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Pakistan: Defense Industry Struggles for Self-Sufficiency

A Research Paper

Comments and queries are welcome and may be
directed to the Chief [REDACTED] NESA [REDACTED]

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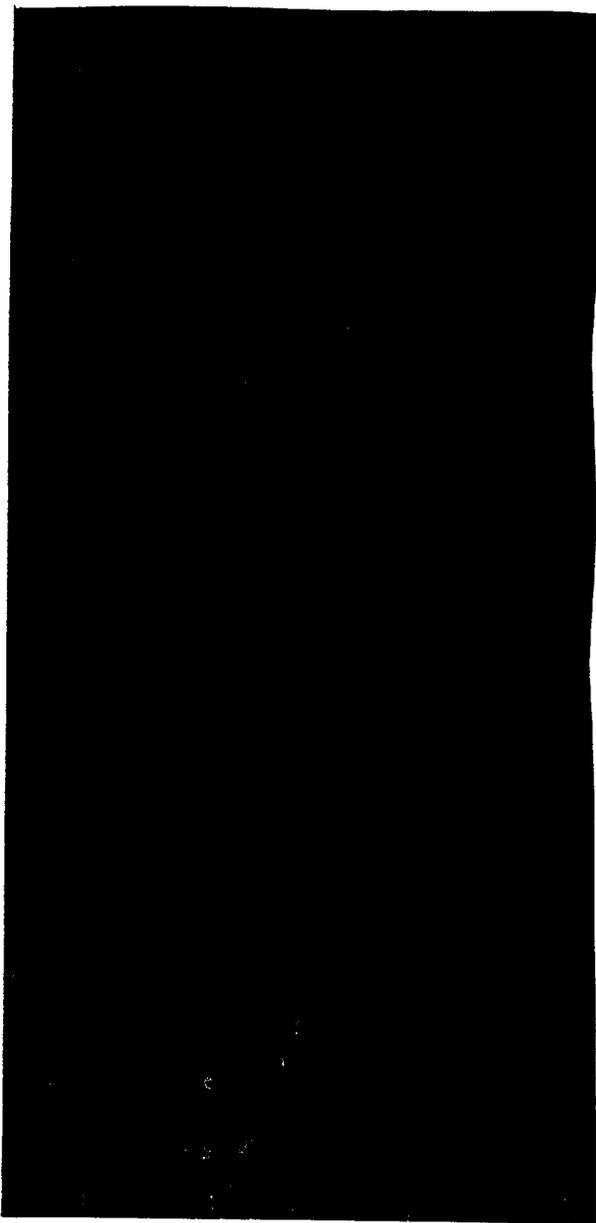
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Pakistan: Defense Industry
Struggles for Self-Sufficiency



The Defense Industry in Pakistan's Economy

Pakistani decisionmakers justify the resources devoted to the defense industry by citing its benefits for the overall economy. Islamabad can point to jobs created and export sales as payoffs for the expense of seeking independence in armament. Defense plants have trained tens of thousands of skilled workers and managers. Some have transferred these skills to the private sector. Plants such as those run by the Pakistan Ordnance Factories also produce items—such as chemicals and machine parts—used by civilian industries

We doubt that Pakistan has a comparative advantage in arms production. Considerable subsidization, as well as outright corruption, characterize the government's relationship with the defense industry. For example, few Pakistani businesses can match the security, pay, and benefits provided by the defense industry. Pakistan Ordnance Factories, in particular, has used this advantage to attract skilled employees. A recent article reports that Pakistani workers regard a job at POF as a "plum," probably acquired in part through political patronage. Many technicians spend their entire careers with the organization, having little incentive to work in the private sector. We believe subsidized salaries and benefits deplete the national treasury and deprive the private sector of manpower, money, talent and raw materials that could be more productively employed elsewhere.

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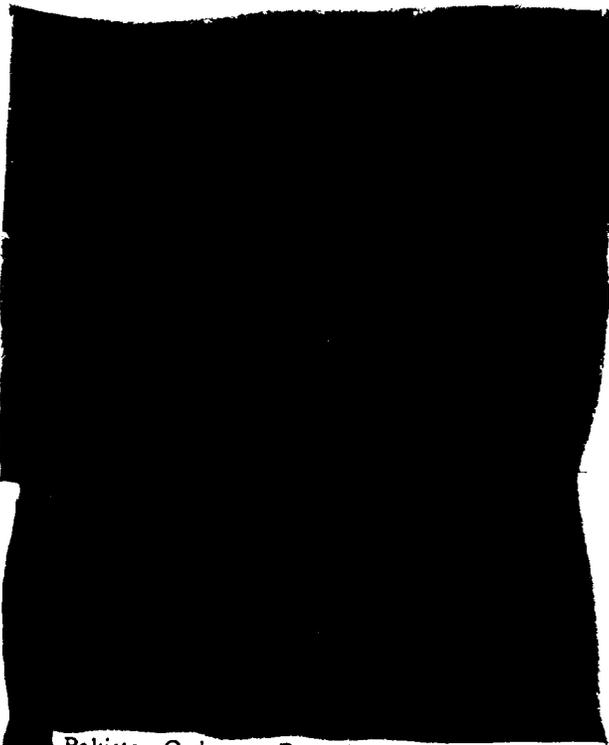
Figure 2. Lt. Gen. Talat Masood now runs the Military Technology & Defense Production Division of the Ministry of Defense. He was formerly head of Pakistan Ordnance Factories.

Sales of Pakistani Armaments

Pakistan Ordnance Factories is aggressively seeking customers for its arms and ammunition. Islamabad hopes that low prices and a "no-questions-asked" sales policy will attract Third World countries. POF officials boast Pakistan has sold ammunition and infantry weapons to more than 30 countries. The list comprises mostly Middle Eastern and Asian nations, but the United States and France have also purchased Pakistani defense-related items, according to Islamabad.

Users of Pakistani ammunition like its low cost but complain about its quality.

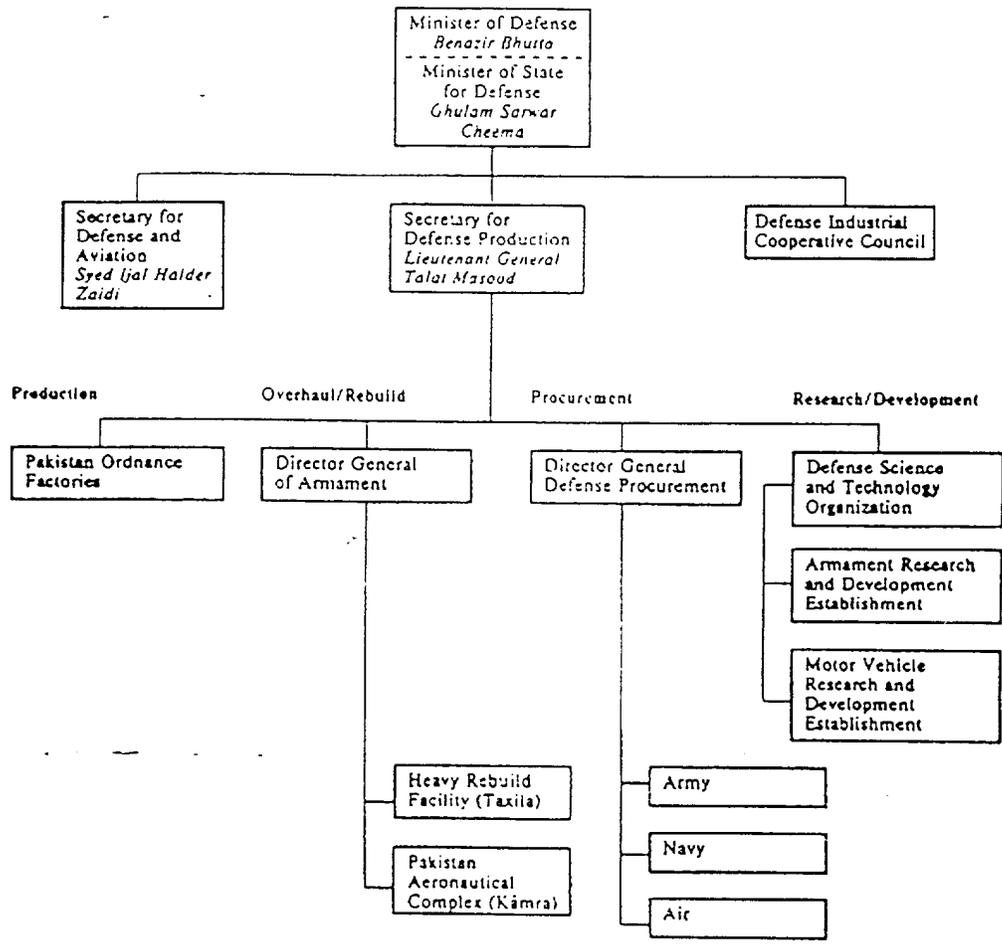
Oman buys cheap Pakistani ammunition but that Omani soldiers despise it. Their submachineguns jam repeatedly when firing POF-made ammunition. The problem is probably related to low-powered propellant charges. One soldier fired several rounds at an oncoming truck only to watch them bounce off its windshield, according to the defense attache.



Pakistan Ordnance Factories exports 15 to 20 percent of its production and has sold ammunition to nations in Asia and the Middle East. According to a military journal, POF earned about \$50 million from

arms exports in 1985 and planned to triple this figure over the next few years. We believe, however, that export earnings fluctuate from year to year and may not be increasing. Lt. Gen. Talat Masood, at the time

Figure 3
Organization of Pakistan's Defense Industries



head of POF, said the organization earned only \$35 million from exports in 1983, according to a press report [REDACTED]

[REDACTED]

Islamabad has long paid lipservice to the need to restructure the defense industry to spur greater efficiency and creativity, but it has done little to bring this about. Calls for a greater reliance on market incentives to allocate costs and production have been made by Pakistani officials for years. Talat Masood said in 1984 that Pakistan Ordnance Factories should be run more like commercial enterprises to spur innovation and allocate costs better [REDACTED]

Production Decision Making

Pakistan's defense industry is under the overall control of the Ministry of Defense. The Secretary for Defense Production heads the Defense Production Division—the oversight body for Pakistan's arms factories, overhaul facilities, and research establishments. Press reports indicate the division projects future procurement requirements and oversees both production and procurement of arms and equipment. [REDACTED]

[REDACTED] the defense industry would be reshaped into quasi-autonomous corporations to impose "greater financial discipline." A recent article on the Pakistan Ordnance Factories stressed the organization's need for a more open, private-enterprise-like form of governance, implying the persistence of problems noted several years ago.

Pakistani officials continue to urge private-sector investment in producing and marketing military items, but we doubt that private firms will produce a significantly larger share of Pakistani armaments. In July, Defense Secretary Cheema wooed businessmen

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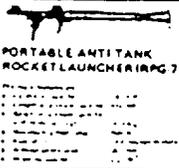
² The current holder of this post is Lt. Gen. Talat Masood, who headed the Pakistan Ordnance Factories until mid-1988 [REDACTED]

Sophisticated arms from PMTF are aimed at self-reliance.

Light, but rugged and effective PMTF field Artillery weapon systems are backed by proven dependability in combat.



Heavy Mortar 120mm	Light Mortar 81mm	Light Mortar 60mm	
Caliber	120 mm	81 mm	60 mm
Length of Barrel	1746 mm	1130 mm	1210 mm
Max Range	6000m	3000m	2000m
Rate of Fire	12 Rounds/Minute	12 Rounds/Minute	12 Rounds/Minute
Type of Firing Mechanism	Manual	Manual	Manual
Total Weight	600 kg	425 kg	160 kg



PORTABLE ANTITANK ROCKET LAUNCHER (PARC 70)

Caliber	70 mm
Length of Barrel	1700 mm
Weight	15 kg
Range	1000 m
Rate of Fire	10 rounds/minute
Type of Firing Mechanism	Manual
Total Weight	15 kg

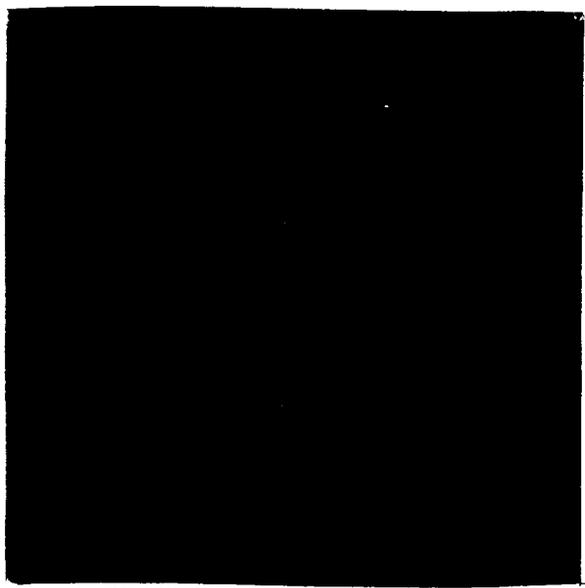


106 mm Recoilless Rifle

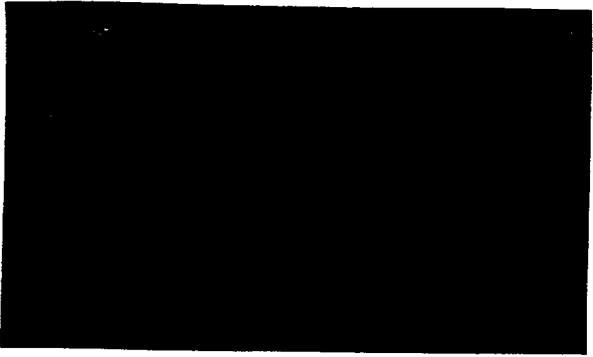
Caliber	106 mm
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PAKISTAN MACHINE TOOL FACTORY (PVT) LIMITED
A Company of the Engineering Council of Pakistan

Figure 4. Several private and quasi-public Pakistani firms produce arms and military equipment. This is an advertisement for the Karachi-based Pakistan Machine Tool Factory.



We estimate that the defense industry receives about 15 percent of the defense budget and a similar share of the military's foreign exchange allocation.¹ This nearly equals the share India allocates for arms production and for weapons research and development, which allocation we estimate at 18 percent of New Delhi's much larger defense budget. Roughly half of Pakistan's defense industry funds go to POF, in our judgment. In 1977, the last year for which such numbers are available, 7 percent of Pakistan's defense budget went to POF, according to defense attache reporting. We believe POF receives a similar share today. A recent press article stated that POF's budget was more than 3 billion rupees (\$150 million), but we believe the published figure excluded POF's foreign exchange allocations



Production and Coproduction

Pakistan Ordnance Factories is the heart of the nation's defense industry. Although it is located at several sites, the organization's headquarters is in Wah, a company town that is home to most of the roughly 40,000 POF employees. A military journal reports POF treats its workers well by Pakistani standards, providing comparatively good pay and benefits. The employees repay POF's benevolent paternalism with loyalty. A recent press article reports that many skilled technicians and engineers spend their entire careers with the organization. Although

¹ Pakistani officials hinted to US diplomats that the military is allocated about \$1 billion in foreign exchange each year. Thus, the defense industry's foreign exchange allocation is probably about \$150 million, excluding whatever funds are earned through arms exports and maintenance of foreign aircraft.

Pakistan Ordnance Factories

The government-owned Pakistan Ordnance Factories is the largest industrial enterprise in Pakistan. It controls 14 factories, employs roughly 40,000 workers, and produces \$400-500 million worth of products annually, according to press and defense attache reports. Most of the factories are at Wah Cantonment. Others are nearby in the Islamabad-Rawalpindi area. The POF complex includes:

- *Weapons Factory. This facility has produced rifles and machineguns under license from Heckler and Koch of West Germany for more than 20 years. The Weapons Factory is POF's showcase, boasting computer-aided design processes and computer numerically controlled machinery.*
- *Small-Arms Ammunition Factory. Makes rifle and pistol rounds and rifle grenades. POF is acquiring a rotary ammunition plant from a US firm to replace the aging equipment in this facility.*
- *Machinegun Factory. This plant makes Type-54 12.7-mm machineguns under license from China, according to press reports.*
- *Artillery Ammunition Factory. Manufactures medium-caliber artillery ammunition, as well as grenades and aircraft bombs.*
- *Tungsten-Alloy Factory. Uses computerized machinery to produce penetrators for the L64 105-mm tank round and a 100-mm round designed by POF.*
- *Carbide Factory. Probably associated with the tungsten facility.*
- *Tank and Antitank Ammunition Factory. Produces tank and antitank munitions of 100 mm and larger, according to press reports. Located at Gadwal.*
- *Heavy Ammunition Factory. Produces artillery and mortar rounds, and fuzes for antitank rounds. The facility was built with Czechoslovak assistance but is installing computerized machinery. Located at Sanjwal.*
- *Explosives Factory. Two plants at Wah and Havelian make explosives for POF munitions.*
- *Propellant Factory. Produces about 1,200 tons of single-base and double-base ammunition propellant annually with Chinese assistance, according to press reports. Has static test stands for rocket motors and artillery. Located at Havelian.*
- *Clothing Factory. Makes uniforms for Pakistan's armed services. The US Consulate in Karachi reports the factory was being expanded and modernized in 1988.*
- *Brass Mill. Produces brass sheets and other components for ammunition manufacturing.*
- *Filling Factory. Manufactures explosives and assembles ammunition.*
- *Woodworking Factory. Makes boxes and crates for ammunition.*

Pakistan Ordnance Factories also operates several subsidiaries, most notably Wah Industries and Wah Bofors, which use excess capacity at the Wah facility to manufacture products for civilian use such as chemicals, explosives, and machine parts, according to a reliable source.

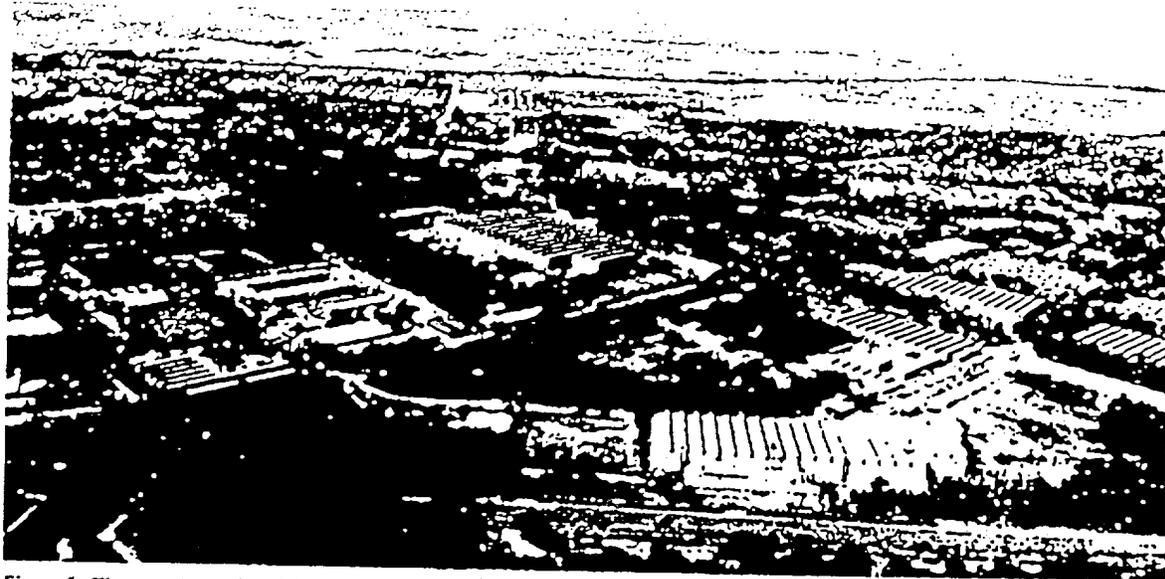


Figure 5. The sprawling industrial complex at Wah is home to Pakistan Ordnance Factories and thousands of its employees.

the lack of better opportunities in the private sector probably helps POF retain its skilled employees, we believe their loyalty is a key factor in POF's capabilities.

POF is undergoing gradual expansion and modernization. It grew steadily during the last decade under Talat Masood

Press reports say POF's showcase plant, the Weapons Factory, recently attained greater capabilities and efficiency by installing computer numerically controlled machinery. Military journals report that other POF plants—which some observers have compared with Western facilities in efficiency and capabilities—are being modernized or expanded. In the last few years new capacity has been added at several plants, according to press reports.

Virtually all of the weapon systems and equipment produced in Pakistan are made under coproduction agreements, according to open sources. Defense plants have licenses to manufacture or assemble a variety of products, including West German small arms

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