



Directorate of
Intelligence

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Ballistic Missiles in Pakistan

An Intelligence Assessment

APPROVED FOR RELEASE
DATE: AUG 2001

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(b)(3)
(N)

[REDACTED]

July 1990
Copy 213

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Directorate of
Intelligence



Ballistic Missiles in Pakistan

An Intelligence Assessment



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**Ballistic Missiles in
[REDACTED] and Pakistan [REDACTED]**

• Scope Note

This paper—another in a continuing series of CIA Intelligence Assessments on missile proliferation in the Third World—assesses the status and capabilities of ballistic missiles being developed in [REDACTED] Pakistan.

[REDACTED]

In this paper, we examine the capabilities and status of ballistic missiles under development in [REDACTED] Pakistan.

[REDACTED] Although this paper addresses whether the missiles involved may carry chemical or nuclear warheads, it does not address the chemical or nuclear weapons programs of either country. We also project future developments in each country and discuss the level of commitment by [REDACTED] Islamabad to ballistic missile programs [REDACTED]

**Ballistic Missiles in
and Pakistan**

Key Judgments

*Information available
as of 25 June 1990
was used in this report.*

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Pakistan began converting sounding rockets into military missiles in the mid-1980s and has developed two SRBMs based on that work. The single-stage Hatf I and two-stage Hatf II are solid-propellant missiles based on Pakistani-produced versions of French sounding rockets. The maximum range of the Hatf I is 80 km, and the maximum range of the Hatf II is

¹ CEP is a method of measuring missile accuracy. The CEP is the radius of a circle within which 50 percent of all missile warheads aimed at a given target would fall.

Pages: VI

Exemptions: (b)(3), (b)(1)

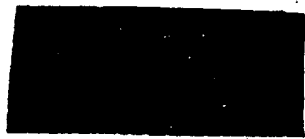
[REDACTED]

300 km—both missiles have a payload capacity of 450 kg. Since January 1989, the Hatf I has been flight-tested five times, and the Hatf II has been flight-tested three times. [REDACTED]

Both Hatfs are flawed by the lack of a guidance system and, hence, have very poor accuracy. Both Hatfs have CEPs on the order of several kilometers and cannot carry a Pakistani-produced nuclear device. Pakistan may have begun deploying the Hatf I in 1990, but production and deployment of the Hatf II may be delayed until 1992 because of its accuracy problems. Islamabad recognizes the shortcomings of the Hatfs and has concluded an agreement with Beijing to purchase the more accurate, 300-km-range SC-05 (M-11) SRBM. In addition, Pakistan is attempting to obtain Scud missile technology from North Korea and is developing the LD—a probable longer range system. Pakistani officials have also been in contact with representatives of the European consortium that supervised the development of the 750- to 1,000-km-range Condor II in Argentina. Production of the Condor II or another missile with a range longer than the Hatf II is likely in Pakistan by the mid-to-late 1990s.

[REDACTED]

[REDACTED]



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Table

Comparison of Hatf I and II With Possible Pakistani Purchases



**Ballistic Missiles in
and Pakistan**

Introduction

[REDACTED]

[REDACTED]

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Background

The ballistic missile programs of [REDACTED] Pakistan have their origins in separate efforts to develop and acquire space launch vehicles and sounding rockets.

[REDACTED]

[REDACTED] Pakistan began launching sounding rockets obtained from the United States and France in the 1960s, and by the early 1970s Pakistan had produced and launched an indigenously built sounding rocket based on French design. As will be detailed later, the space launch vehicles and sounding rockets developed in both of these space programs were precursors of the ballistic missiles that both countries have tested in the past year. [REDACTED]

[REDACTED]

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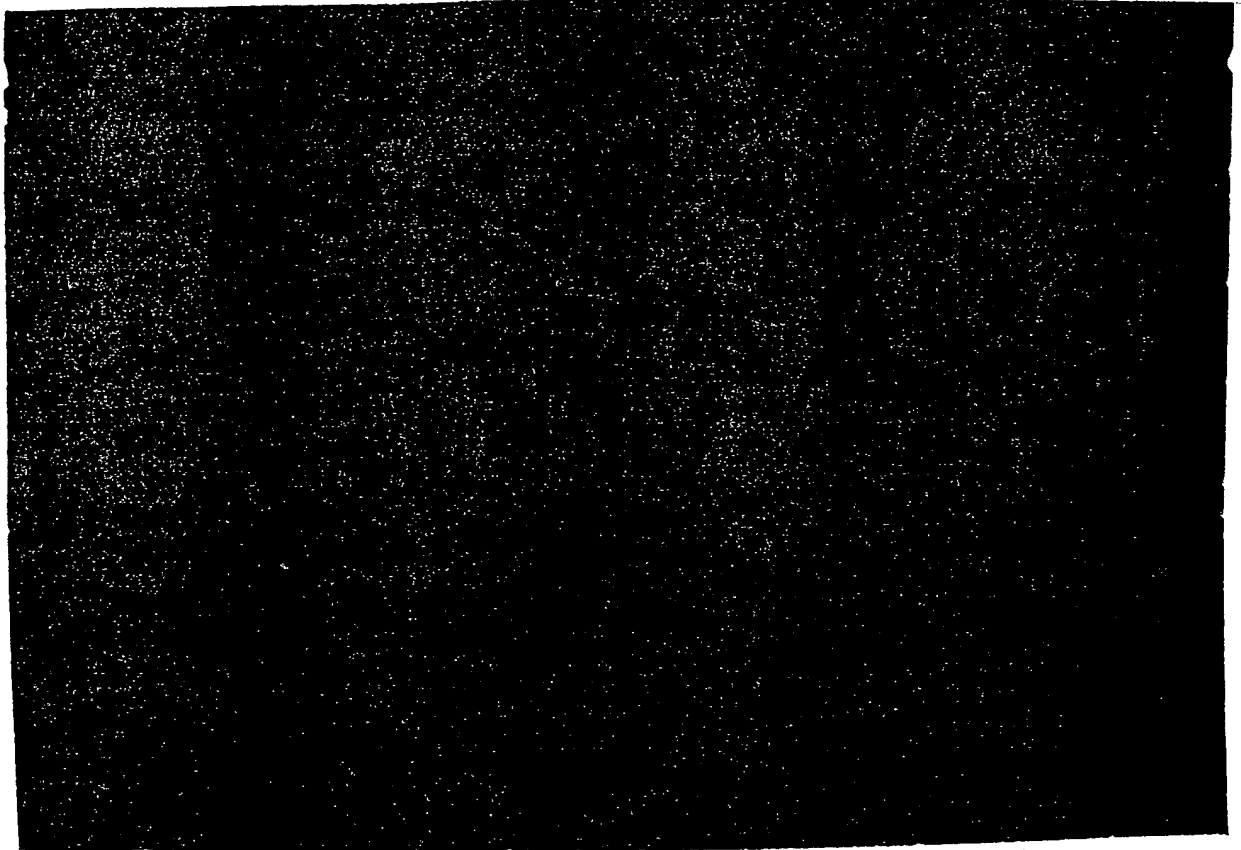
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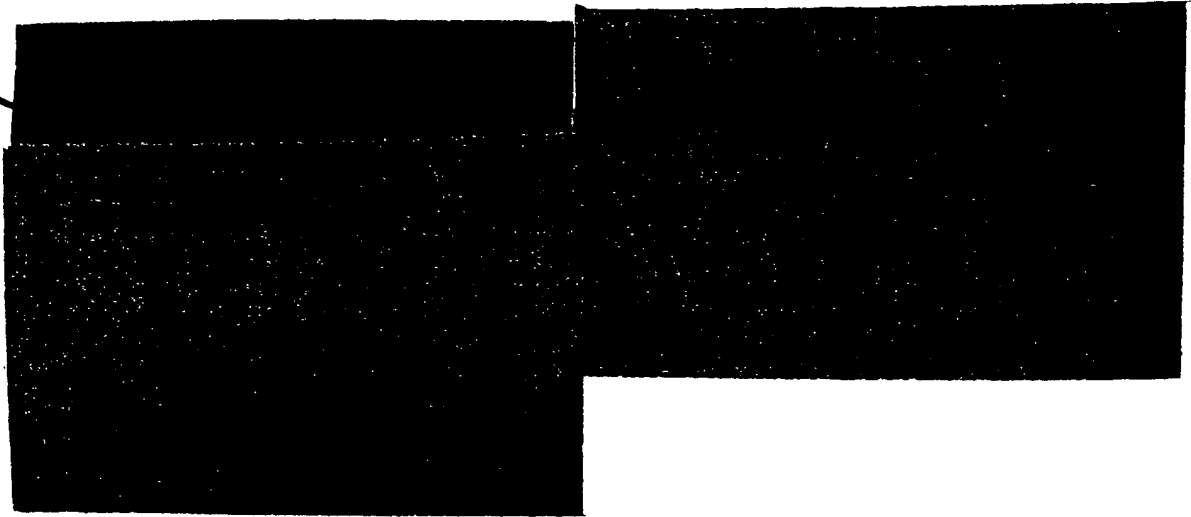
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Exemptions: NOT RELEVANT

Pages: 9

Exemptions: (b)(1), (b)(3)

Pages: 10

Exemptions: NOT RELEVANT

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SRBMs (Hatf is the name of one of the swords of the prophet Mohammed)

[REDACTED]

[REDACTED]

Booster and Range. Pakistan is developing two solid-propellant SRBMs—the single-stage Hatf I and the two-stage Hatf II.

Pakistan's Ballistic Missile Program

Organization and Facilities

Islamabad's ballistic missile program is supervised by the Pakistan Space and Upper Atmosphere Research Committee (SUPARCO). In addition to the ballistic missile program, SUPARCO supervises satellite development and the construction of sounding rockets for Islamabad. SUPARCO headquarters in Karachi coordinates all aspects of the missile program, and

[REDACTED]

the maximum range of the Hatf I is 80 km and the maximum range of the Hatf II is 300 km

[REDACTED]

Guidance Systems and Accuracy. Both the Hatf I and Hatf II are unguided and, in fact, are better described as long-range artillery rockets than ballistic missiles.

In addition to SUPARCO, a small number of other government organizations are involved in the ballistic missile program

[REDACTED]

Warhead Configuration and Options. The Hatfs carry conventional warheads

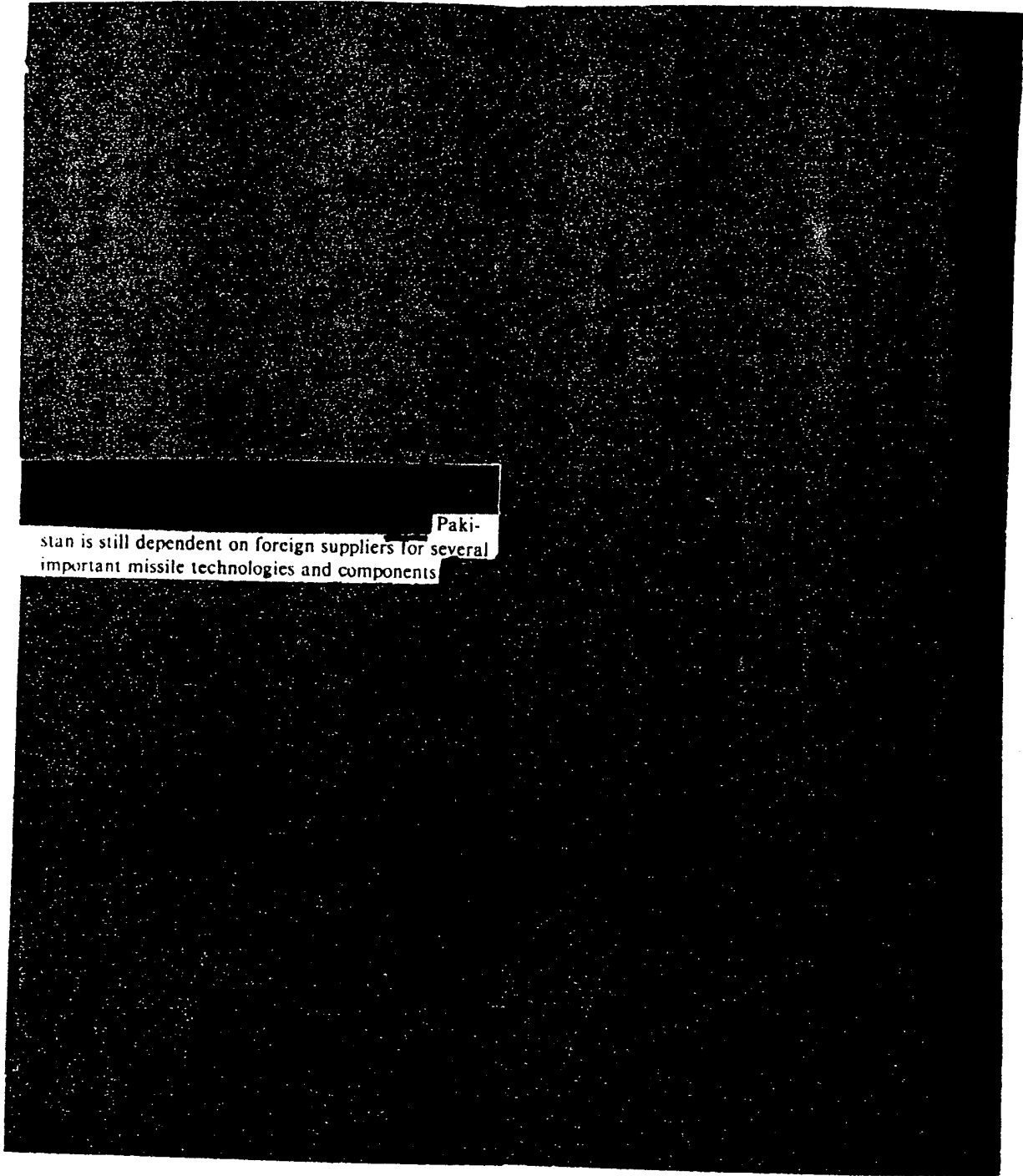
Hatf I and Hatf II SRBMs

History Pakistan has been attempting to convert sounding rockets into SRBMs and this effort eventually led to the creation of the Hatf

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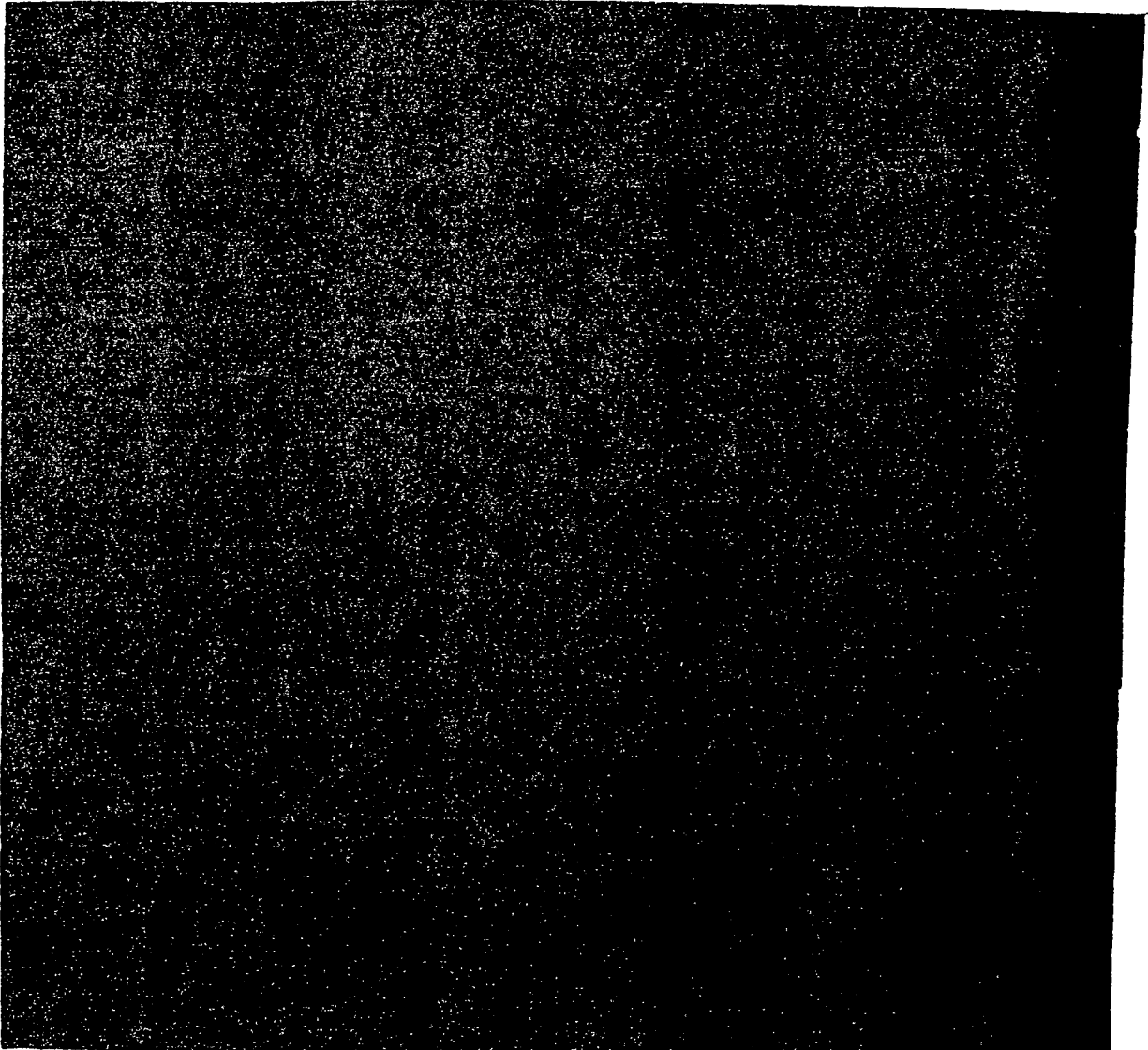
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Pakistan is still dependent on foreign suppliers for several important missile technologies and components





Outlook—Retreat Unlikely

 Islamabad are fully committed to their ballistic missile development programs. 



Pages: 18

Exemptions: (b)(1), (b)(3)