

Taking Out Baghdad's Missiles

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Jan 11, 1991

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Brief Analysis

If the U.S.-led coalition goes to war against Iraq, one of its primary objectives will be the elimination of Iraq's surface-to-surface missiles. However, even a skillfully planned and executed air strike is unlikely to destroy all of Iraq's missiles, which threaten civilian population centers throughout the region and large military targets in the allies' rear areas.

Iraq currently possesses several hundred locally produced Al-Husayn and Al-Abbas missiles, with sufficient range to hit targets in Saudi Arabia, Israel, and elsewhere in the region. They are mounted on approximately 60-75 fixed and mobile missile launchers deployed throughout the country, and are armed with relatively small conventional warheads. In addition, Iraq is believed to have tested a chemical warhead.

Iraqi Options

Iraq's conventionally armed missiles lack sufficient destructive power to inflict significant civilian casualties, or to be of much use against military targets. But they could nonetheless have a major impact on the course of a war:

- Iraq might launch missiles against Israeli population centers to provoke an Israeli response and transform the war into an Arab-Israeli conflict. Similarly, Iraq could attack Saudi cities in the hope of weakening the Saudis' commitment to the military option. In either case, Iraq's purpose would be to undermine the coalition confronting it, vastly complicating U.S. strategy.

During its war with Iran, Iraq's conventionally armed Al-Husayn missiles averaged only 30-40 killed and wounded per missile strike against Iranian cities and towns. However, the cumulative psychological impact of these attacks probably contributed to Iran's decision to end the war. Iraq's missiles could likewise have a significant impact on Israeli and Saudi civilians, leading to pressure on the Israeli government for massive retaliation, and pressure on the Saudi government to limit its support for the war effort. These pressures would probably be even stronger if Iraq attacks with chemically armed missiles.

Israel has taken measures to reduce the impact of an attack by missiles armed with chemical warheads. It has provided its citizens with protective masks and has conducted civil defense drills. However, if it fails to obtain sufficient warning of an attack to permit citizens to don their masks and implement other countermeasures, hundreds could be killed or wounded.

Saudi Arabia is much more vulnerable. It has not yet received protective masks it recently ordered, and it lags in civil defense preparations. In addition, Patriot surface-to-air missiles recently sent to Saudi Arabia provide only a modest defensive capability. As a result, Saudi civilians could suffer greatly if Iraq attacks with ballistic missiles armed with chemical warheads.

- Allied forces will depend on a long logistical lifeline which runs through the Saudi port of Dhahran in the Gulf. Strikes by chemically armed Iraqi missiles against port facilities and equipment and supply depots could hinder efforts to sustain them and harm the war effort.
- Chemically armed missile strikes could contaminate Saudi oil production facilities, reducing oil output, causing havoc in international petroleum markets, and undercutting Saudi Arabia's ability to finance the war effort.

U.S. Options

Because Iraq's missiles pose a major potential threat to allied civilian populations and could figure in efforts to undermine the U.S.-led coalition, they are likely to be targeted early on by U.S. forces. However, they may prove to be difficult targets.

Iraq's missiles are kept in hardened bunkers which offer protection against conventional air attack. As a result, it would be difficult to destroy them in a preventive strike. In addition, at least part of Iraq's missile force is based on mobile launchers which are frequently moved and hence difficult to locate. As a result, some missiles would probably survive initial and subsequent attacks.

On the other hand, the time consuming procedures required to ready these missiles for use should provide allied forces with early warning of Iraqi launch preparations and an opportunity to hit them while they are exposed. Specifically:

- Warheads are stored separately from the missile body and must be mounted before launch.
- The missiles must be fueled before launch; after fueling, their mobility is limited.

Thus, Iraq's missiles will be vulnerable to a pre-emptive strike just prior to launch, although allied forces must be able to detect preparations and react within a very limited time frame, measured in hours. Delays in detecting Iraqi missile test launches last December underscore the difficulties of providing reliable early warning.

Finally, even if the allies are successful in detecting Iraqi launch preparations, an air strike is unlikely to be completely effective. Historically, even the most successful air strikes have rarely succeeded in destroying more than 85-90 percent of intended targets. And Iraq is not likely to expose all its missiles at once. Rather, only a small number are ever likely to be exposed -- readied for launch from fixed and mobile launchers -- at any given time, while the majority remain in hardened bunkers.

As a result, the destruction of Iraq's missiles will require a sustained effort. At least initially, some missiles will evade detection and destruction. Iraq will thus probably retain its ability to strike at Israel and Saudi Arabia through the initial phase of the war. But a preventive or preemptive strike that destroys the bulk of Iraq's missile arsenal would significantly reduce the threat they pose.

Michael Eisenstadt is a research fellow in political-military affairs at The Washington Institute. He is author of the Institute study *The Sword of the Arabs: Iraq's Strategic Weapons* (Policy Paper #21, 1990). ❖

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