

# Indonesian Teeth

(Iswahjudi and Makassar)

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Situated between high volcanos in Eastern Java, number one fighter base in Indonesia is Iswahjudi, named after a legendary pilot from the first hours of Indonesian Air Force existence. Once the home base of squadrons Tupolev Tu-16's and Mig-21's, under Sukarno's leadership Iswahjudi contributed importantly to the situation of supremacy in South East Asia during that period. Some aircraft like a Tu-16, Mig-17, Sabre and shark-mouth T-33 are park together at a special part like a small memory park marking the different periods and their flying equipment. Today on Iswahjudi are three fighter squadrons active in Wing 3 TNI-AU (Tentara Nasional Indonesia-Angkatan Udara or Indonesian Air Force). Skuadron Udara 3 is operating F-16A/B, Skuadron Udara 14 flies F-5E/F and Skuadron Udara 15 (formerly Skuadron Pendidikan 103) is equipped with Hawk Mk.53. The Hawk provides jet fighter training to pilots for 30 hours and depending the skills pilots can either stay on the Hawk or transform to F-16 or F-5 pilots.

The aircraft are organised in Komando Operasi Angkatan Udara 2/ Air Force Operations Command or KOOPSAU II, which is directed from Makassar (Ujung Pandang). All aircraft are in TNI-AU service for several years. Twelve F-16's Fighting Falcons were purchased between 1986-1990 under the PEACE-BIMA-SENA foreign military sales program, but two were lost in separated accidents. The remaining ten examples of this block 15 OCU (Operational Capability Upgrade) forming the most capable fighter on Iswahjudi. The aircraft, serving in the multirole concept are both in interception and tactical strike tasks good performers under VFR conditions armed with AIM-9P Sidewinders or AGM-65 Maverick missiles.

## Air defence of Java

To keep the F-16, F-5 and Hawk mk.53 on a sufficient percentage of serviceability, the maintenance units must have worked like magicians all the time while spare part supplies were blocked for 11 years due to political argue with the United States. For this purpose, spare parties were acquired from third parties. Since the visit of Condolezza Rice in 2005, the relationship came in progress resulting in lifting the U.S. ban on arm sales on 22-11-2005. However, leading authorities claims that refurbishing some F-16's with high percentage of flying hours and so extend their operational life would be a next logical step, the ideal situation lies beyond that. You may conclude that a real advantage could be created by a midlife update with upgraded radar capability, glass cockpit, IFR capability and provisions for BVR weapons as we have seen with F-16's of some European countries. But if budget is going to be spent on the acquisition of more Su-27/30 fighters and supplies the F-16's will most likely stick with limited resources for life continuation. In the meanwhile Turkey, an experienced F-16 user offered to help with the maintenance of the F-16 in 2006, an offer which is under considering with the Indonesian authorities. The F-16's were originally delivered in air superiority blue colour scheme but adopted a new elegant Tosca-green colour in 2000, renamed the millennium colour scheme. The TNI-AU F-5E tiger II is also a dual performer, primarily used for the air defence and secondary for the strike role which is different from most other F-5 users. Originally 12 F-5E and 4 F-5F were purchased in 1982 from the United States and during the late nineties some 8 F-5E and 4 F-5F were upgraded under the MACAN project (Modernisation of Avionics Capabilities for Armament and

Navigation). The project was initiated by SABCA in Belgium but finished at the Ishwajudi maintenance unit. The upgrade provided a more capable weapon aiming system with new computer/HUD and RWR giving the aircraft more potency in weapons delivery and self-defence. Like the F-16, the TNI-AU F-5E/F are armed with two AIM-9P Sidewinders missiles and prior to the F-16's they have also the ability to use their two Pontiac M-39A-2 20mm cannons in aerial fight. The F-5e's are sometimes seen at Halim Air Base in the south of Jakarta.

## **Hawk as advanced trainer**

Totally 20 Hawk mk.53 were purchased from BAe with the first example entering TNI-AU service in 1980. They formed a training squadron for years called Squadron Pendidikan 103 providing advanced fast jet training but the aircraft could also adopt secondly a light attack role under daylight conditions. The aircraft were originally paint in overall grey with yellow tail, marking the usual colour for training but were later paint in two-tone grey. A stunt team called Jupiter and formed in 1997 was initially successful flying 8 Hawk mk.53 and later from 2001 three Hawk Mk.53, two F-16's and one Hawk Mk-109 formed the Jupiter-six team. A fatal mid-air collision between two Hawk mk.53's, killing two pilots, lead to the disbandment in 2002. Although proofed a useful training aircraft the days of the Hawk Mk-53 are numbered. Air Force Marshall Herman Prayitno announced to reporters in April 2007 that the TNI-AU is seeking replacement for the HAWK Mk.53 which currently only 6 of them are operated before the airworthiness expires in 2010. Manufacturers have been contacted, amongst them the Czech Republic and China, which implicates possibly interest in the L-159 ALCA and K8 Karakorum.

## **Operation ability is the keyword**

The fighter pilots have a requirement to conduct standard 15-20 flying hours a month to stay skilled. This includes basic fighter manoeuvres (BFM) but also dissimilar air combat manoeuvres (DACM) between F-16, F-5 and Hawk, although DACM will happen only a few times a year. A typical routine procedure under the TNI-AU pilots is to wear different suits for special missions. From Sunday till Tuesday this will be the classical orange suit but from Wednesday till Saturday pilots wear a green suit for combat trainings missions.

The missions can bring the fighters regularly to other KOOPSAU II bases like Biak, Kupang or Makassar. Wing 3 aircraft are to be involved regularly in joint exercises with other Indonesian Armed Forces in Latihan Gabungan-TNI (LatGab-TNI) and sometimes exercises abroad with Australia, Malaysia, Singapore and Thailand also there have been occasionally exercises with the United States in the past (Cope West). Pilots do have a squadron symbol like the dragon for F-16, the eagle for F-5 and the hawk for the Hawk pilots, but do also have nicknames like for instance pilot nr. 90 is an eagle (F-5) pilot with the nickname Venom and pilot Nr. 39 is a dragon (F-16) pilot with the nickname Felis.

## **A very special ritual**

On a hot October day on the concrete of Iswahjudi's biggest platform the young pilot Kapten PNB Zaenol (Pujianto) must have experienced one of the most special days in this life receiving the honour for his 1000 flying hours on the F-5 ! This amount might be for a transport pilot not a big deal but for a fighter pilot it is a formidable number. Air marshal or Marsma Dede Rusamsi flew for this special event from Jakarta to Iswahjudi in Madiun to give Zaenol his respect. Including the ceremony is a ritual washing (Mandi Kramas) with water and three colours flowers for purification. Next to this, an egg is broken on his head to

symbolize the beginning of a new era in his career. The local staff repeated the process and they did not spare him making sure the next egg flipped behind his neck in his flying suit. Such rituals are common with first solo flight, 1000 hours and 2000 hours, the latter is very rare because in most occasions pilots promote to higher functions before they reach this amount of hours

## **The other fighter base on Sulawesi**

The other fighter base under KOOPSAU II authority is Hasanuddin at Makassar, Sulawesi. Since the A-4 Skyhawk from Skadron Udara 11 were to be retired and put out of service in 2004 the two in 2003 newly purchased Su-27SK and two Su-30MK were flown from Iswahjudi to Hasanuddin after a year of implementation with Russian experts. Initially there was in the mid-1990's interest for 12 Su-30 + option on eight but the deal was postponed in January 1998 after the onset of the Asian financial crisis. TNI-AU had to wait another five years till 2003. The deal of \$192.6 million for the acquiring of the Sukhoi's and 2 Mi-35P was controversy when president Megawatti Sukarnoputri signed the contract in April 2003. There are voices in society saying: do we need this aircraft? We can use the money in the social sector. The answer must be yes from point of view of balance. Indonesia is facing neighbours like Singapore, Malaysia, Viet Nam and Thailand who rapidly purchase numbers of the latest improved fourth generation fighters such as F-15SG, Mig-29 and Su-27/30 Flanker.

Because US military supplies were blocked for years, Indonesia had no other opportunity than to turn to Russia for advanced fighters. The Flanker is considered the best export fighter aircraft in the world and since many neighbours have them you should have them also to be credible in the air defence. The amount of four aircraft is modest but there were more to come. A proposed acquisition of a further 14 Su-30's however was delayed by budget constraints, a change in administration and a shift in priorities following the December 2004 Asian Tsunami's. Only Indonesia was blinking an eye to a chance of buying more examples, providing rumours all the time. Finally, President Susilo Bambang Yudhoyono announced on MAKS 2007 while visiting President Putin Indonesia signed a contract of a \$ 300 million with Rosoboronexport State Corporation for three Su-27SKM and three Su-30MK2 and deliveries could start in 2008. The TNI-AU should like to have finally some 50 fighters to cover Indonesia's air defence. Indonesia is looking for funds and should like to have a loan from Russia but could offer also other forms of payment like the use of Biak in Irian Jaya for building an Aerospace centre. Experts say Biak is ideal for space rocketry because of its position on the equator. The aircraft will of course be armed and while some sources say (Antara news or the pilots themselves) there are already advanced Russian missiles in Indonesia it is believed that this might be in a limited number. Deliveries are coming to Indonesia step by step because budget must be generated. These missiles are a necessity, and Indonesia understand this, otherwise the expensive fighters wouldn't have a value. The standard Flanker missile armament for air-to-air combat is a mixture of Vympel R-73 (AA-11 Archer) IR homing close combat AAM's and Vympel R27 either semi active radar homing AA-10A Alamo-A or IR homing AA-10B Alamo-B AAM's. It is not known until yet which missiles there have been chosen but Antara reports the Alamo.

## **More Flankers to come**

Indonesian Flanker pilots call it a tanker aircraft because it is almost twice the weight of a F-16 and carries a lot of fuel. These pilots used to fly on the F-16 and some on the F-5. There are some main differences. Although the Sukhoi has the same comfortable cockpit like the F-

16 it uses a centre stick and the F-16 has of course the 30 degrees chair and side stick. Another big difference is the matrix indicator projecting airspeed in km/h while altitude and distance are indicated in metres and kilometres. This can be confusing and therefore pilots use a knee-pad on their G-suits with feet and miles compared with metres/kilometres. So far the Flankers have been used primarily for in-type conversion and training. This includes basic fighter manoeuvres and formation flying but not yet on dissimilar air combat training, which will start in the future.

The lay out of cockpit of the Su-27 or front cockpit of the Su-30 is not so different but the Su-27 is more specialised in air defence while the Su-30 is more a tactical aircraft which also can be used as a trainer. The instructor can sit in the front or in the back depending on the purpose of the training. The doctrine in the TNI-AU is much influenced by the USAF but they have two pilots in the aircraft and not a specialised WSO. Some weapons like Air-to-ground missiles can be launched from the backseat only while from this position the radar is employed. The new Su-27SKM and Su-30Mk2 will be more advanced with improved navigation and communications suite, more sophisticated ECM suite and 10 hardpoints to enable an expanded AAM and AGM weapons suite including the new advanced RVV-AE medium range air-to-air active radar-homing missiles and air-to-ground high-precision guided weapon with different types of guidance up till 8000 kg. Flankers of the latest versions have two colour multifunction displays and an display panel with push buttons. These displays show all required digital and visual target designation, flight and navigation data as well as data on the aircraft system status and traditional electromechanical instruments are there for back up. For the pilots this will be an ideal cockpit management. The only minor characteristics, seems to be the high operation costs and the comparatively short lifetime of the Salut AL-31F engine. The new versions will have air-to-air refuelling capability, which will ensure an extended range, which is standard already big. The aircraft will match or beat any other fighter in the area. The air force will however to provide coverage for the whole Indonesian territory a need for additional aircraft and organised in more squadrons. Despite the wish for more, the plans are so far set on a realistic amount of 24 aircraft. •

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