Jurnal Pertahanan
Media Informasi tentang Kajian dan Strategi Pertahanan yang Mengedepankan Identity, Nasionalism & Integrity

ISSN : 2087-9415
Vol. 1 | No. 3

Empowerment-Based Leadership in Transfer of Technology

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Article Info

Keywords:
Leadership
Defence human resources
Defence industry
Transfer of technology

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Abstract

The rapid development of global defence and security issues have brought about immense challenges for Indonesia. Improvement and development of the quality of Indonesia's human resources within the defence area is imperative to answer such challenges. Self-sufficient defence industries (capability-based planning) in Indonesia has become the main concern of all related stakeholders in the country. Indonesia requires transfer of technology to develop its defence resources. Policies on transfer of technology are related to the capability of our leaders. Therefore, empowerment-based leadership is key to the transfer of technology policy. This paper will discuss the connections between empowerment-based leadership with transfer of technology policy as an effort to improve the quality of Indonesia's human resources in the defence field.

Pesatnya perkembangan isu-isu pertahanan dan keamanan global telah membawa tantangan besar bagi Indonesia. Peningkatan dan pengembangan kualitas sumber daya manusia Indonesia dalam bidang pertahanan sangat penting untuk menjawab tantangan tersebut. Seperti swasembada pengadaan dan pengembangan industri pertahanan, terutama dengan kemampuan untuk menggunakan teknologi canggih, akhirnya akan meningkatkan posisi tawar Indonesia di arena politik global. Indonesia membutuhkan transfer teknologi untuk mengembangkan sumber daya pertahanan. Kebijakan transfer teknologi terkait dengan kemampuan para pemimpin kita. Oleh karena itu,

Jurnal Pertahanan
Volume 1 Nomor 3
September-December 2015
ISSN 2087-9415
pp. 229-252

kepemimpinan berbasis pemberdayaan adalah kunci untuk transfer kebijakan teknologi. Penelitian ini akan membahas hubungan antara kepemimpinan berbasis pemberdayaan dengan transfer kebijakan teknologi sebagai upaya untuk meningkatkan kualitas sumber daya manusia Indonesia di bidang pertahanan.

Introduction

The challenges of this century is very much different to the previous ones. The global map has changed dramatically following the political dynamics of today's developing time. The economy is now the determinant of all other aspects, or other words all aspects of activities would lead to economic interest.

Globalisation and the rapid development of science and technology, particularly on information, communication and transformation (Stromquist & Monkman, 2014) have made the world more transparent and allow the rapid mobility of various interest move smoothly without the limitations of borders (Vught, & Huisman, 2014; Voegtlin, & Pless, 2014; Reese, 2015).

The rapid development of global economy has become a tough challenge for Indonesia. Hence, there is a need to improve and develop the quality of the country's human resources (Hanushek, 2013; Choi et al, 2013). It has become a very important factor, and has even replaced natural resources, which a few decades ago have always become the favourite.

The economy will also influence the behaviour patterns and the values within the society (Schwartz, 2013). It very likely that social clashed may happen and could disrupt national stability, and in the end hamper the course of national development.

On a global scale, the improvement of human resources on a particular scale is tightly connected to development on a universal scale (Petty et al, 2015). Development is the process of using resources effectively and improving the efficiency of production and distribution activities (Ahi & Searcy, 2013), which produce goods and services, both in big

numbers of variety and quantity, and with minimal human labour.

The fair and just distribution of resources and revenue would mean a good development process for all. This includes the fulfilment of civil, political and economic rights, such the right for health security, protection, a place to live, education, a job, as a minority, and others (Collins, 2010).

The modern day concept of development is closely linked to human security. According to UNDP, human security covers the freedom from want that is the fulfilment of basic needs and protection when there is an economic crisis (Nuruzzaman, 2013).

It also includes freedom from fear, in which the dignity of humans are respected, not only in terms of physical safety but also the freedom to participate within a society, the freedom to choose a way of life, and others. The fulfilment of these aspects would mean that a development process has ensured human security optimally by promoting respect upon the civil, political, economic, social and cultural rights (Collins, 2010).

Threats upon human security come from an erratic globalisation process. Globalisation is a situation where the economy, financial, engineering and culture among countries are exchanged and are interacting in a rapid manner, that at times they go beyond national borders and change the daily lives of many people or even communities in the world (Lane, 2013). These rapid interactions could become a threat upon Indonesia's defence and security.

Human security is quite close to the concept of the international security environment concept, in which the latter is related to post-Cold War. The idea to connect this concept to the insecurity is an effort to create securitisation on non-military issues. Nowadays, the environment can no longer control and limit human activity.

Today insecurity is limited to social interactions among people (social-social) and violent threats from one social group to another, from the interaction of environment with humans (natural-social), that could threaten the livelihoods of people

(Buffel et al, 2013). Thanks to this issue, the concept of traditional security seems to be ancient, and experts now realise that future threats would come from contemporary issues, such as population explosion, natural resources scarcity and the weakening of social-political institutions within a state (Dannreuther, 2007).

This is the reason why threats upon human security must be resolved by the improvement of the quality of Indonesia's human resources in the field of defence by improving the capabilities of the leaders, our human resources in this area would be able to answer future challenges (Brink et al, 2014). This paper will discuss the relation between leadership and the transfer of technology policy as an effort to improve the quality of Indonesia's human resources in the defence field.

The two questions that will be answered here are; how important is leadership in the process of human resources improvement, and how transfer of technology policy could increase the capabilities of our human resources in defence, so that they are capable of developing Indonesia's self-sufficient defence industries?.

State Defence System

State defence is total defence efforts in which its enforcement is based on the citizens' realisation of rights and obligations and understanding their own strength (Rao, 2003). This is in line with Article 30 para 1 of the 1945 Constitution: "Every citizen has the right and duty to participate in the defence and security of the country".

Participating in state defence is a responsibility as well as an honour for every citizen (Linnell, 2014). Consequently no one could avoid from such obligation, unless it is regulated by national law. The meaning within this principle is that state defence efforts must be based on the citizen's realisation as well as confidence of own strength (Budi, 2 October 2012).

As regulated in Law Number 3 Year 2002 on State Defence, state defence system is developed to realise a total defence system that integrates military defence and non-military defence posture (Berzins, 2014).

Indonesia's defence system, therefore, involves the people and all national resources, means and infrastructure and the country's territory as a single defence unity, or known as *Sistem Pertahanan Keamanan Rakyat Semesta (Sishankamrata),* which synergises weapon systems-based military defence and no weapon-based non-military defence (Kurck, 2014).

The state defence system is prepared by the government early and is organized in a total, united and continuous manner to uphold sovereignty, territorial integrity and the safety of all the people from threats (Kotenko, & Ulanov, 2014). Prepared early means that the management of national resources is directed to anticipate possible threats (Agrawal, 2014).

An integrated force (TriMatra Terpadu) is established from the land, sea and air services of the military and is developed through capability-based planning in accordance with state budget and existing threats. This capability-based state defence system is then combined with threat-based planning, calculating potential threats from surrounding countries. Hence, the defence system should reflect Indonesia's defence capabilities with deterrence standards beyond the Minimum Essential Force (MEF) (Sudarsono, 2007).

A system is a collection of interactive components for the same purpose and goal. It involves input, process and output. From a political point of view, this process starts from the people's aspirations (input) that are then processed and the converted in the conversion institutions called Executive, Legislative and Judicative; therefore, a process. Policies (output) are the outcomes formulated based on the people's aspiration (Macridis and Bernard, 1996).

According to Barry Buzan, a state is similar to the term of "central government" (Buzan, 1991). Joel Migdal, on the other hand, considers state as an organization of agents, led and coordinated by state leadership (executive authority), which has the capability and authority to make and implement regulations that binds everyone, in line with regulations biding other social organisations, in a

particular territory or area, and could utilise violence to ensure the regulations are obeyed (Migdal, 1988).

In the studies of international relations, the state is seen as an organism that could grow, develop or die. To continue living, the state must survive and face all difficulties, including threats to its existence, problems in fulfilling needs, challenges in overcoming issues and disturbance from various sectors.

A political behaviour system is a unit of its own, which continues to work since it is constantly receiving inputs (demands and support). As an ecological concept, a system shows the existence of an organisation interacting with an environment, both influencing one another (Mas'oed and Colin, 2001). The environment is a determinant factor in the political process, as well as the output that it produces (Kabashima and Lynn, 1986).

Let us return to the definition of State Defence System laid down in Law Number 3 Year 2002. According to the state defence system model, the three components are the input of the overall state defence process. The input has not been processed, it is still raw. The conception of citizen, territory and national resources have not been processed into output, which is sovereignty, unity and the safety of all the people and the republic. The input includes the demand for safety, the security of the people, integrity, sovereignty, unity of the republic and threats upon the state.

State defence is also one of the main elements of a state since it involves the interest to defend citizens, territory and political system from external threats. This is in line with Holsti's opinion that defence is a national interest and is considered a core value or something fundamentally vital for a state and determines its existence. National defence, in practice involves every citizen, territory, available science and technology, national geopolitical mapping, natural resources, human resources and national defence industries.

In facing military threats, the state defence system places the

Indonesian military or TNI as the main component, and is supported by reserve and supporting components. For non-military threats, the system places government institutions outside the defence area as the main element, which depends on the form and nature of the threat with the support of other elements of the nation's power. It employs a total defence strategy of military and non-military components to face every possible threat.

Managing state defence is one of a government functions, and is conducted by developing and making use of all national resources to realise the defence components and the capability of citizens to defend their country. It is prepared to be able to counter possible threats, both military and non-military, while at the same time consider the use of these components for welfare.

This would suggest that national resources (human resources) have a very significant role in the livelihoods of a nation and state, not only for national development but also for state defence. Thus, these resources are the main pillar of a state, during peace and wartime, for welfare and for defence. For state defence, human resources is the subject of utilising natural resources as tools for defence.

Human Empowerment-based Leadership

In order to face the challenges of managing state defence, including maximising national human resources potential, we need to increase the quality of our human resources in the defence area. But we could not start the discussion without focusing on the quality of the leaders. This quality development needs to be planned conceptually through social engineering, including the defence field.

Defence technology requires social engineering and long term conceptual planning. Improving the quality of human resources could not be done without planning, in short term and not supported by leadership quality. The process should start from good leaders, ready to compete on a global scale. Therefore, the development of national resources, particularly cadres of leaders, is a

pressing matter.

Nation leadership consists of those who have the capacity to influence the people and the path of national development through policies. Their concept of mind and actions, both as formal and informal leaders, motivate and drive the people's participation.

The latter is very important in the human resources quality improvement process, particularly for defence technology. This is the reason why the leadership for Indonesia's future defence sector must be human empowerment-based, which covers everyone involved in the defence industry sector.

The goal is to create a society where each individual has the awareness of his or her role and activity within a state and nation. He or she is critical and actively participating in developing the country based on equality of rights and obligations, equality before the law, adhering human rights in a democratic and egalitarian life. In other words, there is participation and equality among citizens in the country's development process.

The human empowerment-based leadership model is a reformation from the position-power to a democracy-based leadership through people optimization. This creates a power sharing that is based on the accountability of the leaders, authorities that are distributed to all levels of society. Our politicians must have the above leadership qualities to be able to formulate defence policies based on the needs of our military, and not for the sake of political calculations.

Such condition will ensure that the policies produced will be far more optimal and will nourish a bottom-up participation, innovation and responsibility. In practice, this leadership model will become more effective when supported by an efficient organisation and less bureaucracy as well as decreasing the distance of communication, both bottom-up and top-down (Wirahadikusumah, 1999). The defence industry necessitates rapid actions for weapon systems modernisation; and so complicated

bureaucracy would only hamper the people working in the area.

This leadership model would allow an organisation to conduct its programmes more effective, efficient with optimum outcomes. Productivity will increase with smaller turnover and minimal redundancy. This future leadership model would have these characteristic features:

1. Leadership is no longer about becoming the big boss with all almighty power and authority.
2. A leader must facilitate the members of the organisation to achieve perfection by pushing the best performance from each member of organisation in a synergised manner to achieve organisation's goals.
3. A future leader is a manager with stronger leadership capabilities.
4. Future leaders would be more responsive and humanistic, with a stronger sense of awareness for humanity and society at large.
5. Future leaderships emphasise more on holistic approach by combining quality, capability and creativity based on morals and ethics.
6. Future leaders should are perceptive and capable of ushering changes. They must be proactive, and when needed, able to push changes in order to achieve national goals (Wirahadikusumah, 1999).

That is why we need leaders who are kind, broad-minded, deep insights, able to anticipate challenges ahead, innovative and dare to take chances. A leader without insights would only react to situation that arise, often too late. Such a leader would not be able to understand the signs of change.

The quality of a leader's insight can be improved through education, experience, intellectuality and the capability to interact with other leaders. In the highly dynamic military world, a leader must respond quickly with sharp insights to analyse current situation and to urge his subordinates to be responsive in facing the challenges ahead. The empowerment-based leadership must answer the complexity and dynamics of the highly dynamic military world. With the empowerment of Indonesia's human

resources in the defence area, the best leader's efforts would be in vain.

According to Peter and Austin, leading is about motivation and inspiring. It is about taking others to a higher level, cooperating with staff or subordinates to find solutions to a problem, to push them to achieve higher, to guide rather than to give orders and how a leader walks together with his members (Peters and Nancy, 1985).

Furthermore, Peter and Austin explained that leadership is about merging people with all kinds of talents, background, experience and hopes, and push them to be more responsible, to achieve more and treat them as co-workers. Leadership is not about techniques or work methods. It is about how a leader cares about his subordinates, trust them and involve them in every decision-making (Peters and Nancy, 1985).

Civilian and military leaders must have these personality traits in order to improve the quality of our human resources. By working together with subordinates in finding solutions to existing problems, a leader encourages them to achieve higher by guiding them, not only ordering them around. This kind of leader is the bridge to the nation's success. This is what the writer meant by empowerment-based leadership. It would improve the quality of our defence resources.

Enhancing Defence Technology Capacity

An independent national defence industry is a concern for all defence stakeholder in Indonesia. If a country could independently procure weapon systems and develop its own defence, even develop sophisticated defence technology, it would elevate its bargaining power in the international community. It is our hope that Indonesia could become a country with strong bargaining position with independent defence industry and sophisticated defence technology.

Our dependence on other countries should be eliminated, especially in the area of defence. Independence is the keyword. Our defence needs should be fulfilled by our national industries, both in quality

and quantity as well as in line with the characteristics of Indonesia's territory.

Leadership is an important factor since this issue would only be decided in the decision-makers' level. The writer believes that decision making is one of the weak links in the process of defence and security policy formulation. Sometimes decisions that were made do not fulfil the needs on the ground. The decision making process was not based on adequate human resources empowerment. This often happens due to political interventions by politicians who do not have sufficient understanding of our defence needs.

The Leopard tank procurement would be a good example, in which it was objected quite aggressively by politicians and those who do not have a thorough understanding on defence and security. Many claim that the tanks were too heavy for the area it would be deployed (Tribun, 16 March 2015). The truth is every Ministry of Defence's defence procurement (defence acquisition) plan would always be based on the request of the services, since they are the ones who understand their weapon system needs.

This is some of the reasons why the writer believes that leadership among Indonesia's defence stakeholders holds an important role in establishing our independent defence industry. This independency must go hand-in-hand with improving the quality of our human resources as well as technological development. The development of our defence technology requires the support of high-quality human resources.

Let us take a look at two countries experiencing the fastest technological development in the realm of defence, India and China. The have established their own defence industries that are independent and self-reliable. The core of their weapon system modernization and integrated defence system is the development of their national defence industries. It is important for us to copy India and China's focus on developing their national defence industries to develop our very own. If we succeed, we could elevate our country into one of the strongest military power in Asia, or

perhaps join the major powers in the world.

Another important factor of the success of these two countries is the strong political will of their governments. Their decision-making process is fast and precise, without the complications of long bureaucracy. Chinese bureaucrats are tough and discipline, corruptors are sentenced to the death penalty. India continues to increase its defence budget; hence no other country could underestimate the Gandhi state. It all starts from a strong leadership, one we must adopt.

Both China and India practice the empowerment-based leadership model. Their leaders have faith in the quality of their human resources. They send their best people to study all over the world. They will then return to their respective countries and apply the technology and skills they learned from abroad. The leaders of these two countries realise that the main strength of their independent defence industries is the empowerment of their people. They are the most strategic spearhead of their respective countries.

Indonesia has already started to adopt the ways practiced by China and India. In working on the MEF program, the government issued Law Number 16 year 2012 on Defence Industries, as the legality for efforts to improve the capacity of domestic defence industries. This law mandates the development of the capability and capacity of Indonesia's defence industries so that it could compete in the global era.

We should pay special attention to Article 3 Law Number 16 year 2012 on Defence Industries. The sentences in this article reflects the government's commitment and the political will to develop and also ensure that national defence industries is one of the main priorities of national development programmes. These sentences are, for example: to realise professional, effective, efficient, integrated and innovative defence industries; to realise procurement independence of defence and security equipment; and to improve the capability to produce defence and security equipment, as well as maintenance service that will be used to develop a reliable defence and security power.

In the 1990s, the United States placed its arms embargo upon Indonesia due to human rights-related issues. This was a wake up call for Indonesia, that defence independence is very important, particularly during a condition such as this. The government also realises the importance to develop the country's strategic industries that are significantly important for Indonesia's defence system.

These strategic industries are PT Pindad, PT. PAL and PT. DI. These three state-owned enterprises have many experiences in producing the needs and equipment of Indonesia's defence system. Unfortunately their functions have yet to be maximised, even to achieve MEF.

The products of these strategic industries have already ventured into the international arena and have gained their own reputation. PT. Pindad, for example, has produced a number of variants of the SS rifle. This type of rifle has won many international shooting competitions. PT. Pindad continues to develop and improve its SS rifle production and create innovative types of the rifle to be used by TNI and the National Police, and even having them exported to other countries.

It was PT. Pindad who produced Anoa, the armoured personnel carrier that are used by Indonesia's Garuda Contingents in their peacekeeping missions around the world under the United Nations' flag. It is hoped that Indonesia's arms technology could not only fulfil domestic demand but also could go international and compete with other arms products.

PT. DI, which focuses on aircraft, has produced maritime surveillance aircraft that has been exported to many countries. PT. PAL is on the same boat by producing a number of patrol boats for the Indonesian Navy. The company's latest product is the Sigma-class KRI *Klewang* with stealth technology. This success shows the capability of PT. PAL to design and develop weapon systems, particularly for the naval service, which are efficient and effective for our domestic defence

industries. In the future, the procurement of our warships should not come from abroad, but produced domestically here in Indonesia. The same goes to weapon system requirements from the army and the air force. By improving the capability and capacity of our human resources in this field, we could end our inability to produce technology-based defence equipment.

Transfer of Technology or ToT is the policy we need to push so that our weapon systems could compete in the global arena, and no longer are dependent on the arms production of the major countries. Consequently, we need leadership that are based on the empowerment of our men and women in the defence area. Our leaders should prioritise the empowerment of their subordinates, for example by sending our best people to study defence technology abroad, and bring back what they have learned to be applied in Indonesia.

Enhancing State Defence Human Resources through Transfer of Technology

Our human resources could compete with other countries, in particular in producing our own weapon systems. Equipped with the capability of our human resources, we should be able to realise independent defence industries of our own, as well as improve the quality of their productions. The problem, however, is in the defence technology, which could not be learned by ourselves. There are many variables that make defence technology could not stand on its own.

That is why we need Transfer of Technology or Tot. It necessitates a number of things that should be considered, such as hardware, software, brainware and supporting network.

Hardware related to physical equipment and the structure of components, while software is all the know-how and the knowledge on how to accomplish a task or order within the operations of the equipment. Brainware is the person with the knowledge and understanding on applications and the use of both hardware and software. Supporting network supports effective use within

the managerial process of technologies (Saad, 2000).

ToT could become the assurance the government needs in forging military cooperation with other countries. The ToT clause must always be a part of the cooperation as to develop domestic weapon systems production. It would allow our human resources to be able to implement and produce international-standard armaments. By applying this policy, we could ensure the improvement of our human resources since they can have the knowledge to produce. This is particularly important because our strategic defence industries have entered a promising phase to implement ToT.

ToT has become an integral part of defence or military cooperation with other countries. As a country that just started its steps in improving its defence industries, Indonesia should be able to develop defence cooperation with developed countries. The cooperation, nevertheless, must be beneficial to Indonesia and includes the ToT requirements. A mutual benefit cooperation would be in the form of co-development, which sees government and international enterprises develop and produce weapon systems, including evaluation, co-funding and profit sharing through product selling (Perwita, *et.al.*, 2013).

Today's globalisation has brought along with the interdependency of countries with one another in all aspects, including defence. Developed countries and international defence industries could provide the mechanism for ToT to Indonesia in the technical level by implementing product efficiency, and in the political level by forging closer ties bilaterally. ToT can also arise in the cooperation with developing countries. The aim is to strengthen existing cooperation and to fill in each other's lacking on the developed technology.

ToT is Indonesia's opportunity to improve the capacity of its human resources. It could also develop the required defence system in accordance to TNI's current weapon systems, and fit for Indonesia's geographical characteristics and TNI's needs. It is important to ensure that ToT policy is

implemented to optimally fulfil MEF. In other words, any defence cooperation that includes ToT clause in it should be formulated based on thorough analysis upon our weapon system needs that fits our defence system doctrine in general.

The concept of technology transfer is not about requiring technology with just about any country that comes to us. Western technology, for example, is quite different to Russian technology. No longer can be implement cannibalism on weapon systems.

We should be clear from where will our technology derive from. It can be from the West or the East, or even more extreme, we create our own version of technology, although it would take long to do so. No longer can we rely on our old ways where we have Soviet-made ships but also deploy F-16s or Grippen from the West. Therefore, ToT should be accompanied by holistic policies related to our defence system doctrine to ensure and integrated unity of our armaments.

In terms of defence cooperation, PT. Pindad has worked together with Fabrique Nationale Herstal Belgia in developing the SS-1 rifle (and the SS2 rifle) (Korem, 10 March 2015). The production of SS-1 is based on the platform of the FNC rifle from Belgium. This variant is sold not only for domestic market but it is also exported.

As a state-owned enterprise on defence equipment, PT. Pindad is ready to become the receiver of technological transfer from other countries. The management's decree Number Skep/3/P/BD/X/2005 on Transfer of Technology Policy reflects the enterprise's commitment as one of the strategic defence industries to supply and develop military weapon systems (Pindad, 16 March 2015). Since there are many armaments procured from abroad, PT. Pindad must be able to produce the required ammunitions and spare parts.

This condition is in line with Indonesia's ToT policy in every weapons acquisition in the past few years. One of the examples is the Leopard tank. The arrival of these huge tanks opens the door for ToT,

although for now it will only for ammunitions and spare parts (Pindad, 16 March 2015). This step PT. Pindad has taken would be called as an example of the empowerment-based leadership.

Research Method

This study uses a qualitative method, which express the empowering leadership in technology transfer.

Result and Discussion

PT. DI has the capability to produce different types of aircraft, which are results from ToT. Before, the company was named *Industri Pesawat Terbang Nusantara* (Nusantara Aircraft Industry or IPTN), and has produced aircraft based on the design of Spain's EADS Cassa (Antara, 10 March 2015). After the success of designing and production, PT. DI developed the programme to fulfil demands by using the CN brand on every variant of aircraft it produces, both for civilian and military use.

The writer believes that so far it is Indonesia's cooperation with South Korea that is the best in terms of technology transfer policy. In terms of quantity, South Korea is our number one defence cooperation partner, defeating Russia and the United States. There are at least four defence cooperation between Indonesia and South Korea since 2004 (Militer Indonesia, 17 March 2015).

First is the development of four Makassar-class Landing Platform Dock (LPD) ships in 2004. Indonesia bough four of this warship class, in which two units are constructed in South Korea and the rest by PT. PAL in Surabaya, Indonesia. The last two LPDs are part of the transfer of technology from South Korea. In Surabaya, our shipyard built the LPDs and experts from South Korea assisted during the building process. Currently the four Makassar-class LPDs are very important for the deployment of TNI personnel all around Indonesia.

LPD is a warship able to conduct military sealift, including amphibious vehicles and tanks and land them on the enemy's beach. In which they would move to the beach through the sea water. It could also bring onboard a large amount of

military personnel.

Second, three DSME-209 submarine units. Some of the Indonesian submarines will be constructed in South Korea and some in Indonesia as part of the technology transfer agreement. Indonesia bought three Chang Bogo Improved Submarines aka DSME-209 from South Korea in 2011 with a contract worth US$1.1 billion. The two units will be constructed in South Korea: (a) will be made 100 percent by South Korea; (b) will involve engineers and experts from both South Korea and Indonesia; (c) submarine will be built in Indonesia by Indonesian engineers with the support of South Korean experts.

These submarines would strengthen Indonesia's military power between 2016 and 2018. Currently work is underway for the first submarine in South Korea set to be finished in 2016, the second in 2017 and the third in 2018.

Third, the development of the KFX/IFX fighter jet between Indonesia and South Korea, and it is the largest defence contract between the two countries with the value of tens of millions of dollars. This is a sign of the closeness of this bilateral defence cooperation. The contract was signed in 2011, in which Indonesia will bare 20 percent of the development cost while South Korea 80 percent. The project will produced 4.5 generation fighter jets, far more advanced than the F-16 Fighting Falcon but not better from the F-32 Lightning II.

In this year of 2015 the development has entered phase EMD and has finished the Technical Development Phase in 2012. The next step is to develop a prototype and testing until 2023. The plan is to have this aircraft produced in 2025 and used by both countries. South Korea is committed to buy 120-150 units of this KFX/IFX fighter jets, while Indonesia will buy 50-80 units.

Fourth, the procurement of 22 6x6 armoured combat vehicle Tarantula. In South Korea the official name for this armoured vehicle is Black Box. Similar to the previous acquisition contracts, some were constructed in South Korea and some in Indonesia as part of technology

transfer. 11 Canon Tarantulas were made in South Korea and all have been delivered to Indonesia in 2013. The other 11 is currently under construction by PT. Pindad in Bandung where our engineers are assisted by the South Korean experts.

Thus, the four defence contracts between Indonesia and South Korea. Some are finished and some are still in progress. These contracts are worth tens of billions of dollars. Hence it is fair to say that our defence cooperation with South Korea is very important and has played a role in Indonesia's military modernisation process.

The transfer of technology or ToT policy with South Korea plays an important role in improving the independence of our defence industries. The opportunities to learn from South Korean technicians and engineers on military technology have improved the quality of our human resources. For the KFX/IFX project, PT. DI leads the technical implementation, allowing the company's engineers and technicians to learn different types of armament technology. Our leaders should utilise this kind of opportunity to promote empowerment-based leadership in the ToT policy with South Korea.

In the maritime sector, the two submarines Indonesia currently has is far from enough, especially since they are old boats made during the Soviet era. Therefore, in regards to the submarine development, PT. PAL is the partner of the South Korean company, cooperating to produce the required submarines to fulfil the Indonesian Navy's posture. For a maritime nation such as Indonesia, ToT on naval technology, particularly for the Indonesian Navy, is very important. Submarine is an important element in safeguarding our vast seas and straits. For quite some time it has been a common concern in this country that our warship procurements are often halted by budget constraints. On the other hand our geographical characteristics demand such armament. By producing our naval technology and armament independently, we may finally answer the issue of our submarines' quality and quantity.

Finally, this policy is closely related to the capabilities of our leaders. Our dependency upon foreign technology has crippled our defence industries and halted the development of our human resources. Weak leadership has reduced our bargaining position in front of the countries that produce the armaments we have bought in the past. We dare not to push these countries to agree on transferring their technological advancement to us. We prefer to surrender to foreign intervention.

This is the reason why empowerment-based leadership is the key to the transfer of technology policy. This policy is the fundamental element in our effort to improve our human resources. The development of our defence resources that is based on human empowerment is the key to improving the quality of Indonesia's defence technology. Without strong leadership, it is impossible to have high quality human resources. The writer hopes that Indonesian leaders who are the decision makers in the defence sector could increase their bargaining position in the international community, so that our defence policies could bring more benefits to the improvement of our technology and the independence of our defence industries.

Conclusion

Threats upon human security should be managed through improving the quality of our human resources in the defence sector. By enhancing the capability of the leaders, it is hoped that our human resources could take on future challenges. The development of our human resources needs to be planned well through social engineering, and the same applies to human resources in the defence sector.

Defence technology necessitates social engineering and long term conceptual planning. Human resource development could not be done in short term, without proper planning and even more without strong leadership. Hence the process should start from a strong leadership, able to compete in the global arena. It is why the development of our human resources, particularly the nation's cadres of leaders, is a pressing matter.

The human empowerment-

based leadership model is a reformation from the position-power to a democracy-based leadership through people optimization. This creates a power sharing that is based on the accountability of the leaders, authorities that are distributed to all levels of society.

Our politicians must have the above leadership qualities to be able to formulate defence policies based on the needs of our military, and not for the sake of political calculations. Leadership is an important factor because issues related to capability-based planning would definitely be decided by the decision makers. Unfortunately all this time the leaders have been one of our weaknesses in terms of defence and security policy formulation.

With adequate human resources capability, we should be able to realise independent national defence industries along with improved production quality. To answer such challenge, transfer of technology is needed. This policy is closely related to the capabilities of our leaders. We must have the courage to push foreign countries to agree upon transferring their technological advancement to us. This is why leadership is an important factor in the transfer of technology policy, because the latter is key to improving our human resources in the defence sector.

Recommendation

Studies have addressed the relationship between leadership empowerment to transfer technology policy as an effort to improve the quality of Indonesian human resources in the field of defense. The authors recognize that efforts to improve the human resources are not only associated with the transfer of leadership empowerment based technology policy.

However, there are many factors that can be moved in order to increase leadership qualities such as knowledge, competence, managerial, experience and wise behavior. In addition to further research required different research methods were supplemented by data analysis in order to refine the results and conclusions.

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