuit to the study of ethics. Just as a child learns to speak and understand his native language through absorption rather than through academic instruction, the ethical values which lead to an understanding of the principles of ethical decision making are absorbed through a lifetime of immersion in the study of right and wrong professional military conduct under every circumstance imaginable.²¹ There must also be regular junior and senior officers' seminars and conferences to discuss professional ethics where ideas can be moved and taxed, and resolutions recorded and disseminated.

It is acknowledged that there is still a lack of literature and references about professional ethics in the Army. Action must be taken to appoint responsible parties or training centres to research

and document them. They must be driven by some directions or areas of study. There should not be a prolonged dependency on foreign and alien studies as Malaysian and its Army's values are culturally and ethically different than those of developed countries and the outcome of their studies. For co-ordination and control, a designated headquarters or department can be made responsible for matters relating to PME.

CONCLUSION

Military personnel will claim themselves as professionals. However, scholars are very critical and approving only when varying criteria are met. Assuming military personnel are professionals, they must be governed and guided by a set of ethics. The set of ethics; the PME; must be very stringent because of the degree of seriousness of military missions and tasks, and the seriousness of the consequences of their successes or failures.

The present state of ethical training in the Army is unhealthy. There is little emphasis given in the basic training and the career training. Little emphasis is also given elsewhere in the Army environment. These may have contributed to the deteriorating standard of discipline and morale. Therefore, it calls for positive measures to be taken. There is need for greater emphasis on professional ethics by introducing and infusing them, as a subject, into formal basic and career training, and informal career or lifetime pursuit. There must also be moves to research and document the subjects. The legitimacy of the substance must meet the most stringent measure of our culture and values. More importantly, there must be designated parties, training centres, headquarters or department be made responsible for matters relating to PME.

With regards to the future ethical challenges, the strain is at all levels. The RMA will continue to affect these challenges and all measures must be taken to nullify them. Every individual from a private to a

20 CPT Carlos Bertha, FLARNG, *Teaching Military Ethics to ROTC Cadets*, Accessed online at <http://www.usafa.af.mil/jscope/USCOPE00/Bertha00.html> on 14 Feb 2004.

21 Major General Clay T Buckingham, *ibid*.

general must be touched by the measures as ethical responsibility can seldom be collectivised. It is a credit that the Army has somehow managed all these while. It may have been sheer luck. However, the Army cannot afford giving excuses for any wrong doing in the future by pleading ignorance or duress when things go wrong or not the way they are

supposed to. The only way to prevent this from happening is by preparing and anticipating; and that is through an improved ethical training. If this idea is bought, let see some manuals and literatures, seminars and conferences, directives and instructions, on PME; the subject of which is very important, but given little attention.

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THE SEVEN HABITS OF HIGHLY EFFECTIVE PEOPLE IN TOTAL QUALITY MANAGEMENT

— By : Kol Mohamed Fadzil Bin Yusof —

SYNOPSIS

*Most organisations regardless of profit or non-profit organisations have used various management tools to excel, to compete or to improve their efficiency. The most potent tool of today's world is the **Total Quality Management (TQM)**. The application of TQM in any business is viewed as people focused management system and as a total system approach to improvement. TQM also focuses on learning and adoption to continual change as the key success factor to the organisation. To change is the most difficult aspect of management especially when involving human attitudes and behaviour. It is believed that the behaviour and action of people are translated through their habits, as habit is powerful factor in life. Habit is a powerful force, which can be used effectively as a pull to create the cohesiveness and order necessary to establish effectiveness. This essay will look into how the principles of "**The Seven Habits of Highly Effective People**" written by Stephen R Covey can be effectively integrated into Total Quality Management principles, which later will bring the maximum long-term beneficial results possible to the organisation.*

INTRODUCTION

To survive and excel in the competitive world, many businesses or other organisations have used various management tools to compete and Total Quality Management is the most potent tool of today. To succeed in competition, it is obvious that business organisations must exceed its customer expectations. Total Quality Management is a people-focused management system and also a total system approach to improvement. It works across functions and departments involving all employees and also includes supply chain and customer chain. Total Quality stresses learning and adaptation to continual change as to key to organisation success. To change has always become a problem, as we need to

understand our paradigm before we can make a shift out of that paradigm. It is rather easy to focus on tools as well as techniques but the worst part for us to understand is the desired changes in human attitudes and behaviour. Some companies and even other organisations believe that 'Culture Change' in the organisation is another path to make changes, as culture is a powerful influence on people's behaviour. The behaviour and action of the people are translated through their habit, as habits are powerful factors in life. According to Stephen R. Covey in his book entitled *The 7 Habits of Highly Effective People*, habits have tremendous gravity pull. Habits are defined as the intersection of knowledge, skill and desire. Covey added that knowledge is the theoretical paradigm, what to do

and why. Skill is the how to do while desire is the motivation; the want to do. He also mentioned that habit is a powerful force, which we can use effectively to create the cohesiveness and order necessary to establish effectiveness. Covey also described the seven habits as habits of effectiveness, which bring the maximum long-term beneficial results possible. He also added that the seven habits are not a set of separate or piecemeal psych-up formulas. In

harmony with natural law of growth, they provide an incremental, sequential, highly integrated approach to the development of personal and interpersonal effectiveness. Therefore it is the aim of this paper to relate Covey's seven habits of highly effective people in terms of its effectiveness and its relationship with the TQM philosophy. Before we can discuss any further let us understand these two frameworks as follows:

THE PRICIPLES OF THE TQM FRAMEWORK AND PRINCIPLES OF THE SEVEN HABITS

BASIC PRINCIPLES OF TQM	SEVEN HABITS AND ITS PRINCIPLES
CUSTOMER FOCUS	BE PROACTIVE: PRINCIPLE OF PERSONAL VISION
PROCESS ORIENTATION	BEGIN WITH THE END IN MIND: PRINCIPLES OF PERSONAL LEADERSHIP
CONTINUOUS IMPROVEMENT AND LEARNING	PUT FIRST THINGS FIRST: PRINCIPLES OF PERSONAL MANAGEMENT
EMPOWERMENT AND TEAMWORK	THINK WIN/WIN: PRINCIPLE OF INTERPERSONAL LEADERSHIP
MANAGEMENT BY FACT	SEEK FIRST TO UNDERSTAND, THEN TO BE UNDERSTOOD: PRINCIPLE OF EMPATHIC COMMUNICATION
LEADERSHIP AND STRATEGIC PLANNING	SYNERGIZE: PRINCIPLE OF CREATIVE COOPERATION
	SHARPEN THE SAW: PRINCIPLE OF BALANCED SELF-RELIANCE

Be Proactive

According to Covey, the most basic habit of an effective person in any environment is the habit of proactivity. It means more than merely taking initiative. We are responsible for our own lives. Responsibility is the ability to choose our response. Highly proactive people recognize that responsibility. They do not blame circumstances, conditions, or conditioning for their behaviour. Their behaviour is a product of their own conscious choice, based on values, rather than a product of their conditions, based on feeling. Proactive people carry their own weather with them. Whether it rains or shines makes no difference to them. They are value driven; and if their value is to produce good quality work, it isn't a function of whether the weather is conducive to it or not. **Taking the Initiative** means recognising our responsibility to make things happen. Many people wait for something to happen or someone to take care of them. But people who end up with the good jobs are the proactive ones who are solutions to problems, not problems themselves, who seize the initiative to do whatever is necessary, consistent with correct principles, to get job done.

In Total Quality Management (TQM) this Be Proactive habit (Habit One) can be seen in continuous improvement and learning. Although Be Proactive is the Principle of Personal Vision but in continuous improvement it requires all levels of people/individuals to participate as part of daily work to eliminate problems at each level and be driven to do better. We must continue to improve not only to the product but all the steps and support functions that lead up to our output. Therefore we must be proactive to continue to improve moving forward in terms of quality or we are likely to be moving backwards in relation to our competitors. We must understand that our customers need change and similarly we need to monitor and even anticipate customer requirement for continuous improvement.

Covey also added that another excellent way to become more self-aware regarding our own degree of proactivity is to look at where we focus our time and energy. Proactive people focus their efforts on things that they have an influence (Circle of Influence) which mean that they work on things that can do something about it. But we may question our self how our proactivity can have an influence to others in term of continuous improvement in an organisation. Covey also mentioned that as long as we are working in our Circle of Concern we empower the things within it to control us. We are not taking the proactive initiative necessary to effect positive change. Therefore we need to work on our Circle of Influence and when we focus on our paradigms, we begin to create a positive energy that changes ourselves and eventually influences others. Therefore the power to make and keep commitments to us is the essence of developing the basic habit of effectiveness, which in the end will also influence others.

Begin With The End In Mind

Begin With The End In Mind is the Second Habit, which Covey equates to the principle of Personal Leadership. Covey stressed that to begin with the end in mind means to start with a clear understanding of our destination. It also means that we must know where we are going so that we have a better understanding of where are we now so that the steps we take are always in the right track. The most effective way to begin with the end in mind is to develop a personal mission statement or philosophy or creed. It focuses on what you want to be (character) and to do (contributions and achievements) and the values or principles upon which being and doing are based. A personal mission statement based on correct principles becomes the same kind of standard for an individual. It becomes a personal constitution, the basis for making major and life directing decisions, the basis for making daily decisions in the midst of the circumstances and emotions that affect our lives. It empowers individuals

with the same timeless strength in the midst of change. People can't live with change if there's not a changeless core inside them.

Although this habit talks about the Principles of Personal Leadership yet it has some similarity with the TQM principles that is Leadership and Strategic Planning. In TQM, leadership for quality is the responsibility of top management. Therefore senior management may use this personal leadership principle to set a clear picture of the company's/organisation's direction and find ways in terms of strategic planning so that the organisation can compete and win the hearts and minds of their customers. TQM requires commitment from top management. A commitment in TQM means willingness to change and move towards better prospects of the company's/organisation's future. This commitment is also related to the formulation of the quality vision, mission and strategy accordingly so that they can devise the system that lead to communicating quality goals to the organisation. Therefore by doing so, top management can develop the entire workforce by encouraging a quality system throughout the organisation by planning and reviewing the organisation's quality performance and this will serve as a role model to the commitment to quality.

Put Things First

This is the third habit of highly effective people, which Covey also mentioned as the Principle of Personal Management. In his book, effective management is putting first things first. Leadership decides what *first things* are, the management puts them first, day-by-day, moment-by-moment. Management is discipline, carrying it out. He added that if we are an effective manager of our self, our discipline comes from within; it is a function of our independent will. We are a discipline, a follower, of our own deep values and we have the will, the integrity, to subordinate our feelings, our impulses and our moods to those values. We can accomplish

all that we do through delegation-either to time or to people. If we delegate to time we think efficiency. If we delegate to other people, we think effectiveness.

In relationship to TQM principles on this third habit is Empowerment and Teamwork. Empowerment is sometime misunderstood by many people. It does not simply mean handing over power to employees. In TQM empowerment refers to a process, which involves workers in an organisation's quality effort by giving them the appropriate responsibility, authority and ownership. Empowerment is giving our people the authority to make decisions based on what they feel is right, have control over their work, take risks and learn from mistakes and promote change. Empowerment will be the pull factor for our people to be proactive (habit one) and effective. According to Covey, many people refuse to delegate a job because they feel its too much time and effort and they could do the job better themselves. But effectively delegating to others is perhaps the single most powerful high-leverage activity there is.

Think Win/Win

Win/Win is a frame of mind and heart that constantly seeks mutual benefits in all human interactions. This is the fourth habit in Covey's book, which means that agreements or solutions are mutually beneficial, mutually satisfying. With a win/win solution, all parties feel good about the decision and feel committed to the action plan. Win/Win sees life as a cooperative, not a competitive arena. Win/win is based on the paradigm that there is plenty for everybody, that one person's success is not achieved at the expense or exclusion of the success of others. According to Covey, think Win/Win is the habit of interpersonal leadership. It involves the exercise of each of the unique human endowment, self-awareness, imagination, conscience, and independent will in our relationship with others. It involves mutual learning, mutual influence and mutual benefits.

With reference to the TQM perspective “think win/win” can be related to thinking of our customer as well as our supply chain. To be exact, TQM focuses on the customer because the customer is the judge who decides on quality. It is an advantage for us to focus on the customer's needs and wants especially when taking advantage on their complaints. It is costlier to attract a customer than to retain one. Customer's habits and behaviour change most of the time and at the same time competition is getting greater. Win/Win is a principle people can validate in their own lives that will be able to bring most people to a realization that they will win more of what they want by going for what both want. Therefore in business we should not sell our products but we sell what the customer desires. Win/win can only survive in an organisation when the systems support it. Win/win puts the responsibility on the individual for accomplishing specific results within clear guidelines and available resources. To have a win/win situation, TQM encourages us to think not only of the customer but also our supply chain and our internal customers as these enhance mutual benefits.

Covey also mentioned that it takes great courage as well as consideration to create these mutual benefits, particularly if we are interacting with others who are deeply scripted in Win/Lose. This is why this habit involves principles of interpersonal leadership. Effective interpersonal leadership requires the vision, the proactive initiative and the security, guidance, wisdom, and power that come from principle-centred personal leadership.

Seek First To Understand, Then To be Understood

This is the fifth habit of highly effective people, which deals with interpersonal relations and communications. Covey equates this habit under the Principle of Empathic Communication where it requires us to seek first to understand before we are understood. As written in the book Covey mentioned that to be really effective in the habit of interpersonal

communication, we could not do it with techniques alone. We need to build the skills of empathic listening on a base of character that inspires openness and trust. Most people do not listen with the intent to understand but they listen with the intent to reply. Empathic listening means listening with the intent to understand (seeking first to understand) whereby we listen to others and get inside another person's frame of reference. This action will allow us to see the picture the way others see them and understand their paradigm. This is a powerful way to be an effective person because it gives us an accurate data to work with.

Customer focus and management by fact are the two principles of TQM which are relevant to this fifth habit. As mentioned earlier it is an advantage for a business organisation to listen to their customers so that their products can satisfy their requirement. Understanding customers and satisfying them translates directly into the increase in profits because we may retain good customer loyalty. At the same time by listening to them we can improve our products and services and continually do it to satisfy them. There may be many ways we may listen to our customers. Some basic practises are to collect the information constantly on customer expectation, disseminate them within organisation and utilise this information to design / produce as well as deliver them according to the customer's specifications.

Management by fact is a basic concept in any TQM program. Although directly it does not concern listening to others but management by fact means getting the information support analysis in the organisation on time. The disseminated information will then help the organisation to identify assignable reasons for variation, analyse the root cause and then take necessary steps accordingly. Again Covey also mentioned that seek first to understand before problem arises, before trying to evaluate and prescribe them, before trying to present our ideas is a powerful habit of effective interdependence.

Synergize

Habit six is synergise or is also equated as the Principle of Creative Cooperation. It catalyzes, unifies and unleashes the greatest powers within people. The essence of synergy is to value differences, respect them, and build on their strengths so that it will compensate for weaknesses. Covey defined synergy as 1+1 may equals to 8 or so forth. Covey also added that the synergistic position of high trust produces solutions better than any originally proposed. He also mentioned that valuing the differences is the essence of synergy because the key to valuing those differences is to realise that all people see the world not as it is but as they do.

In TQM synergy can be referred to empowerment and teamwork. Quality management requires all levels to participate in improving quality work. Nevertheless without giving the people the jurisdiction and authority to make decisions based on what they feel is right and to have control over their work will never promote change. Many organisations, which promote TQM practices in their work place normally, form up teams of people with different skills and background to work together for quality improvement efforts. The total quality philosophy recognises the interdependence of various parts of the organisation uses teams as a way to co-ordinate work. Teamwork enables various parts of the organisation to work together in meeting customer needs that can seldom be fulfilled by employees limited to one skill. Therefore this teamwork is a creative co-operation, which is called synergy, a habit of highly effective people. The people who are effective normally have the humility and reverence to recognise their own limitation and appreciate others through interaction with them. By doing so these people value the differences as it adds knowledge to them and improves the things that they cannot do alone based on their strength and experiences.

Sharpen the Saw

Sharpen the Saw, the principle of Balanced Self-Renewal is the seventh habit of highly effective people. According to Covey, Sharpen the Saw is preserving and enhancing the asset we have. It is renewing the four dimensions of our nature that is physical, spiritual, mental and social/emotional. Although renewal in each dimension is important, it only becomes effective as we deal with all four dimensions in a wise and balanced way. In an organisation the physical dimension is expressed in economic terms while the mental dimension deals with recognition, development and use of talent. The social/emotional dimension is concerned with human relations and how people are treated. The spiritual dimension deals with finding meaning through purpose or contribution and through organisational integrity. The writer also added that the things we do to sharpen the saw in any one dimension have a positive impact in other dimensions because they are so highly interrelated.

This habit of Sharpen the Saw can be viewed as continuous improvement in TQM. Although the principle of continuous improvement in TQM may not exactly equate to this habit but it may have some similarity. Continuous improvement must be viewed as taking continuous steps and continuing to learn in whatever we do either to improve on ourself, improve in working with people, improve our leadership and strategic thinking and planning, improve our management skills, improve business processes and improve how we perceive our customers. We must continue to maintain and renew our strength and desires in terms of continuing to become better in all dimensions so that this improvement will be balanced and effective.

CONCLUSION

The Seven Habits of highly effective people draws us the habits of how to become more effective people and thus this relates to the Total Quality Management

practices and philosophy. The most valuable assets in an organisation is people besides physical asset and money because people will decides how both the two assets will be used and take to advantage of them. People and their habits are the two things that will decide the effectiveness of any organisation. To change them is not an easy task especially when

they are at the comfort zone. Habits and attitudes are normally the barriers to change unless we change them. In a nutshell the seven habits are not only considered to be focused only on individual development for effectiveness but these individual habits enable a change to the organisation effectiveness too.

REFERENCE

Stephen R.Covey, The 7 Habits of Highly Effective People.



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