

# MODERNISATION OF THE PAKISTAN AIR FORCE

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*It is my strong conviction that offensive application of air power is what can yield positive results in a war.*

—Air Chief Marshal Mushaf Ali Mir,  
CAS, Pakistan Air Force, 2002.<sup>1</sup>

Pakistan has been on an arms acquisition spree to rapidly modernise its air force since the Kargil War, accelerating the process during the last five years. Significantly, Pakistan's arms acquisitions since the Kargil War have been exclusively centred on modernisation and build-up of the air force and aerial maritime strike capabilities of the navy. This has to be viewed in the context of the reality that the army in Pakistan, which has ruled the country for most of its existence, and has been in direct control since 1999, calls the shots in military priorities and modernisation. Pakistan has acquired some land systems, but they have been restricted to heavy artillery. The United States has become Pakistan's major arms supplier since 9/11 and Pakistan has once again become its "frontline state". However, Pakistan has made aggressive efforts to diversify the sources of weapons supply in the last five years. China and Pakistan have entered into joint defence projects, adding to the import and production of the Pakistan Air Force (PAF) and the navy.

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1. Interview, *Asian Defence Journal*, 9/2002, pp.28-29.

**The dominant military lobby in Pakistan has aggressively propagated the Indian threat within Pakistan**

This paper attempts to study the modernisation of the PAF in recent years and its impact on strategy. It does not cover the nuclear and missile capabilities of Pakistan.

Pakistan's military capability and the military build-up have been shaped by its relationship with the United States and support from China. The last 60 years have seen fluctuations in Pakistan's military capability development owing to Pakistan's relationship with the United States. The main suppliers to Pakistan have been the US and China. France and Turkey have been important partners in supporting the PAF's existing fleet of Mirages. To get an understanding of Pakistan's military capability, it is essential to look into the objectives behind the military build-up.

**BASIC OBJECTIVES SHAPING PAKISTAN'S MILITARY CAPABILITY**

Security concerns have always dominated the minds of Pakistan's leadership. Pervez Iqbal Cheema believes in "three possible roads to peace and security—disarmament, arms control and armament." According to him, "Most Third World countries view the first as idealistic, arms control as somewhat more pragmatic, and armament as necessary and realistic."<sup>2</sup> Pakistan has looked at arms procurement to satisfy its security concerns. The perceived threat perception from India, the strategic developments on the border with Afghanistan and the emerging technologies, have been the dominant factors contributing to the sources and kinds of arms procurement by the nation. The basic objectives shaping arms acquisitions of Pakistan are as follows:

1. Right from its creation, Pakistan has been highly suspicious of India and the adversarial relationship with India has played a major role in the formation of its threat perception. The commonly accepted notion is that India, with its hegemonic ambitions, would dominate the South Asian region. The dominant military lobby in Pakistan has aggressively propagated the Indian threat

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2. Pervez Iqbal Cheema, "Arms Procurement in Pakistan: Balancing the Needs for Quality, Self-Reliance and Diversity of Supply," in Eric Arnett, ed., *Military Capacity and the the Risk of War- China, India, Pakistan and Iran* (SIPRI, Oxford University Press, 1997), p. 148.

within Pakistan to legitimise Pakistan's high defence spending, and on the international front to support the acquisition of high technology weaponry. This also interacts with, and promotes, the military's special and dominant role in the country's power structure.

2. Pakistan has been constantly engaged in the battle of matching India's conventional military superiority. The strategic aims, as brought out in the Pakistani writings, are: "to strengthen national power; to prevent open aggression by India; to induce India to modify its goals, strategies, tactics and operations; to attain a position of security or, if possible, dominance, which would enhance the role of other (non-military) means of conflict; to promote and capitalise on advances in technology in order to reach parity or superiority in military power."<sup>3</sup>

3. Pakistan has relied more on high technology weapons to seek competitive military advantage. The perceived military threat from India, which Pakistan considers as an "intelligent and implacable enemy,"<sup>4</sup> has shaped Pakistan's decision to acquire and maintain technological superiority. "Pakistan must have a counter system for every Indian system, either to defend or to deter through the threat of riposte. If access to foreign aid is not assured, Pakistan needs to develop and keep a technology base sufficient to allow it to generate counter-systems to any new weapons the enemy might acquire through import or indigenous development."<sup>5</sup>

The desire to acquire high technology weapons has been very strong in the Pakistan military and the alliance with the United States has provided Pakistan with opportunities to acquire high technology weapons. Pakistan

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3. Ross Masood Husain, "Threat Perception and Military Planning in Pakistan; The Impact of Technology, Doctrine and Arms Control," Eric Arnett, ed., *Ibid.*, p. 130.

4. See Husain, *Ibid.*

5. *Ibid.*, p. 131.

believes that acquisition of high technology weapons would boost the morale and capability of the air force and, hence, improvement of the technological base and acquisition of advanced weaponry is vital for victory in war.<sup>6</sup>

4. Pakistan has believed in offensive, aggressive strategies and has had a deep-rooted belief that by going on the offensive, smaller size forces in history have won wars against bigger enemies. All the four wars which Pakistan has fought with India (in 1947-48, 1965, 1971 and 1999), have been initiated by Pakistan. The war in 1971 was caused by Pakistan's internal instability. But the actual war was initiated by Pakistan with a preemptive air strike against Indian Air Force bases on December 3. In addition, it adopted the offensive route for its covert war through terrorism in Jammu and Kashmir (J&K) since 1988 (besides that in Punjab in 1983-93).
5. Pakistan has relied heavily on the strategy of offensive action and, thus, the acquisitions of high technology weapons are sought to support this strategy. Compared to its unwillingness or inability to support its ground offensive during the Kargil War, the PAF chief clearly emphasised the offensive orientation of the air force three years later when he stated:

It is my strong conviction that offensive application of air power is what can yield positive results in a war. In a scenario where one is placed against an adversary not only larger in size but also enjoying a considerable technological edge, offensive and innovative application of air power can pay required dividends. To this end, we have trained accordingly. The PAF has always given top priority to bold offensive planning and our performance was thus clearly visible in the last two wars

- Air Chief Marshal Mushaf Ali Mir, Chief of Air Staff, Pakistan Air Force.<sup>7</sup>

6. External military support (with even short-term arms additions as in the case of one squadron of F-104 Starfighter aircraft from Jordan in 1971, besides extensive support from Iran, Iraq, etc in 1965) has been a major element in Pakistan's arms acquisitions.<sup>8</sup>

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6. See Sobia Nisar, "The Pakistan Air Force," at <http://www.defencejournal.com/2001/august/airforce.htm>

7. Interview, *Asian Defence Journal*, 9/2002, pp. 28-29.

8. Pervez Iqbal Cheema, *The Armed Forces of Pakistan* (Oxford: Oxford University Press, 2002), p. 164.

## BACKGROUND OF THE MODERNISATION OF THE PAF

### *Modernisation of the PAF in the 1950s*

During the early decades, Pakistan acquired arms mainly from the USA (for high-technology systems) and China (for low cost but efficient systems) and a small proportion contributed by France. In fact, the massive US arms aid to Pakistan in the late 1950s provided it with both the incentive to initiate the 1965 War as well as demonstrated the philosophy of high technology weapons providing a competitive advantage against India. India was, in any case, saddled at that time with obsolete systems being employed after the war in 1962. The classic case was the shooting down of the first four Vampire vintage aircraft by a combination of F-104 Starfighters and F-86 Sabres on the opening day of the war, forcing India to withdraw these older fighters from combat, thus, reducing the quantitative advantage that India was supposed to enjoy.

A mutual defence assistance agreement signed on May 19, 1954, between the US and Pakistan was the first formal bilateral security commitment between the two countries and also provided the legal basis to the US military assistance.<sup>9</sup> Following this, in the same year, US officials presented a secret *aide-memoiré* boosting the military aid to \$50 million with specific programme goals. The *aide-memoiré* committed Washington to equip “4 army infantry and 1.5 armoured divisions, to provide modern aircraft for 6 air force squadrons, and to supply 12 vessels for the navy. The estimated cost of this programme was \$171 million.”<sup>10</sup>

Pakistan entered into the Southeast Asia Treaty Organisation (SEATO) in 1955 and the Baghdad Pact, renamed the Central Treaty Organisation (CENTO), after Iraq left the pact in 1956, ostensibly joining the chain erected by the United States around the Soviet Union and its then military-ideological ally, China, to check the spread of Communism.<sup>11</sup> This resulted in a robust inflow of military

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9. Dennis Kux, *The United States and Pakistan, 1947-2000* (Oxford: Oxford University Press, 2001), p. 67.

10. Kux, *Ibid.*, p.69.

11. Shahid Javed Burki, *Historical Dictionary of Pakistan* (New Delhi: Vision Books, 2003) p. 337.

**Pakistan received interest free economic aid and also a significant amount of free weapons from China.**

and economic aid for Pakistan. Being a member of these two security alliances provided Pakistan a stronger claim on US resources and the US also benefited with the regular interaction between the Pakistani civilian and military officials and their counterparts from the other member countries.

In this process, the US acquired a larger stake in its Pakistan relationship.<sup>12</sup>

By the year 1957, Pakistan was receiving a massive amount of sophisticated military equipment, training and economic aid. The inflow from Washington included sophisticated Patton main battle tanks, modern artillery, Howitzers, F-86 jet fighter squadrons, F-104 Starfighter supersonic interceptors, air-to-air missiles, submarines (the first submarine to be introduced into the Indian Ocean by a developing country, as indeed was the F-104 supersonic interceptor) and state-of-the-art radar, communications and transportation equipment. Further, a qualitative boost came from the military training by the US military teams and also in the US military schools for the Pakistan Army.<sup>13</sup> The US military also provided assistance in setting up intelligence and special operations facilities creating the Special Services Group (SSG) which was used to unsuccessfully try and capture Indian airfields in the 1965 War. While Pakistan failed to win the war in 1965, its military nevertheless projected it as a victory, especially in the air, and the thirst for high-technology systems intensified.

#### *Affiliation with China*

But even as the 1965 War was getting underway, Pakistan sent its recently retired Air Chief, Air Marshal Asghar Khan, to China to seek aircraft and weapon systems to meet Pakistan's "dire needs."<sup>14</sup> Pakistan's need for different sources was complemented with Zulfikar's Ali Bhutto's approach which believed in maintaining relations with all the major powers whose interest lay in South and West Asia. Unlike Field Marshal Ayub Khan, Bhutto's diplomatic policy brought

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12. Kux, n.9, p. 74.

13. Kux, Ibid., pp. 86-87.

14. Asghar Khan, *The First Round: Indo-Pakistan War 1965* ( New Delhi: Vikas, 1979).

Pakistan closer to Beijing and Pakistan entered into several economic and military cooperation agreements with China. Pakistan received interest free economic aid and also a significant amount of free weapons from China and became the only non-Communist Third World country to receive generous assistance from it.<sup>15</sup> The Chinese F-6 entered the PAF's inventory in

1966 followed by other systems. Chinese military assistance came in not only in the form of arms but also development of the indigenous facilities for defence production in Pakistan [the F-6 Rebuild Factory (F-6RF) at Kamra was set up with Chinese assistance].

**Indigenous defence production was focussed to progress towards self-reliance and, more importantly, to revitalise the PAF in the 1970s.**

#### ***1965 Arms Embargo and PAF Acquisitions in the Late 1960s and 1970s***

The United States arms embargo followed by the 1965 Indo-Pakistan War led to withdrawal of US military assistance and also the suspension of US equipment to Pakistan. Pakistan was compelled to look into alternate options and, thus, it turned to China, North Korea, Germany, Italy and France for military aid. In the late 1960s, Pakistan received MiG-19 fighters from China, apart from the substantive infantry equipment. France supplied a few Mirage aircraft and even the Soviet Union provided Pakistan Mi-8 helicopters.

In the 1970s, although US equipment was not available for Pakistan, modernisation of the PAF was kept up with the help of Chinese equipment on one side and the French equipment on the other. China supplied 115 F-6 fighters between 1971 and 1981. France supplied 72 Mirages between 1971-83. Some air defence equipment like the F-104A fighters and helicopters was bought from Jordan and the UK.

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15. Ayesha Siddiqua-Agha, *Pakistan's Arms Procurement and Military Buildup, 1979-99* (New York: Palgrave, 2001), p. 105.

**During the 1980s, the focus of arms procurement was on strengthening the PAF.**

trainers were set up. Apart from this, “the Air Defence System was modernised by inducting the latest radars linked with computerised data processing and display equipment.”<sup>16</sup>

*The Arms Pipeline Reopens in the 1980s*

The Soviet invasion of Afghanistan in December 1979 led to the Americans’ review of their South Asian policy and, consequently, Pakistan entered into a new engagement with the US. Pakistan was declared a “frontline state” and in return received massive military aid. Gen Zia-ul-Haq managed to negotiate an elaborate military and security-related aid package of \$3.2 billion. The US military assistance programme included the sale of 40 F-16 Falcon multi-role combat aircraft, one of the most advanced military aircraft in the world at that time. Pakistan also received attack helicopters and second-hand destroyers.<sup>17</sup>

The second US package worth \$4.02 billion commenced in 1987 but was suspended because of the US arms embargo in 1990 due to Pakistan crossing the “red line” to acquire nuclear weapons capability.

Chinese weapons, being cheaper, continued to hold a significant share in the Pakistani inventory. Although arms from China were technologically not as superior as those from the West, they were capable systems, were affordable and provided quantity to boost Pakistan’s military powers. In fact, by the early 1980s, China had provided Pakistan with roughly about 65 per cent of its aircraft.<sup>18</sup>

During the 1980s, the focus of arms procurement was on strengthening the PAF. Pakistan had lost the last two wars and believed that effective air defence would give them leverage in future offensive operations against India. One of the lessons learnt from the last two wars was that an efficient air force would be important in providing close-battle support to the ground forces.<sup>19</sup> According to

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16. Shafi, “50 Years of the Pakistan Air Force,” September 7, 1997, as cited in Cheema, n.8, p. 111.

17. Rodney W. Jones, “The Military and Security in Pakistan,” in Craig Baxter, ed., *Zia’s Pakistan, Politics and Stability in a Frontline State* (Lahore: Vanguard, 1985), p. 83.

18. Cheema, n.8, p. 164.

19. Siddiqua-Agha, n.15, p.139. The largest share of the American military aid (the first package) was used for the air force. Out of the military component of \$1.6 billion, \$1.2 billion was spent on the acquisition of 40 F-16 aircraft.

the strategic thinkers in Pakistan, the acquisition of the F-16s proved vital for the morale of not only the PAF but for the nation as a whole. And the modern aircraft was viewed as a technological acquisition guarding the territorial integrity of Pakistan.<sup>20</sup> Thus, the Pakistani military leadership, in their second deal with Washington, sought 70 F-16s, aiming to raise the inventory to 110 high performance multi-role combat aircraft. During the 1980s, Pakistan also made an unsuccessful attempt to acquire the airborne early warning (AEW) system from the US which, if successful, would have dramatically increased the air force's combat capability.

China (besides France) continued to be a major source of PAF weapons and this increased after the US arms embargo in 1990. About 90 A-5s were obtained in 1983-84 for the price of \$1 million per aircraft. Procurement of around 95 F-7 series aircraft was done, adding to the quantitative element in the PAF.<sup>21</sup>

#### *PAF Modernisation from 1990-2007*

The then Chief of Air Staff of the Pakistan Air Force, Air Chief Marshal Kaleem Saadat, last year had stated in an interview to *Jane's Defence Weekly*, "When US sanctions were imposed in 1990, both the PAF and the Indian Air Force

were second-generation air forces. No real-time surveillance capability, no air-to-air refuelling capability, no airborne early warning capability, no beyond-visual-range-capability, no stand-off weapon capability. However, after 13 years of sanctions, India had all the above and Pakistan had none until about three or four years ago. This is the gap....We have to bridge this gap in the manner that we can deny the advantage that our neighbour has...."<sup>22</sup>

American military and economic aid came to a halt following the sanctions in 1990. The sanctions were highly damaging in nature as they not only suspended the US military aid and assistance but the procurement of essential spares was

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20. Siddiqua Agha, *Ibid.*, p. 161.

21. *Ibid.*, p. 144.

22. Robert Karniol, "Pakistan-Plugging the Gaps," *Jane's Defence Weekly*, March 20, 2006.

also blocked. Intensive lobbying by Pakistan resulted in some relief under the Brown Amendment passed in 1995. The amendment permitted taking possession of the military equipment frozen in the United States, with the exception of nuclear capable F-16 combat aircraft.<sup>23</sup> Pakistan had paid for 28 F-16s, which were manufactured against the 1987 order of 110. But following the sanctions, the F-16s were not supplied.<sup>24</sup> These sanctions actually impacted the PAF's capability and created confusion in the PAF planning and procurement regarding the replacement of these aircraft. The post-nuclear test sanctions further hampered Pakistan's weapons supply as the United States persuaded the other G-7 countries to impose similar sanctions.

The decade of the 1990s was a setback for PAF modernisation due to the American sanctions and also Pakistan's crippling economy. Economic growth recorded a steep decline and Pakistan was under severe pressure from the international financial institutions to cut down the spending on defence. Despite the US sanctions, low gross domestic product (GDP) and a collapsed democratic structure, Pakistan tried hard to acquire the air force equipment. In 1990, 50 Mirage 3 (as indicated in Table 2) were acquired from Australia for a paltry sum of \$28 million, along with engines and spares.<sup>25</sup>

In the 1990s, Pakistan, with its nationalist ego boosted by the nuclear weapons tests (which it also believed would deter India from any robust response), launched the war in the Kargil sector of Jammu and Kashmir (J&K) in early 1999. This misadventure not only led to its defeat but triggered the return of the army in control of the country, displacing the elected government in the coup of October 12, 1999. With the emergence of the military regime, another set of democracy related sanctions was imposed on Pakistan, laying further restrictions on acquiring high technology weapons from the West. The result was China's preeminence in Pakistan's arms import.

Sino-Pakistan defence collaboration flourished under the umbrella of the US sanctions and, in the process, the two nations entered into deals for the co-

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23. For details, see Kux, n.9.

24. The United States government tried to help dispose off these aircraft to Indonesia to help Pakistan recover the money. But owing to the economic crisis of 1997 in Southeast Asia, it was unsuccessful.

25. Siddiqua-Agha, n.15, p. 145. These aircraft were retired from the RAAF and most of them had about a hundred flying hours remaining on their airframes.

development of a fourth generation fighter aircraft, the JF-17 (earlier called the FC-1); the K-8 jet trainer had earlier been jointly produced. China delivered two joint fighter (JF-17) Thunder advanced jets to the PAF in March 2007 for flight tests and evaluation. The JF-17 is designated to be a low cost combat aircraft to meet the tactical and strategic requirements of the PAF with the reduced reliance of Pakistan on imports. The JF-17 is co-developed by Pakistan and China and is being built by China's Chengdu Aircraft Industry Corporation (CAC) and Pakistan Aeronautical Complex (PAC). There have been reports that the design was developed by the MiG complex in Russia and transferred to China after the Russian Air Force cancelled procurements. Pakistan has also increased its initial target of buying 150 JF-17s to acquiring up to 250 aircraft.<sup>26</sup> This represents a quantum jump in the Pakistani aircraft industry. The PAC in Kamra will commence manufacturing the JF-17 in 2008, and with this, Pakistan will join the exclusive club of the few nations manufacturing fighter aircraft. Pakistan is also positioning itself to buy up to two squadrons of Chinese J-10 which, along with the JF-17, would form the backbone of the PAF, according to the Pakistan Air Force chief.<sup>27</sup> China has also confirmed the sale of six ship-based medium size Z 9C helicopters to the Pakistan Navy.<sup>28</sup>

**Pakistan has also entered into the procurement of airborne early warning systems from Sweden and China.**

Pakistan has also initiated the procurement of airborne early warning systems from Sweden and China. In 2005, Pakistan entered into a deal with Sweden for the purchase of 7 SAAB-2000 turboprop aircraft equipped with Erieye airborne early warning and control (AEW&C) systems.<sup>29</sup> The negotiations for the purchase of Chinese built airborne early warning aircraft are also on. Reportedly, Pakistan is acquiring an unspecified number of Chinese FT-2000 missiles to counter India's early warning capabilities.<sup>30</sup>

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26. Interview, Pakistan's Chief of Air Staff, Air Chief Marshal Tanvir Mahmood Ahmed, April 4, 2007, *Jane's Defence Weekly*, p. 34.

27. Ibid.

28. *The Military Balance 2005-2006*, IISS (London: Taylor and Francis, 2005) p. 230.

29. For details see, Atul Kumar Singh, "AWACS: the Pivot of Aerospace Power," *Air Power*, vol. 2 no.1, Spring 2007 (January-March), pp. 107-138.

30. "FT-2000" *Missile Defence Systems*, at [http://www.missilethreat.com/missiledefensesystems/id.20/system\\_detail.asp](http://www.missilethreat.com/missiledefensesystems/id.20/system_detail.asp)

**The arms deliveries to Pakistan from the US in the period of 1999-2006 alone amount to \$ 4,600 million.**

With the uncertainty related to the inflow of the US equipment owing to the experience in the past, Pakistan has been aggressive in diversifying its sources of weapons supply. A deal for the purchase of 40 Mirage interceptor/ground attack aircraft from Turkey was finalised in 2004. The aircraft will be used as spares for the PAF's existing fleet of Mirages. A joint venture for the production of unmanned aerial vehicles (UAVs) is also in the pipeline as indicated during the visit of Turkish Defence Minister M. Vecdi Gonul to Pakistan.<sup>31</sup>

***PAF Acquisitions from the United States During 2002-2007***

The US weapons sales to Pakistan were restarted following Pakistan's role as the chief ally in the global war against terrorism, which led to the removal of US sanctions on Pakistan. Pakistan's alliance with the United States post 9/11 helped the recovery of Pakistan's economy and opened the long desired supplies of defence equipment from Washington. The Pentagon reports indicate that the foreign military sales agreements with Pakistan were estimated at \$344 million in FY2003-2004, growing to \$492 million in FY2005 alone.

The initial US supplies to Pakistan consisted of items like UH-II utility helicopters, VHF/UHF aircraft radios, air traffic control radars, night vision equipment and other equipment and support systems, including intelligence gathering devices. High technology weapons and equipment from the United States include two F-16s which Pakistan received in 2005, which will be followed by 54 more F-16s (36 F-16 A&B + 18 F-16 C&D)<sup>32</sup>. Pakistan, reportedly has an option to go for additional 18 F-16s in the coming years. Pakistan has been extremely keen to acquire the F-16s, partly because of political/psychological reasons and partly because it has been familiar with multi-role combat aircraft since the early 1980s. The issue apparently has been the cost and the level of upgradation of the aircraft which Pakistan would receive. Pakistan would aim to

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31. *The Military Balance 2004-2005*, IISS (London: Oxford University Press, 2004), p. 311.

32. *The Military Balance 2007*, IISS (London: Routledge, 2007), p. 330.

**Table 1**  
**Pakistan Defence Expenditure Statistics**

	Defex (bn. Rs.)	GDP (current prices, bn. Rs.)	Defex/ GDP (%)	Defex/ Federal Govt Exp (%)
1998-99	143.471	2,960.000	4.32	23.66
1999-2K	150.440	3,562.020	4.22	22.11
2000-01	133.500	3,876.025	3.44	19.30
2001-02	151.600	4,095.212	3.70	23.37
2002-03	159.700	4,481.412	3.56	22.61
2003-04	180.536	5,250.527	3.44	23.97
2004-05	216.258	6,203.889	3.48	23.55
2005-06	*223.501	—	4.30	20.35
2006-07	*250.000	—	4.50	—
2007-08	275.000	—	—	—

\* Budget Estimates  
Source : "Trends in Defence Spending", Jasjit Singh, *Asian Defence Review* 2006, ( New Delhi: Knowledge World, 2006) pp. 87-88. *The Military Balance* 2007, IISS ( London: Routledge, 2007)

achieve its original plan of 110 F-16s in its inventory, but much more capable ones.

On the naval aviation front, Pakistan received the first P-3C Orion maritime patrol aircraft in 2007 and the deliveries are likely to extend till 2010. Pakistan's non-North Atlantic Treaty Organisation (NATO) ally status allows the sale of used US weapons well below their depreciated value. (For example, the F-16s supplied to Pakistan in 2005 with the original unit acquisition value of \$16.2 million have been transferred at a current unit value of \$ 6.48million. The eight P-3 aircraft was delivered free of cost to Pakistan in 2006.)

The Pentagon had also notified Congress about a possible sale to Pakistan of three surplus P-3 aircraft along with Hawkeye 2000 airborne early warning systems. The Pentagon estimated the value of such a sale at as high as \$855 million. It said Pakistan intends to use the aircraft with the E-2C Hawkeye

33. "US Sale of Airborne Early Warning System To Pakistan Possible," DefenceNews.com.

**Table 2**  
**Pakistan's Major Arms Acquisitions During 1990-2007**

Supplier/ Licensor	No. ordered/ delivered	Weapon designation	Weapon description	Year(s) of delivery
Australia	50	Mirage 3	Fighter	1990-92
Britain	3	3 Lynx HAS-3	ASW helicopters	1994-96
China	40	F-7P	Combat aircraft	1993
	6	K-8	Trainer aircraft	1994
	20	Armoured combat vehicles		1995
	75-100	K-8	Fighter/trainer aircraft	2000-08
	40	F-7 MG	Fighter aircraft	2001
	44	F-7 PG aircraft	Combat aircraft	2001-02
	3	Type-347G	Fire control radar	1997-2001
	150	FC-1/JF-17	Multi-role combat aircraft	China-Pak JV, delivery possibly starting 2006
	6	A-5	Combat aircraft	2003
	2	Type-347G	Fire control radar	2004
		PL-12/SD-10	BVR AAM	Year of order-2004
	64	FM-80/HQ-7	SAM	Year of order-2005
		PL-12/SD-10	BVR AAM	Year of order-2004
France	4	SA316 Alouette III	Helicopters	1994
	3	Breguet Atlantique-1	MPA and strike aircraft	1996

Supplier/ Licensor	No. ordered/ delivered	Weapon designation	Weapon description	Year(s) of delivery
	8	Upgraded Mirage-IIID/V	Combat aircraft	1999
	48	Mirage IIID/5	Combat aircraft	1998-2000
	11	Mirage V	Combat aircraft	2000-02
	96	F-17P	AS torpedo	1999-2004
Italy	192	Grifo radar	Combat aircraft fire control radar (for Mirage and F-17/7 combat aircraft)	2000-2004
	4	Galileo Falco	UAV	2006
Netherlands	5	Fokker F27-200	Aircraft	1994-96
Sweden	7	Saab-2000 AEW	AEW&C aircraft	2009
USA	3	P-3C (update 2.75)	Orion maritime reconnaissance and strike aircraft	1996-97
	28	Harpoon	Anti-ship missiles for the P-3C Orions	1996-97
	10	Bell-209/AH-IS	Helicopters	1997
	6	S-70/UH-60 Blackhawk	Helicopter	2003-04
	26	Bell-412EP	Helicopters	2004
	6	C-130E Hercules*	Transport aircraft	2004
	40	Bell-205/ UH-1 H	Helicopter	2004
	40	Bell-209/AH-1F*	Combat helicopter	2004
	19	T-37 B*	Aircraft	2003
	8	P-3C*	MP and strike aircraft	Year of order 2005

Supplier/ Licensor	No. ordered/ delivered	Weapon designation	Weapon description	Year(s) of delivery
	2	F-16 A*	Multi-role combat aircraft	2005
	7	C-130E Hercules	Transport aircraft Ex-RAAF	2005
	54	F-16 (36 F-16 A&B+18 F-16 C&D)	Multi-role combat aircraft	2007
	6	AN/TPS-77	Air surveillance radar	Year of order-2005
	6	L-88 LASS	Air surveillance radar	Year of order-2003
<p>* US Excess Defence Equipment which is normally transferred at a price of less than 10 per cent of the original. For example, the cost of each F-16 is a little over \$6 million.</p> <p>Source: Based on Stockholm International Peace Research Institute, <i>Yearbook</i> (issues of various years) (New York: Oxford University Press) and Pakistan's major arms imports, as cited in Jasjit Singh, "Trends in Defence Expenditure," <i>Asian Strategic Review</i>, 1998-99 (New Delhi: Institute for Defence Studies and Analyses, 1999), SIPRI 2002, 2004, 2005, United Nations Register of Conventional Arms for various years and Defence Security Cooperation Agency at, <a href="http://www.dsca.mil">http://www.dsca.mil</a>; "Update on Pakistan C-130E Acquisitions," <i>Air Forces</i>, January 2006, p.22, <i>The Military Balance 2007</i>, IISS (London: Routledge, 2007)</p>				

airborne early warning system.<sup>33</sup> The US sales and the military aid to Pakistan has gone up significantly in the last five years and, thus, is contributing to the modernisation process of the PAF.

It is interesting to note that the arms deliveries to Pakistan from the US in the period 1999-2006 alone amount to \$ 4,600 million (USD)<sup>34</sup> at an average of \$575 million per annum. The arms transfer agreements between Pakistan and the United States have projected a rapid escalation in the last seven years. The total value of US arms transfer agreements with Pakistan in 1999-2002 was estimated at \$2,800 million (current USD), with Pakistan ranking number ten among the list of recipients. In the succeeding years, 2003-2006, the value of arms transfer agreements amounted to \$8,100 million (current USD), shifting Pakistan to number three in the list of the recipients. And in 2006 alone, the value of the arms

34. Richard F. Grimmett, *CRS Report for Congress*, "Conventioanl Arms Transfers to Developing Nations, 1999-2006," September 26, 2007, p. 71.

transfer agreements was calculated at \$5,100 million (current USD) making Pakistan the number one recipient of the US arms transfer agreements.<sup>35</sup> Pakistan has received \$11 billion aid since 9/11 from the United States alone and, according to the CSIS Report August 2007, only 15 per cent has been spent on economic development.

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### **PAKISTAN'S DEFENCE EXPENDITURE**

In order to get a deeper understanding of the military acquisitions of Pakistan, it would be useful to look into the trend in the overall defence spending of Pakistan in the last ten years.

Pakistan's macro-economic indicators depicted a downfall and the economy was in the doldrums by the end of the 1990s. International pressures during this period laid strict restrictions on any increase in the defence budget. The terrorist attacks in the USA on 9/11 altered the dynamics of government financing in Pakistan. The defence expenditure in the last five years has been hovering at a rate of around 3.5 per cent of the GDP. The lower percentage of defence spending, as compared to previous decades, can be attributed to the number of factors. Firstly, strict conditionalities from the International Monetary Fund (IMF) did not allow the defence budget to rise. Secondly, since the 1990s, nearly 70-80 per cent of Pakistan's weapons and equipment have been acquired from China at lower cost and friendship prices. This has helped to contain the defence expenditure at a lower level, averaging 5 per cent of the GDP during the 1990s. Thirdly, the defence budget as a percentage of GDP remained low due to significant growth in the GDP figures in the last five years. Pakistan's GDP currently (in the last five years) stands at approximately 7 per cent on an average, as compared to 2.5 in the late 1990s. Lastly, and most importantly, post 9/11, the inflow of US military assistance has been in the form of supply of modern defence equipment, training of the Pakistan military and also modernisation of Pakistani facilities and bases being used by the

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35. Grimnett, *Ibid.*, pp 62-63.

**The US assistance and the excess defence articles alone amount to 14.1 per cent of the Pakistan defence budget (not reflected in the budget).**

US since September 11, 2001. Thus, even though the official figures state the defence expenditure at 3.8 per cent, the actual resources being spent on defence are much more.

US assistance to Pakistan has grown rapidly post 9/11. The FMF (foreign military financing) for Pakistan which stood at \$ 75.0 million went up to \$ 297 million in the fiscal year 2007 and is estimated to be \$ 300 million in the fiscal year

2008. The figures for other security-related aid for Pakistan were \$ 32 million in the fiscal year 2003 and have gone up to \$ 102 million in the year 2006.<sup>36</sup>

Taking into account the figures for the last six years from FY 2002-2007, the total US security assistance to Pakistan amounts to \$ 1,685 million. The total EDA (excess defence articles)<sup>37</sup> for the FY 2002-06 five-year period amounts to \$120.5 million.<sup>38</sup> Pakistan's officially stated defence budget for the same period stands at \$ 12,785 million. Thus, the US assistance and the excess defence articles alone amount to 14.1 per cent of the Pakistan defence budget (not reflected in the budget).

If the Coalition support funds are added to the total US security related aid and also the sale of the EDA for FY 2002-2007, it would amount to 58.8 per cent of the total defence budget of Pakistan. Thus, Pakistan's estimated actual defence spending is much higher than the officially announced figures. However, it is interesting to note that according to reliable Pakistani sources, the defence expenditure figures do not include the costs of acquisitions of major weapon systems.<sup>39</sup> The major weapon acquisitions are funded from extra-budgetary sources. In the last six years, Pakistan has received enough resources to finance the PAF modernisation process.

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36. K. Alan Kronstadt, CRS Report for Congress, "Pakistan-US Relations," Updated January 11, 2008.

37. EDA are normally made available to US allies, hence, Pakistan was declared one within the framework of old agreements (of the 1950s) and the more recent declaration making Pakistan a major non-NATO ally. Weapons sold to Pakistan under this dispensation are well below even their depreciated value. The current market value would obviously be much higher.

38. Calculation based on the figures provided by the Defence Security and Cooperation Agency, Department of Defence, United States of America.

39. Air Marshal A. Rashid Shaikh, PAF (Retd), "Security and Development: Hobson's Choice," *Defence Journal*, vol.XXI, May-June 1996, p.13, as cited in Jasjit Singh, ed., "Trends in Defence Expenditure," *Asian Strategic Review 1998-99* (Delhi: Knowledge World, 1999), p. 75.

Pakistan's growing defence cooperation with China and support from the United States has been a major factor contributing in the modernisation of the PAF in the last six years. The US sanctions in the 1960s and then in the 1990s not only gave space for Chinese and French defence equipment in the Pakistani market but also Pakistan made concerted efforts towards defence production which has provided an exposure to the Pakistan defence industry in the international market. The defence exports are estimated to increase to \$1 billion in the next 10 years. The Chinese K-8 is under production at the Pakistan Aeronautical Complex. The assembly of the JF-17 is being done in Pakistan and the defence planners believe that Pakistan should be able to undertake the complete production by 2009. The Gribo-7 radar designed to improve air-to-air and air-to-ground performance, is produced with the objective of equipping 46 F-7 PG aircraft with the radar, together with approximately 45 Mirage IIIOs.<sup>40</sup>

#### PAF STRATEGY

Since 9/11 Pakistan has received \$11 billion in assistance from the US. It has been assessed that 85 per cent of this—that is, \$9.35 billion—was devoted to military modernisation (working out to an average of US\$ 1.56 billion annually). In 2006, Pakistan topped the list in global arms agreements for arms acquisitions amounting to \$5.1 billion. Given all indications, the bulk of this procurement programme would boost Pakistan Air Force modernisation, as indeed has been the trend since 1999. What does this massive modernisation signify for the doctrine and strategy that the PAF can be expected to follow in future?

If past experience is any indication, Pakistan's overall national and military philosophy and culture tilt heavily toward an offensive and aggressive strategy. Pakistan initiated the 1947 War but could not manage aggressive use of the air

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40. See Shalini Chawla, "Defence Production in Pakistan", in Air Commodore Jasjit Singh, ed., *Asian Defence Review 2007* (New Delhi: Knowledge World, 2007), pp. 33-64.

force mainly due to two factors: firstly, unavailability of the appropriate equipment to counter India; and, secondly, the whole operation in 1947 was carried on under the name of a “tribal revolt” which provided Pakistan little leverage to use the offensive strike capabilities. There are also indications that the PAF (as also the IAF) was restrained by the British.<sup>41</sup>

The 1965 War was again a planned covert war followed by overt offensive aggression by Pakistan. What is the factual record? The following stand out with respect to the 1965 War:

- (a) Joint plans — The PAF plans for “surprise attacks” on IAF bases was made out more than two months earlier.<sup>42</sup>
- (b) The PAF fully activated, in full force, over Chhamb sector to cover the armour offensive on September 1. The IAF lost four Vampires as a consequence.
- (c) The PAF followed up with preemptive air strikes on IAF bases on September 6 as per the June 29 plan.
- (d) The PAF claimed to have won the air superiority and dominated the war, shooting down much more IAF aircraft than it lost. The PAF also claimed to have destroyed large number of IAF aircraft on the ground.

In 1971, Pakistan initiated the war on December 3 with preemptive strikes on IAF air bases hoping to damage and destroy aircraft and infrastructure as much as possible through the air offensive. However, it appears to have held back from serious counter-air operations which remained targeted against Indian forward bases. This was part of the grand military strategy to execute what came to be called the great “Tikka Offensive” to launch two strike corps in a *blitzkrieg* into India covered by the Pakistan Air Force. Attacks on Indian forward airfields were aimed at reducing/neutralising IAF capabilities to interfere with the offensive.<sup>43</sup> In the event, the great offensive never got off the ground.<sup>44</sup> The PAF also kept asking the army if a ground offensive further south in Rajasthan (Jaisalmer sector) was planned so that they could provide the necessary air effort by activating the Jacobabad airfields, but Army HQ kept denying any plans.

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41. See C. Das Gupta, *War and Diplomacy in Kashmir* ( New Delhi: Sage Publications, 2002).

42. B.C. Chakravorty, *History of the Indo-Pak War 1965* ( New Delhi: Ministry of Defence, Government of India, 1992) unpublished, p. 246.

43. *The Story of the Pakistan Air Force* ( Islamabad: Shaheen Foundation, 1988).

44. Jasjit Singh, *Defence From the Skies* ( New Delhi: Knowledge World, 2007).

Thus, the armour offensive came to be destroyed by the IAF at Longewela.

Pakistan, in the 1965 War, miscalculated the Indian response. Indian retaliation came as a surprise to Pakistan in the 1965 War and also in the 1971 War. According to Air Commodore Jasjit Singh, "It was the impact of the performance by the Indian Air Force which strongly discouraged the Pakistani offensive. Pakistani strategy has been sound but they have failed to take into account how the enemy would react."<sup>45</sup>

The second factor which can be traced for the PAF restricting itself, has been lack of understanding of its role by the Pakistan Army. Air Marshal Asghar Khan said in the 1960s:

It is true that the PAF's primary role, in essence, is to assist the army in every possible way to achieve its objectives. But in order to do this, the PAF must first achieve a high degree of air superiority over the land battle areas, and it must be equipped to do this effectively. The army seldom understood or recognized this precondition.<sup>46</sup>

The Kargil War in 1999 was once again an attempt by the Pakistani military leaders to capture more Indian territory and Pakistan launched a military aggression across the well-established and mutually accepted LoC. The Pakistan Army lost over 1,200 fighting men in the 42-day war and suffered a humiliating defeat but did not use its air force to support its army that had been launched across the border. This aspect has never been adequately explained. Although, superiority of the IAF would have been a deterrent to the PAF, it is also possible that the Pakistan Army leadership wanted to keep pretending that the fighters across the Line of Control (LoC) were "Mujahideen" freedom fighters. Pakistan's purchases in the last 6-7 years reflect the military's realisation that strengthening

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45. Discussion at the Centre for Air Power Studies, New Delhi, November 2, 2007.

46. n.43, p. 93.

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the PAF's capabilities and the maritime aerial strike capabilities was critical.<sup>47</sup> Pakistan has aspired for, and, to a great extent, relied on, the United States' air weapon system in their military planning.

To sum up, the following conclusions can be drawn based on the publicly known information

and analysis of trends in the current phase of modernisation of the PAF:

1. The PAF has been engaged in a massive modernisation since 1990 (boosted after 9/11) both qualitatively and quantitatively.
2. The thinking, writing and arms procurement in Pakistan indicate the historical consistency of approach to military capability—that is, the desire and efforts to acquire high technology arms to take the initiative to compensate for asymmetry in numbers and increase options for offensive strategy.
3. Consistent demands for high technology weapons clearly indicate the modernisation of the PAF and naval air, even more than the army (under the army rule) and navy, which implies that they expect the air force to play a major role in any future conflict.<sup>48</sup>
4. Modernisation of the PAF during the past six years is aimed at increasing its offensive capability.

In the end, we must ask this question: did the Pakistan Air Force offensive strategy and aggressive operations lead to success? Contrary to many myths created, the clear answer is no! However, that would require a separate paper.

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47. See Jasjit Singh, "Kargil Echo in Pak Purchases," *The Indian Express*, November 28, 2004.

48. It is useful to note here that China also seeks to fight and win the next war through "command of the air." See *China's National Defence 2004*, White Paper, December 2004.