

Pakistan

In 1988, Pakistan announced that it had tested two types of indigenously developed ballistic missiles. In contrast, unconfirmed reports suggest that Pakistan has developed two versions of a single missile named Shadoz (or King Hawk) with a range of 300 km. It was probably produced with China's assistance.

Pakistan, like India, is not a signatory to the NPT, and is widely believed to have all the components and know-how to build nuclear weapons, as well as the motivation to do so.

North Korea and South Korea

Both North and South Korea are producing modified versions of systems acquired some years ago from allied states. North Korea is producing and exporting a modified version of the Scud-B missile, reportedly acquired from Egypt. Pyongyang is also probably helping Egypt and Iran build their own missile factories. Although North Korea has signed the Non-Proliferation Treaty, it has not yet completed its negotiations with the International Atomic Energy Agency for the application of international safeguards on its nuclear programme. Furthermore, North Korea is suspected of completing work on an undeclared nuclear facility, thus giving credence to the likelihood of a nuclear weapons programme. It is also reported that Pyongyang could have the technical expertise to produce a chemical warhead for its Scud-B missiles.

Like its rival North Korea, South Korea indigenously produces a surface-to-surface missile based on foreign technology. The South Korean missile is thought to be a modified surface-to-air Nike-Hercules missile of US origin. Seoul has apparently upgraded its range to approximately 200 km, and made it a surface-to-surface missile. With that range, it could strike North Korea's capital, Pyongyang.

Taiwan

The missile programme of Taiwan is allegedly based on modifications made to imported systems. The missile copied is the US Lance missile, believed to have been transferred to Taipei by Israel. The Ching Fen (or Green Bee as it is also known) is believed to have a range of 100 km, and may now be serving as the basis of research on a more powerful system; the 1,000 km range Sky Horse missile. Such a range is sufficient to reach mainland China.

SOUTH AMERICA

In South America, the two main competitors in missile development are Argentina and Brazil. While tensions between the two countries have decreased significantly in recent years, their motivation for

developing ballistic missiles is as real as in other regions. It is likely, however, that Argentina and Brazil are driven mainly by the attractiveness of playing a supplier role.

Argentina

Argentina has had a space sounding rocket programme since the 1960s, but it was only after the Falkland/Malvinas Islands conflict in 1982 that it began work on its Condor ballistic missile. According to numerous reports, the Condor II was to have a range of 1,000 km — enough to reach the Falkland Islands — and, by the reported size of its payload, could have been equipped with nuclear or chemical warheads. The programme, however, was abandoned in the spring of 1990. Other participants in this project were Iraq and Egypt. Argentina has not signed the Non-Proliferation Treaty.

Brazil

Brazil has a more ambitious space programme than Argentina and its missiles are believed to be derived from its Sonda experimental rockets. Brazil's research and development programme is very extensive, including at least six types of missiles developed by two companies, Orbita and Avibras. From Orbita, the MB-EE 150 is believed to be capable of carrying a 500 kg payload (sufficient for a nuclear warhead). Others in this family of missiles include the MB-EE 350, 600 and 1000. All are at an unknown stage of development.

Brazil's other missile manufacturer, Avibras, is working on a number of competing systems called the SS-150, SS-300 and SS-1000 (the latter with a range of some 1,200 km). Reports indicate that the SS-300 was the furthest developed but was abandoned because of lack of funds.

REASONS FOR CONCERN

The deadliness of ballistic missiles cannot be overstated, especially when equipped with weapons of mass destruction. Compounding the anxiety, however, is the fact that ballistic missiles are being introduced to regions of great tensions or existing conflicts.

Because ballistic missiles can travel long distances at a very high speed, they can easily breach enemy defences. Consequently, all parties facing a rival with missiles become highly vulnerable to a surprise attack. Missiles, combined with weapons of mass destruction, dramatically increase uncertainty, particularly in time of crisis. Any highly urbanized state is especially vulnerable to first strike and attack with such weapons.

Such a situation can, in turn, encourage dangerous responses. Because most countries are likely to possess