to manufacture solid propellant motors for the Badr-2000 program. They also have built a new building and are reconstructing other buildings originally designed to fill large Badr-2000 motor casings with solid propellant.

- Also at al-Mamoun, the Iraqis have rebuilt two structures used to "mix" solid propellant for the Badr-2000 missile. The new buildings—about as large as the original ones—are ideally suited to house large, UN-prohibited mixers. In fact, the only logical explanation for the size and configuration of these mixing buildings is that Iraq intends to develop longer-range, prohibited missiles.

Iraq has managed to rebuild and expand its missile development infrastructure under sanctions. Iraqi intermediaries have sought production technology, machine tools, and raw materials in violation of the arms embargo.

- The Iraqis have completed a new ammonium perchlorate production plant at Mamoun that supports Iraq's solid propellant missile program. Ammonium perchlorate is a common oxidizer used in solid propellant missile motors. Baghdad would not have been able to complete this facility without help from abroad.

- In August 1995, Iraq was caught trying to acquire sensitive ballistic missile guidance components, including gyroscopes originally used in Russian strategic nuclear SLBMs, demonstrating that Baghdad has been pursuing proscribed, advanced, long-range missile technology for some time. Iraqi officials admitted that, despite international prohibitions, they had received a similar shipment earlier that year.

Unmanned Aerial Vehicle Program and Other Aircraft

Iraq is continuing to develop other platforms which most analysts believe probably are intended for delivering biological warfare agents. Immediately before the Gulf war, Baghdad attempted to convert a MiG-21 into an unmanned aerial vehicle (UAV) to carry spray tanks capable of dispensing chemical or biological agents. UNSCOM assessed that the program to develop the spray system was successful, but the conversion of the MiG-21 was not. More recently, Baghdad has attempted to convert some of its L-29 jet trainer aircraft into UAVs that can be fitted with chemical and biological warfare (CBW) spray tanks, most likely a continuation of previous efforts with the MiG-21. Although much less sophisticated than ballistic missiles as a delivery platform, an aircraft—manned or unmanned—is the most efficient way to disseminate chemical and biological weapons over a large, distant area.

- Iraq already has produced modified drop-tanks that can disperse biological or chemical agents effectively. Before the Gulf war, the Iraqis successfully experimented with aircraft-mounted spray tanks capable of releasing up to 2,000 liters of an anthrax simulant over a target area. Iraq also has modified commercial crop sprayers successfully and tested them with an anthrax simulant delivered by helicopters.

Iraqi L-29 UAV Test-Bed Aircraft at Samarra East Airbase

- Baghdad has a history of experimenting with a variety of unmanned platforms. Iraq's use of newer, more capable airframes would increase range and payload, while smaller platforms might be harder to detect and therefore more survivable. This capability represents a serious threat to Iraq's neighbors and to international military forces in the region.

- Iraq used tactical fighter aircraft and helicopters to deliver chemical agents, loaded in bombs and rockets, during the Iran-Iraq War. Baghdad probably is considering again using manned aircraft as delivery platforms depending on the operational scenario.

Procurement in Support of WMD Programs

Iraq has been able to import dual-use, WMD-relevant equipment and material through procurements both within and outside the UN sanctions regime. **Baghdad diverts some of the $10 billion worth of goods now entering Iraq every year for humanitarian needs to support the military and WMD programs instead.** Iraq's growing ability to sell oil illicitly increases Baghdad's capabilities to finance its WMD programs. Over the last four years Baghdad's earnings from illicit oil sales have more than quadrupled to about $3 billion this year.