



S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES
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RSIS Policy Report

RSIS presents the following Policy Report, *Rethinking TNI AU's Arms Procurement: A Long-run Projection*. It is also available online at this link. (Please click on the link for printable version).

Rethinking TNI AU's Arms Procurement: A Long-run Projection

Abstract

Although the Indonesian Air Force (TNI AU) has committed itself to several noteworthy procurements, its overall operational-readiness remains questionable. The Indonesian government still has to play catch-up when it comes to improving its Air Force's capability. Given TNI AU's intention of raising the effectiveness of its arms acquisitions, this report argues that the Indonesian government must eschew short-term goals and pursue a procurement plan with a long-term view in place. The report recommends that the Indonesian government include a viable strategy for maintenance and upgrades within its procurement plan in tandem with the requisite support of the national defence industry. The paper concludes with five policy recommendations. First, it is paramount for the Indonesian government to provide a proper assessment of its strategic environment to guide its procurement policy. This will require careful scrutiny of the strategic defence plan highlighted in the Defence White Paper including addressing shortcomings with regard to the tailored needs of the Air Force. Second, domestic defence industries should possess in-house capabilities when it comes to producing the necessary aircraft spares for TNI AU's specific use. Third, the Indonesian government can consider fostering some form of international collaboration to facilitate joint production. Fourth, to maximise the outcomes derived from the international collaboration, Indonesia needs to create and execute a reward and punishment system for its offset policy. Fifth, the TNI AU should look into the imperatives of spares compatibility and availability when drafting procurement policies.

Rethinking TNI AU's Arms Procurements: A Long-run Projection

Background

Indonesia positions its own Air Force (TNI AU) as the sole intermediary and enforcer of its airspace based upon national law and ratified international law. This means that the TNI AU is wholly responsible for enhancing aspects of Indonesian air power while boosting its supporting system.¹ The Indonesian Armed Forces (TNI) adopts a defensive and active prevention strategy in order to ensure national defence and security. Such a strategy stresses on defensive purposes including the prevention of potential threats that can possibly enter Indonesian soil. Additionally, the TNI AU's other responsibilities cover the undermining of concentrated attacks and the incapacitation of selected targets or infrastructures in order to neutralise its adversaries' capabilities with the use of force. In principle, the TNI AU is obliged to wage a defensive war within a short period of time by destroying adversarial targets within sight, efficiently and decisively. In line with Philip Meilinger's propositions on air power,² the TNI AU stresses the importance of advanced technology when executing its duties.

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The re-emergence of a revitalised defence industry provides a fortuitous opening for the Indonesian air force to enhance its capabilities significantly and play catch-up with its regional peers. Previously heavily cash-strapped, the TNI AU had little reasons to justify feasible procurements while making do with modest add-ons to its existing infrastructure. Almost one and a half decades after the Asian Financial Crisis (1997-1998), Indonesia has been enjoying relatively stable economic growth (averagely about 5.9 per cent GDP growth since 2006).³ This new lease of opportunity for greater economic growth presents an unprecedented windfall that will inevitably bode well for Indonesia's military budget after years of stagnation. The Indonesian Armed Forces, including the Air Force, is slated to restart its much-anticipated but delayed modernisation progress.

The TNI AU has been actively procuring several notable weapons systems since the early 2000s via the purchase of a number of military platforms including the *Sukhoi*, *Super Tucano* and *T-50* aircraft. Such a trend certainly offers a glimmer of hope for Indonesia's arms modernisation programme. Nonetheless, those procurements mainly featured short term calculations merely to add on to the amount of aircraft. As a result, the TNI AU often lost sight of long term commitments for proper, regular maintenance and upgrade schemes, and the inter-operability of platforms. Some pressing questions still linger in terms of the TNI AU choice of purchase and its long term projections: What kind of procurement policy will the TNI AU embark on with the increase in budgetary spending? What are the challenges present

¹ Col. Surya Dharma, *The Significant Role of Air Power in the Defence of Indonesia*, (Fairbairn, The Air Power Studies Centre: no year) p. 1

² Col. Phillip S. Meilinger, "Ten Propositions Emerging Air Power", *Air Power Journal*, Spring 1996

³ "Economy of Indonesia: Government Targets GDP Growth of 5.8% in 2015," *Indonesia-Investments.com* 25 June 2014, accessed on 26 June 2014, 1:24 PM <http://www.indonesia-investments.com/news/todays-headlines/economy-of-indonesia-government-targets-gdp-growth-of-5.8-in-2015/item2144>

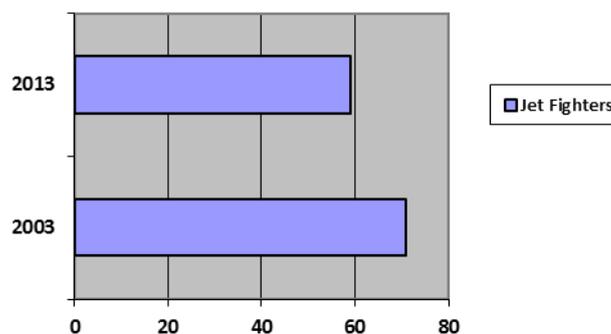
in the TNI AU's current arms procurement process? What needs to be done in order to improve the quality of procurements?

TNI AU's Current Posture and Procurement Plan

TNI AU's Current Posture

The Indonesian government promoted its “Minimum Essential Forces” (MEF) planning strategy with the intent purpose of improving its armed forces' capability. Based on Presidential Rule no. 7/2008, the MEF is understood as the minimum level of military capacity deemed adequate enough to secure and defend the nation's strategic interests. Such a condition can be achieved via the means of prioritising the acquisition of new weapons systems/platforms and/or modernising obsolete and existing platforms to reach the stated minimum capacity.⁴ One of the aspects of the MEF planning strategy is the case for armament [*alat utama sistem senjata / alutsista*] – a crucial factor for the air force as its combat capabilities is heavily dependent on the advancement of its armaments. The TNI AU, in the past few years, has paid greater attention to the issue of viable procurements that can potentially further bolster its capabilities, particularly with regards to the recent purchase of six SU30s and future plans of procuring 24 ex-US Air Force *F-16 C/Ds*. Even though there were also several other notable procurements by TNI AU, namely the *Sukhoi* variants, the operational-readiness of these aircraft procurements remain uncertain as the models have not been updated with its requisite or compatible component parts. Although the TNI AU had purchased numerous aircraft to date, overall modernisation of its platforms remain worryingly inadequate as most of these procurements are either of second-hand or that of refurbished platforms. Figure 1 highlights an illustration adapted from the International Institute for Strategic Studies (IISS) Military Balance Sheet showing a decrease in the number of TNI AU's jet fighters from 2003 to 2013.

Figure 1: Fighter and Fighter/Ground Attack Aircraft

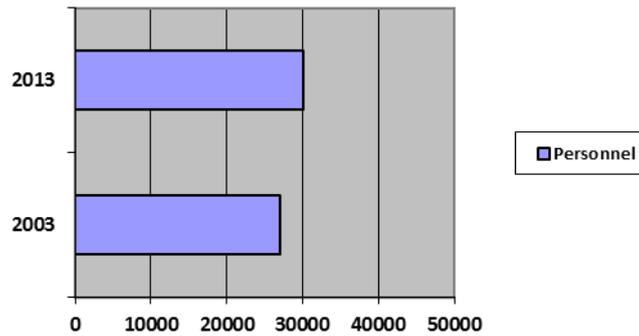


Source: Adapted from IISS - *Military Balance 2003/2004* and *Military Balance 2013*

⁴ Peraturan Presiden Republik Indonesia No. 7/2008 “Kebijakan Umum Pertahanan Negara” [Presidential Rule No. 7/2008 on “State’s Defence General Policies”]

Aging aircraft, limited spares, and accidents had reduced the number of operationally ready TNI AU's jetfighters. Although there was a decline in the number of jet fighters procured, TNI AU had in fact procured more multi-role jet fighters that could perform dual roles for air superiority and ground attack simultaneously. The number of air-force personnel performing both main and support roles also increased accordingly by approximately 10 per cent, numbering at 30,100 in 2013 (see Figure 2).

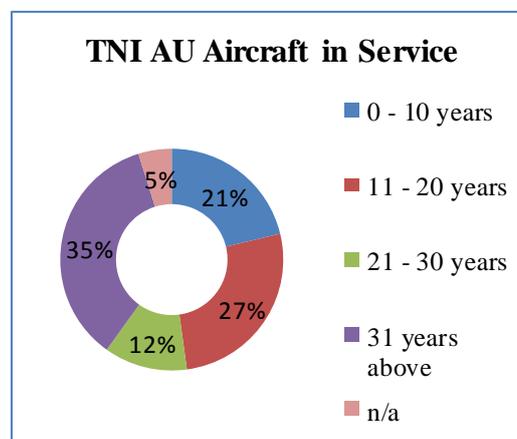
Figure 2: TNI AU's Personnel 2003 and 2013



Source: Adapted from IISS - Military Balance 2003/2004 and Military Balance 2013

The Indonesian air force has placed an emphasis on modernising its armament capabilities *vis-à-vis* a number of jet fighter procurements over the past few years. Nevertheless, based on data adapted from IHS Jane's 2013, Figure 3, about 35 per cent of the TNI AU's aircraft have yet to be retired even after being in service for more than 30 years. Meanwhile, only 21 per cent of the total aircraft in service are in active use for less than 10 years and about 27 per cent of the aircraft have been used for a period of 11-20 years. Aircraft regeneration had therefore become a pressing issue for TNI AU. Table 1 and Table 2 illustrate the past and recent military procurements of the TNI AU based on information from IHS Jane in 2013.

Figure 3: TNI AU Aircraft in Service (March 2014)



Source: Adapted from IHS Jane 2013

Table 1: Aircraft in Service

No	Type	Manufacturer	Primary Role	Original Total	Total in Service	First Delivery
Fixed Wing						
1	F-16A <i>Fighting Falcon</i>	Lockheed Martin	Combat – Multirole	8	7	1989
2	F-16B <i>Fighting Falcon</i>	Lockheed Martin	Combat – Multirole	4	3	1989
3	Su-27SK <i>Flanker</i>	Sukhoi	Combat – Multirole	2	2	2003
4	Su-27SKM <i>Flanker</i>	Sukhoi	Combat – Multirole	3	3	2010
5	Su-30MK <i>Flanker</i>	Sukhoi	Combat – Multirole	2	2	2003
6	Su-30MK2 <i>Flanker</i>	Sukhoi	Combat – Multirole	3	3	2008
7	Su-30MK2 <i>Flanker</i>	Sukhoi	Combat – Multirole	6	6	2013
8	F-5E <i>Tiger II</i>	Northrop	Combat – Multirole	12	6	1980
9	<i>Hawk - 200Mk 209</i>	BAE Systems	Combat – Light Attack	32	21	1996
10	<i>737-2X9 Surveiller</i>	Boeing	Maritime – Patrol	3	3	1982
11	CN-235MPA	Airtech	Maritime – Patrol	2	1	2008
12	F27-400M <i>Troopship</i>	Fokker	Logistics – Transport	8	3	1976
13	CN-235M-100	Airtech	Logistics – Transport	6	5	1991
14	CN-235M-220	Airtech	Logistics – Transport	1	1	2006
15	NC-212-200	Dirgantara	Logistics – Transport	8	6	n/a
16	C-130B <i>Hercules</i>	Lockheed Martin	Logistics – Transport	13	5	1960
17	C-130H <i>Hercules</i>	Lockheed Martin	Logistics – Transport	3	2	1979
18	C-130H-30 <i>Hercules</i>	Lockheed Martin	Logistics – Transport	7	5	1981
19	L-100-30 <i>Hercules</i>	Lockheed Martin	Logistics – Transport	6	3	1979
20	KC-130B <i>Hercules</i>	Lockheed Martin	Logistics – Tanker	2	2	1961
21	737 – 200	Boeing	General Aviation - Executive	1	1	2004
22	737- 400	Boeing	General Aviation - Executive	2	2	2011
23	F28 Fellowship 1000	Fokker	General Aviation - Executive	1	1	1983
24	F28 Fellowship 3000	Fokker	General Aviation - Executive	2	2	n/a
25	<i>Hawk Mk 109</i>	BAE Systems	Trainer – Advanced	8	6	1996
26	KT-1B <i>Woong-Bee</i>	KAI	Trainer – Basic	19	12	2003
27	F-5F <i>Tiger II</i>	Northrop	Trainer – Operational	4	4	1980
28	<i>Hawk Mk 53</i>	BAE Systems	Trainer - Advanced	20	2	1980
29	AS.202/18A3 <i>Bravo</i>	FFA Bravo	Trainer – Basic	40	19	1981
30	T-34C Turbo-Mentor	Beechcraft	Trainer – Basic	25	15	1980
31	G 120TP	Grob	Trainer – Basic	18	4	2013*
32	T/A-50 <i>Golden Eagle</i>	KAI	Trainer – Advanced	16	16	2013
33	EMB-314	EMB-314 Super Tucano	Trainer – Basic	16	8	2012*
Rotary Wing						
34	NAS 332L 1 Super Puma	Dirgantara	Logistics – Utility	16	10	1992
35	NAS 330SM Puma	Eurocopter	Logistics – Utility	3	3	1984
36	NAS 330L /330 J Puma	Aerospatiale	Logistics – Utility	12	2	n/a
37	EC 120B Colibri	Eurocopter	Trainer – Basic	12	11	2002

Source: Adapted from IHS Jane 2013 and various sources⁵

*Delivery in Progress

⁵ For TNI AU’s posture, IHS Jane 2013 categorized the *Sukhoi* variants role as Fighter – Multirole, on the other hand, IISS – Military Balance 2013 classified the *Sukhoi* variants as Fighter – Ground Attack.

Table 2: Missiles

Type	Manufacturer	Role
AIM-9P-4 Sidewinder	Lockheed Martin	Air-to-Air
AA-10 <i>Alamo</i>	Vympel	Air-to-Air
AA-11 <i>Archer</i>	Vympel	Air-to-Air
AA-12 <i>Adder</i>	Vympel	Air-to-Air
AGM-65 <i>Maverick</i>	Raytheon	Air-to-Surface
C-907	Unknown	Air-to-Surface
As-13 <i>Kingbolt</i>	TMC	Air-to-Surface
As-14 <i>Kedge</i>	Vympel	Air-to-Surface
AS-17 <i>Krypton</i>	Zvezda	Air-to-Surface
QW-3	CPMIEC	Surface-to-Air

Source: Adapted from IHS Jane 2013

TNI AU's Procurement Plan and Recent Acquisitions

Table 3: TNI AU 2024⁶

Unit	Platforms	Qty
Fixed Wings	Jet Fighter	128
	Transport	40
	Surveillance	16
	Maritime – Patrol	3
	Trainer – Basic	46
	Trainer – Advanced	16
UAV	N/A	28
Rotary Wings	Helicopter – Logistics	68
	Helicopter – Trainer	11
Radar	N/A	32

Source: Adapted from IHS Jane and various sources

Based on the MEF plan, the focus of TNI AU's arms procurement is to modernise its combat fighters and aircraft at least until 2014. The Indonesian defence minister in 2010 stated that the Indonesian government planned to acquire around 180 *Sukhoi* combat aircraft in the next 15-20 years. However, according to estimations from IHS Jane, the amount of money needed to acquire those *Sukhoi* aircraft would be beyond the country's current financial capacity.⁷

In order to reach the MEF goal by 2024 (see Table 3), the TNI AU has since started to procure some more prominent aircraft platforms and models, namely the *Sukhois*, and trainer aircraft: *T-50 Golden Eagle*, and *Super Tucano*. The TNI AU Chief of Staff, Air Chief Marshall Ida Bagus Putu Dunia has indicated that 8 jet fighter squadrons by 2024 is a

⁶ IHS Jane 2013 and various sources

⁷ IHS Jane 2013

fundamental requirement for purposes of urgent regeneration.⁸ The Indonesian government has also completed the procurement of a *Sukhoi* squadron at the end of 2013.⁹ Notwithstanding, the TNI has just announced that it will build a new shelter for the Indonesian Air Force's (TNI AU) *Sukhoi* squadron at Ranai Airport in Natuna.¹⁰ By 2014, over and above the purchase of *Sukhois*, Indonesia will receive 24 second-hand *F-16 C/Ds* from the United States to further modernise and boost its air force platform and capabilities. One squadron will be stationed at Roesmin Nurjadin, Pekanbaru, Riau Province and the rest will be based at Madiun in the East Java province. The TNI AU plans to use the *F-16 C/Ds* until 2024 following which the aircraft would then be replaced by *KFX/IFX* combat fighters.¹¹

The *KFX/IFX* jet fighter programme started with a memorandum of understanding (MOU) signed in July 2010 between Indonesia and South Korea. The *KFX* programme aims to produce 4th and 5th generation combat fighters. The cost of the programme has been estimated at US\$8 billion in which 20 per cent of the rate will be covered by Indonesia and the rest by South Korea. Indonesia's small contribution to the project indicates the country's technological inadequacy hence its lackadaisical participation in this collaborative venture. It is nonetheless a good start for Indonesia. The programme for the time being had to be postponed until a review is conducted by the newly elected South Korean cabinet.¹²

The Indonesian government has procured off-the-shelf 16 *KAI T-50 Golden Eagle* from South Korea to rejuvenate its *Hawk MK 53*. Unfortunately, the deal does not include details for industrial offset. By 2014, the TNI AU will be equipped with 16 *Super Tucano EMB-314*. TNI AU is also planning to replace and add several transport aircraft, such as the *C-130* series and *C-295* series in order to boost its airlift capabilities for natural disaster relief operations. In April 2013, the Indonesian government announced that they intend to buy five second-hand Australian *C-130* military planes for the TNI. Additionally, the air force also received 3 *CN-295* from PT DI (*Dirgantara Indonesia*, formerly IPTN) and will acquire two more units by 2014. PT DI had just delivered two *NC-212* and one *Super Puma NAS 332* helicopter, aiming to complete one more unit of *Super Puma* for TNI AU by 2014.¹³

⁸ "Tahun 2024, Indonesia akan Memiliki Delapan Skuadron Tempur [By 2024, Indonesia will have Eight Fighter Squadrons," *Beritasatu.com* accessed 14 November 2013 11:26 AM <http://www.beritasatu.com/nasional/140575-tahun-2024-indonesia-akan-miliki-delapan-skuadron-pesawat-tempur.html>

⁹ "16 Pesawat Tempur *Sukhoi* Perkuat Keamanan Indonesia Timur [16 *Sukhoi* Jetfighters Strengthen East Indonesia Defence]" *Kompas.com*, 25 September 2013, accessed 20 March 2014, 2 PM. <http://regional.kompas.com/read/2013/09/25/1915502/16.Pesawat.Tempur.Sukhoi.Perkuat.Keamanan.Indonesia.Timur>.

¹⁰ "Segera Dibangun Shelter Jet Tempur di Natuna [A Jet Fighter Shelter will be established in Natuna]," *Batam Pos*, 28 March 2014, accessed 3 April 2014, 11.50 AM. <http://batampos.co.id/28-03-2014/segera-dibangun-shelter-jet-tempur-di-natuna/>

¹¹ Connie Rahakundini Bakrie, "Supremasi Pertahanan Udara vis-à-vis Hibah F-16 [Air Defence Supremacy vis-à-vis F-16]," *TNI AU Website*, no date, accessed on 30 June 2013, 4:12 PM, <http://tni-au.mil.id/pustaka/supremasi-pertahanan-udara-vis-vis-hibah-f16>

¹² "Apa Kabar *KFX/IFX*? [How Are You *KFX/IFX*?]", *Angkasa* magazine, No. 5 February 2013, p. 26 - 27

¹³ Andi Widjajanto, Edy Prasetyono, and Makmur Keliat, *Dinamika Persenjataan dan Revitalisasi Industri Pertahanan [Dynamics of Armament and Defense Industry Revitalization]*, (Jakarta: Penerbit Universitas Indonesia; 2012) p. 18

The TNI AU has set a target of operating 32 radars to strengthen Indonesia's air defence system by 2024. The air force has also launched cooperation initiatives with Thomson-CSF to modify its *CN-235MPA* with an Airborne Maritime Situation Control System (AMASCOS) and the Detexis/Daimler Chrysler Aerospace Ocean Master radar system. By the end of 2014, TNI AU will have three new radars stationed at Jayapura (Papua), Tambolaka (Sumba Island), Singkawang (West Kalimantan), as well as radar replacement in Ploso (East Java).¹⁴ The TNI AU has also expressed its interest in procuring several Unmanned Aerial Vehicles (UAVs).¹⁵

Issues in TNI AU's Arms Procurement

The plan to achieve MEF by 2024 has created both opportunities and challenges for the Indonesian Air Force. It provides an opportunity for TNI AU to continue its arms modernisation plan. Improving the TNI AU's capacities to be one that is more capable and deployable, however, remains a perennial challenge.

The combat ability of the air force will depend largely on the technological advancement of its armaments. A growing Indonesian economy following the end of the Asian Financial Crisis has enabled the government to deploy greater funds towards the upgrade of the TNI AU's capabilities by prioritising technological advancements and essential procurements of state-of-the-art armaments. Having said that, budget allocations are not lavish, the government's allocation of 19.4 trillion Rupiah (or about US\$1.6 billion)¹⁶ for the three TNI services' overall procurement budget in 2015 is still disproportionately skewed towards the US\$750 million estimated deal for the upcoming purchase of the *F-16 C/D Block 25* with its upgrade plan.¹⁷ In addition, there are also at least two other issues surrounding the TNI AU's procurement policies that could potentially impede the efficacy of arms acquisitions: (i) incoherent procurement planning; and (ii) limited support from the domestic defence industry.

Incoherent Procurement Planning

The plan to achieve MEF by 2024 has created both opportunities and challenges for the Indonesian Air Force. It provides an opportunity for TNI AU to continue its arms modernisation plan. Improving the TNI AU's capacities to be one that is more capable and deployable, however, remains a perennial challenge. There are at least two indicators demonstrating why the TNI AU's armament procurements were not well planned. First, the existing aging aircraft have not received significant upgrades. Some of these aircraft, for

¹⁴ "Skuadron Tempur Sergap Idaman Kohanudnas [Kohanudnas' Ideal Fighter Squadron]" *Angkasa* magazine, No. 5 February 2013, p. 38 - 39

¹⁵ Op Cit. p. 20

¹⁶ Source: Government Work Plan 2015 Bappenas (National Development Planning Board), accessed 17 June 2014, 10:22 AM,

http://www.bappenas.go.id/files/5714/0055/5306/LAMPIRAN_I_BUKU_I_MATRIKS_RENCANA_TINDAK_ISU_STRATEGIS.pdf

¹⁷ Greg Waldron, "US Outlines Upgrades for Indonesian F-16 Deal," *Flight Global*, 21 November 2011, accessed 27 January 2014 3:55 PM, <http://www.flightglobal.com/news/articles/us-outlines-upgrades-for-indonesian-f-16-deal-365092/>

instance the *F-5E Tiger II* – part of the TNI AU’s fighter inventory - has been lying dormant for almost twenty years and only minimally upgraded. Procurement plans should not only end with armament acquisitions, it should also include a commitment towards proper and regular maintenance and upgrade schemes to ensure combat readiness at all times.

The second problem lies in the inconsistencies when it comes to jet fighter procurements as shown in the ownership of the mixed cornucopia of jet fighters. Such haphazard procurements could create potential problems when it comes to the maintenance of the respective combat fighters’ such as aircraft spares availability and compatibility. This will in turn pose an impediment to necessary upgrades in future. Although such inconsistencies have allegedly emerged due to past embargoes from equipment manufacturers, nothing has changed even though the embargoes were lifted. Indonesia’s continued acquisition of *Sukhoi* jet fighters and its plan to procure *F-16 C/D* is a more recent example of such misguided practices in the TNI AU.

In addition, Indonesia’s latest Defence White Paper did not conclusively define the contours of the country’s assessment of its strategic environment. This may lead to inadequacies in strategic guidance with respect to the TNI AU’s modernisation attempts and improvements to its military platforms. The absence of proper strategic guidance will severely hamper the potential acquisition policy, making it prone to short-sighted threat assessments. On the other hand, by making a definitive strategic environment assessment (currently lacking in the Defence White Paper), the Indonesian government can provide a reasonable sense of direction and breadth for the TNI AU’s arms procurement strategy for the long-term.

Limited Support from the Domestic Defence Industry

Indonesia recently ratified its new defence industry law with the intention of providing a legal basis to reinvigorate a defence industry that was previously devastated by the Asian Financial Crisis in 1997. A method to bolster the capabilities of the armed forces’ capabilities is by producing a steady supply of locally produced armaments. A key domestic defence company supporting the Indonesian air force in this area is PT DI. This company is slowly improving its ability in producing various types of aircraft but primarily for civilian use rather than combat, including the *CN235-200*, *NC 212-200* and *NAS-332*. Some of these aircraft are now being used by the TNI AU. PT DI also provides maintenance, repair, overhaul, and alteration services for its own products; notwithstanding non PT DI products such as *B737-200/300/400/500*, *Cesna172*, *Enstrom 480B*, *BK-117* and *Bell-212*. Despite its wide ranging repair capabilities, PT DI does not have adequate skills in handling the majority of aircraft operated by TNI AU.

For the time being, it would be difficult to achieve a state of autarky in terms of arms procurement for Indonesia. Nonetheless, domestic defence companies, for instance PT DI, should be able to improve its maintenance capability for various types of TNI AU’s platforms, including its combat aircraft if possible. However, PT DI does not have the capacity to do so for now, especially for the jet fighters. Currently, TNI AU has to maintain

some of its aircrafts either in-house or outsource its maintenance to the original equipment manufacturer. TNI AU, through its engineering squadrons and Programme Depot Maintenance (PDM, or *Depohar*), generally covers line maintenance and overhaul, but that is limited to certain types of aircraft, such as the *Hercules C-130*.

The legalisation of the Defence Industry Law (Law no. 16 Year 2012) has given a valuable procurement guideline as it highlights some paramount issues, particularly offset policies. However, offset implementation remains hazy due to half-hearted practices. The absence of an appropriate retribution system has worsened the situation. It is unsurprising if military procurements do not have significant contribution for the improvement of the domestic defence industry as no incentives are available.

A Way Forward for TNI's AU Arms Procurement Project

Although the economy is growing, it is not advisable for the Indonesian Armed Forces to spend its budget lavishly. A limited military budget (about 1 per cent of the country's GDP) remains a perennial issue hindering Indonesia's defence modernisation plan. Indonesia's various military procurements may have elicited a concern in the region. However, it should be noted that these procurements may not necessarily translate into an actual force expansion as it is mainly aimed at modernisation. Furthermore, the implementation of the MEF concept, Indonesia's limited defence budget, and TNI AU's defensive and active prevention strategy have further cemented its non-expansionist posture. In order to improve the efficacy of TNI AU's arms procurement, the government must overcome some fundamental issues:

A limited military budget (about 1 per cent of the country's GDP) remains a perennial issue hindering Indonesia's defence modernisation plan. Indonesia's various military procurements may have elicited a concern in the region. However, it should be noted that these procurements may not necessarily translate into an actual force expansion as it is mainly aimed at modernisation.

- 1) Indonesia needs to provide a proper assessment of its strategic environment to guide its procurement policy by updating the Defence White Paper. While providing a degree of transparency regarding government policy, updating the Defence White Paper emphasises Indonesia's commitment to regional confidence building measures. This will invite comment and opinion, from academics and professionals providing useful feedback for Indonesia's decision makers.
- 2) Indonesia's domestic defence industries should be structured on its ability to locally produce aircraft spares that can be utilised by TNI AU. This will facilitate lower maintenance costs due to the ease in obtaining aircraft components.
- 3) The Indonesian defence companies can focus on initiating international collaboration regarding joint production. Some of the areas that could be explored are spares production and aircraft maintenance skills or knowledge transfers, for example, cooperation for jet fighter maintenance and spares procurement. It would be difficult

for Indonesia to completely rely on its local defence industry to produce all spares for its military platforms. It is also improbable for the country to outsource the entire spares production to foreign defence companies. Besides depending on original platform manufacturers, Indonesia should look for alternative options, namely, defence companies that have the maintenance skills for the country's various military platforms and are willing to engage in technology transfers. Thus, Indonesia can enhance its platform maintenance skills while at the same time preserve its independence stance.

- 4) To maximise outcomes from defence procurement, Indonesia needs to devise and execute a reward and punishment system for its offset policy that is still being discussed by the parliament and government. Even though the Defence Industry Law has stipulated an offset obligation of up to 85 per cent for local contents, systems for implementation remain vague due to lack of transparency. Additionally, the punishment for violating offset guidelines is unclear. Therefore, it is crucial for the Indonesian government to assert its commitment to offset policy by implementing incentives for the policy, such as establishing a long term defence acquisition partnership and applying more lenient fiscal regulations.
- 5) The TNI AU has to pay more attention to the importance of spares compatibility and availability when drafting procurement policies. Diverse military platforms with limited logistic support and skills have the potential to jeopardise military readiness. One of the possible options is focussing on specialisation rather than diversification of its armament variants, particularly for jet fighters by acquiring platforms with a single standard. Acquiring platforms with a single standard will reduce the logistical train that in turn would allow Air Force personnel to concentrate on other activities.

In conclusion, to improve the capabilities of the Air Force, the Indonesian government should consider handling the procurement process more systematically by creating a procurement policy that is built on a long-term vision. In addition, proper procurement plans and the maximum support from domestic defence industry are essential keys to enhancing TNI AU's capabilities. Without clearly defining the country's potential external threats, it is difficult for TNI AU to devise a long term procurement plan as limited budgets will compromise the acquisition schemes.

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