

Experts: No MAD in S. Asia Nuke War

By **MICHAEL P. REGAN**

.c The Associated Press

NEW YORK (AP) - India and Pakistan may have enough nuclear weapons to kill millions of people, but their stockpiles most likely are not big enough to guarantee "mutually assured destruction," according to nuclear experts.

Despite repeated assurances from both sides that they won't use nuclear weapons in a first strike, the tension between them has caused much speculation about the dangers of their burgeoning nuclear programs. India's test on Friday of a short-range, nuclear-capable Agni-I missile only adds to those fears.

On Saturday, Pakistan promised it would not react rashly to the test, but added that its own nuclear deterrent was ready to meet any attack.

"We are exercising restraint," said Maj. Gen. Rashid Quereshi, chief spokesman for President Pervez Musharraf. "But our deterrence is in place and our response is ready. ... We don't want the enemy to know how ready we are."

Making accurate estimates of the potential death toll in a nuclear war between Indian and Pakistan is difficult because details of each nation's nuclear program are sketchy.

Both sides "are holding that information very close to the vest," said Steven Dolley, research director at the Nuclear Control Institute.

Most experts estimate that India has only a few dozen weapons stockpiled and enough material available to make possibly 50 to 100 more. The Department of Defense, in a report last year, said only that "India probably has a small stockpile ... and could assemble and deploy a few nuclear weapons within a few days to a week." Estimates of Pakistan's stockpile are also vague, though most analysts assume it is smaller than India's.

Because of the lack of available information, scientists using mathematical models have made only educated guesses about potential death tolls.

One of the first was M.V. Ramana, a Princeton University physicist from India. After the two countries conducted nuclear tests in 1998, Ramana calculated that a 15-kiloton bomb dropped on Bombay would kill between 150,000 and 850,000 people in the short term. The bombs dropped on Hiroshima and Nagasaki had roughly similar yields, and killed about 140,000 and 70,000 people respectively.

Ramana said there are too many variables - weather, the exact yield and positioning of the bomb, altitude of the explosion - to estimate deaths more precisely.

"There is a whole range of uncertainties. It's useless to pretend I can give an exact number," he said. The study was meant to show "that the effects of even a small bomb, a crude one like that, is horrific."

A model of a full-scale exchange was produced this month by the Natural Resources Defense Council, a respected Washington, D.C., environmental group. In its model, as many as 30 million people would die, according to NRDC physicist Matthew McKinzie. It's a staggering death toll, but only about 2 percent of the nations' combined population of more than one billion Indians and 140 million Pakistanis.

The NRDC model estimated that each side has a few dozen warheads and assumed each could get past the other's air defenses to drop 12 weapons on the largest cities.

The model is based on extrapolations from Hiroshima and Nagasaki, population estimates of the target cities and weather conditions in January. The weapons are assumed to have yields equal to 25 kilotons of TNT. The bombs dropped on Hiroshima and Nagasaki were 15 to 25 kilotons, according to various estimates.

The yield of the bombs in the model are "a bit higher than what was thought to be the yield of the (1998) Pakistani test," McKinzie said, "but certainly well within the range of the kind they are known to have."

Despite the massive destruction, McKinzie concludes that the scenario would not result in "mutually

assured destruction" (MAD) - the doctrine credited with preventing a superpower conflict during the Cold War.

But in the India-Pakistan scenario, the study concluded, "the respective military forces would be intact to continue to escalate the conflict."

Zia Mian, a Pakistani physicist with Princeton University's Program in Science and Global Security, points out that the model "doesn't look at the larger collapse that would follow."

With both countries' infrastructures and emergency services crippled, and masses of people sick, Mian said, "the spillover effects would be incalculable."

Mian said the notion of mutually assured destruction should not be applied to India and Pakistan.

The three previous wars between Pakistan and India each resulted in less than 10,000 deaths on average, he said. "They've never fought a war like World War I or World War II or Vietnam. They've never used strategic bombing, for example, against each other's cities. For them, the notion of what would be a terrible attack is much different than the United States' or the Soviet Union's."

The effect of radiation on cancer rates was not included in Ramana's or the NRDC's models.

Mian said it's unlikely radiation would spread out of the region because the bombs would be relatively small.

"Much of the fallout (would) be relatively localized," Mian said. "It's not going to travel several hundreds of miles."

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