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F-15SG: The Last Manned Fighter for the RSAF?

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The RSAF recently accepted the delivery of the first F-15SGs. This air combat platform represents a quantum leap in the RSAF's combat capabilities. The F-15SG – like all its predecessors – may never see actual combat. It is part of the SAF's overall deterrence strategy.

ON 7 MAY 2009, the Republic of Singapore Air Force (RSAF) received its first four F-15SG multi-role combat aircraft. The addition of this new air combat platform significantly enhances the combat potential of what is already Southeast Asia's most modern, most well-equipped and (likely) most-well trained air force.

The F-15 in all its variants has an enviable combat record: not a single aircraft has ever been defeated by any other platform. In total, up to 2008, the F-15 had a 104-to-0 kill record, and only two F-15s have ever been shot down, ironically by ground-based anti-aircraft fire. It may be true that, in terms of pure technical specifications, the Russian MiG-29 Fulcrum and the Su-30 Flanker-C may be superior platforms; however, combat systems and combat power can never be measured in technical specifications alone. Neither MiG-29 nor Su-30 has the F-15's combat record. In Operation Desert Storm, USAF F-15s accounted for five MiG-29 kills from the Iraqi Air Force.

But is the F-15SG likely to be the RSAF's last manned air combat platform? Three sets of issues are germane: the ever-increasing costs of new air combat systems; the changing strategic environment and its ramifications for air combat; and the increasing availability of technologically reliable unmanned technologies.

Escalating Costs

The F-15 C/D variant (until recently the backbone of USAF air superiority capabilities) cost US\$30 million each. The F-15E, the multi-role variant, cost US\$31 million. And while the cost per platform of the F-15SG remains classified, the original contract for 12 platforms cost US\$1 billion, although this was likely a package deal including training, avionics and other combat systems. Nevertheless, it is clear that the F-15SG is the RSAF's most expensive acquisition to date.

The costs of air combat systems, however, are continuing to escalate. Between 2001 and 2007, the cost of the F-35 Joint Strike Fighter programme, in which Singapore is a participant, has jumped some 43%. In 2001, the F-35 was estimated to cost about US\$79 million per platform. By 2009, the estimated cost had jumped to US\$122 million. Recently US Defence Secretary Robert Gates reportedly said that the eventual cost of an F-35 may amount to US\$373 million, although economies of scale ought to reduce the cost of each platform to the territory of US\$200 million. And this is for a platform that has not entered the production phase yet!

At this rate, it is difficult to imagine that the RSAF can ever afford to purchase any more than a handful of this platform. Which makes a commentary produced by a regional think tank some time in 2008 – alleging that the RSAF planned to acquire one hundred F-35 aircraft – all the more laughable.

The Changing Strategic Environment

If the escalating costs of air combat systems was not enough, the RSAF may have to come to terms with the possibility that the strategic environment in which the RSAF is likely to operate may be changing, and irrevocably so. There are any number of ideas about the future of war and warfare: Sir Rupert Smith's questioning of the future utility of military force; Charles Krulak's three-block war concept; and the various prophets of so-called asymmetric warfare, Willaim Lind and Thomas Hammes, among others. These various thinkers have argued that the large-scale organised wars of the 20th century may not totally disappear, but will likely at least become so rare in occurrence as to be statistically irrelevant.

These arguments are backed by statistical evidence: SIPRI's databases show that these large-scale (or conventional) wars have, since 1945, decreased in number; whereas the incidences of unconventional and irregular wars -- the so-called asymmetric wars -- have significantly increased in numbers.

Of course, these arguments about the changing nature of war in the 21st century do not enjoy an uncontested command of the field. Colin Gray has argued that violence and conflict (and yes, large-scale and organised conflict) will remain part and parcel of the human existence. And the evidence shows that very few strategic planners and policy makers anywhere in the world are prepared to conclude that large-scale warfare has totally disappeared from the human condition.

New Zealand and Denmark are two such countries, New Zealand having disbanded the combat air wing from its air force, and Denmark having decided that its armed forces will now prepare exclusively to support Operations Other than War (OOTW) for the United Nations or NATO. Most other countries, however, retain armed forces that prepare primarily – if not exclusively – for conventional war operations.

That most countries have not drastically reconfigured their armed forces from conventional operations to OOTW cannot, by itself, be regarded as sufficient justification for this apparent stasis. The arguments for and against a new strategic environment and a new security agenda as a result are equally persuasive. The decisions policymakers and strategic planners make to retain a conventional war fighting capability in their respective armed forces is ultimately a reflection of their deep-seated *beliefs* about the nature of international politics.

In the event, however, that strategic planners and policymakers do decide to reconfigure their armed forces for OOTW, combat air platforms such as the F-15 or F-35 become hugely expensive white elephants, strategically irrelevant for the challenges of OOTW, where air superiority no longer assumes the fundamental importance that it does in conventional military operations.

Available Alternative Technologies

Furthermore, there are alternative aerial technologies that are becoming technologically reliable and relatively cheap. Unmanned aerial vehicles (for that matter, robotics in general) are becoming an increasingly pervasive element of the contemporary battlespace. The MQ-1 Predator costs approximately US\$4.5 million, and is capable of firing Hellfire air-to-surface missiles. The MQ-9 Reaper carries significantly more ordnance than the Predator, and costs approximately US\$6.5 million. The RQ-4 Global Hawk is rather more expensive, costing about US\$35 million. These are platforms and capabilities that have sufficient flexibility to adapt to OOTW.

The standard defence of the manned aerial combat platform has always been the need for the human in the decision loop. A pilot brings in a level of situational awareness (and decision-making flexibility and adaptability as a result) that current unmanned systems simply cannot provide. But this technological Achilles heel is likely not a permanent feature. It is surely also inevitable that eventually unmanned systems can provide the same level of situational awareness as manned combat systems. And losing an unmanned combat system behind enemy lines is no where as politically costly as losing a pilot behind enemy lines: this is the lesson of the 1 May 1960 U-2 incident, when the U-2 spy aircraft piloted by Francis Gary Powers was shot down over Soviet airspace.

For the RSAF, it therefore faces the challenge posed by the intersection of these three conditions – the escalating costs of manned aerial combat systems, the widening security agenda that the Singapore Armed Forces (SAF) has to take on board, and the increasing availability of cheaper unmanned technologies. Which path the RSAF takes will, of course, be a political decision. It is, however, a political decision that will have to be made soon enough.

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