

contribute to the Pakistani leadership's tacit acceptance of the CIA campaign. "If we were sending F-16s into FATA—American pilots in Pakistani airspace—they might have felt very differently," says James Currie, a military historian at the U.S.'s National Defense University.

By staring at hours of video footage of houses, vehicles and people, analysts looking at screens in Nevada can detect "patterns of life analyses," or timelines of movements and meetings in any given area. But the drones' utility is dramatically enhanced when analysts know exactly what they're looking for and where. For that, there's nothing better than human intelligence. Reports from Waziristan suggest the CIA has access to a network of spies. Tribesmen have told TIME of agents who drop microchips (locally known as *patrai*) near targets; the drones can lock onto these to guide their missiles or bombs with pinpoint precision. But it has proved difficult to verify these claims of human assets and their homing chips.

The drones are far from infallible,

however. They can survey only small patches of territory at a time, and it would take thousands of them to cover every nook and cranny of Pakistan's long frontier. Several crashes have been reported. Thermal cameras are notoriously imperfect. Even under ideal conditions, images can be blurry. In one of several stills from drone video seen by TIME, it's hard to tell if a group of men is kneeling in prayer or the men are militants in battle formation. "The basic problem with all aerial reconnaissance is that it's subject to error," says George Friedman, who heads the security firm Stratfor. "But in a place like Pakistan, errors have enormous political consequences."

### The Political Cost

THAT THEY DO. CRITICS OF THE DRONES ask if it makes sense for the U.S. to use them when every strike inflames Pakistani public opinion against a pro-U.S. government that is at the point of collapse. "If we wind up killing a whole bunch of al-Qaeda leaders and, at the same time, Pakistan implodes, that's not a victory for us," says David Kilcullen, a counterterrorism expert who played a key role in developing the surge strategy in Iraq. "It's possible the political cost of these attacks exceeds the tactical gains." And yet Pakistani leaders like army Chief of Staff General Ashfaq

# Reaper: A New Way to Wage War

Unmanned drones have become the most effective weapon in battling Taliban insurgents who have been hiding in Pakistan's lawless regions. The Reaper is a beefed-up Predator, capable of carrying 10 times the weaponry—including 500-lb. bombs—of its smaller cousin

### FEATURES

**MULTISPECTRAL SENSOR**  
Imagers on the Reaper can read a license plate from 2 miles high. The sensors are used to assist onboard or remote weapons systems to find their target

**AIM-9 SIDEWINDER**  
The short-range heat-seeking missile was named after a type of snake that detects the body heat of its prey

**HELLFIRE II**  
Used to penetrate armor and defeat urban targets, it has a relatively small blast that limits possible civilian casualties

**LYNX RADAR SYSTEM**  
The Reaper uses radar to produce high-resolution images. It can zoom in on a target or take wide views

**AUTOPILOT**  
Onboard computers allow the drone to pilot itself, but the craft must be controlled remotely for takeoff and landing

**GBU-12 PAVEWAY II**  
An operator illuminates a target with a laser designator; the bomb follows the laser beam to the target

◀ FROM THE OPERATOR Signals take **1.2 seconds** to

go from Creech Air Force Base near Las Vegas via satellite links to drones **TO PAKISTAN** ▶



### DESTRUCTIVE POWER

A target in Waziristan before and after being hit

Sources: General Atomics; The Long War Journal; New America Foundation; Center for American Progress  
TIME Graphic by Lon Tweeten; map by Skye Gurney



Kayani seem to have concluded that using drones to kill terrorists in FATA is generally a good thing. This is a major change in direction; although former President Pervez Musharraf allowed drones to operate, he placed severe limits on where and when they could strike. After Musharraf resigned last summer, the shackles came off. The U.S. struck a tacit bargain with the new administration in Islamabad: Zardari and Kayani would quietly enable more drone operations while publicly criticizing the U.S. after each strike. The arrangement has worked well for the U.S., though the Pakistanis would like to tweak it. Visiting Washington last month, Zardari

asked Obama to let Islamabad have direct control of the drones.

Ordinary Pakistanis, though, remain unconvinced that the campaign serves Pakistan's interests. The drones feature in anti-U.S. and anti-Zardari graffiti and cartoons and are the punch line of popular jokes about American impotence or cowardice: Asked why she's ditching her U.S. boyfriend, a Pakistani woman says, "He shoots his missile from 30,000 ft."

The accusation of cowardice is especially damaging in the tribal areas, where bravery is regarded as an essential quality in an ally. Kilcullen warns that if the U.S. hopes to eventually win over the tribes-

men, as it did with Iraqi insurgents, "we can't afford to be seen as people who fight from afar, who don't even dare to put a pilot in our planes." The drones seem to be uniting militant groups against the U.S. and the Zardari government. Waziristan warlord Maulvi Nazir signed a nonaggression pact with the Pakistani military in 2007 and sent his fighters to battle Mehsud. But because he continued to mount attacks on U.S. forces in Afghanistan, he became the target of drone strikes. Enraged, he recently buried the hatchet with Mehsud and joined forces with him and a third warlord in a united front against the U.S., Zardari and Afghan

President Hamid Karzai. Mehsud has stepped up his campaign of terrorism on Pakistani soil as well, saying a recent attack on a police-training center in Lahore was a response to the drone attacks.

For all the caveats, the hum of the *machay* will grow louder in Pakistani skies this summer. The arrival of more U.S. troops in Afghanistan will make it all the more important to deprive al-Qaeda and the Taliban of their safe haven in Pakistan. Obama is widely expected to authorize a broadening of the drone attack to include the southwestern Pakistani province of Baluchistan and its capital, Quetta, where the Taliban

high command is thought to be hiding.

But in the long term, the Pakistani frontier can be safe only when the tribes are more favorably disposed toward the U.S. and the Pakistani government than toward the militants. The U.S. hopes that can be achieved by supplementing the drones with development aid, much of it earmarked for the tribal areas. But can that money start working its magic before the resentments roused by the drone campaign metastasize into an irreversible jihad? On that question of timing may hinge the success or failure of a modern war fought in an ancient environment. —WITH REPORTING BY OMAR WARAICH/ISLAMABAD



### PERFORMANCE

Altitude **5 miles**  
Speed **288 m.p.h.**  
Endurance **24 hours**  
Cost **\$10 million**



The Reaper is roughly the size of a tennis court