

Nuclear Myths and Realities: India's Dilemma

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Despite the fact that the fortunes of nuclear power are intertwined with nuclear weapons, nuclear engineering education, at least in the United States, ignores the fact that these weapons exist. This reviewer notes that his students, many of whom have tremendous technical ability, know nothing about proliferation treaties, the spread of nuclear weapons, or disarmament. The same can be said about science and engineering students in other disciplines; they are totally uninformed about weapons of mass destruction—biological, chemical, radiological, and nuclear—and their influence on world commerce, national pride, and national strategy.

This book, *Nuclear Myths and Realities: India's Dilemma*, brings together nine papers, written by eight scholars at the Institute of Defense Studies and Analysis and the Jawaharlal Nehru University, concerned with the military and civil uses of nuclear energy. The authors treat these technical issues without a single mathematical equation, with no graphs, and no chemical formulas. Apparently, in India and other countries, the defense and military uses of nuclear energy are considered to be in the realm of political science, history, or law rather than in the hard sciences. Serious reading of the book requires that technical personnel acquire a new vocabulary. Examples are:

1. crypto-nuclear states
2. free-form weapons of mass destruction
3. horizontal versus vertical proliferation
4. pariah states
5. subsidiary alliance system
6. Masada complex
7. Symington Amendment of 1976
8. Tlateleco Treaty
9. nuclear asymmetry.

The book has detailed references—over 300; however, the sources are not technical journals. There are a few references to *Science*, to various IAEA documents, to a few RAND reports, and occasionally to *Nucleonics Week*.

The main information is derived from newspapers and magazines, e.g., *Times of India*, *Indian Express*, *Washington Post*, *International Herald Tribune*, *Hong Kong Standard*, *Atlantic Monthly*, and *Rolling Stone*. These references contain little “hard” data, for social science publications tend to be people- and issue-oriented. Such references can only be considered as secondary sources of information. Scientific publications, on the other hand, go to great lengths to quote the original worker's thoughts, ideas, or measurements. Are the opinions expressed by the authors, based on secondary sources, correct? Who knows?

Despite these rather negative comments, I think that people in the nuclear business should read this or some other book concerned with the global weapons picture. The reader will find some thought-provoking ideas in *Nuclear Myths and Realities: India's Dilemma*. A few are quoted here.

In all its military operations, the U.S. holds out an implied nuclear threat since it reserves the right to itself to use nuclear weapons if its forces are attacked (it is immaterial whether U.S. forces initiated the attack or not) even while attempting to disarm the non-industrial world and deny them the wherewithal to defend themselves against use or threat of use of nuclear weapons.

Israel has been able to get away with the expulsion of nearly a million Palestinian refugees and occupation of their lands for decades. In all these cases the numbers affected in terms of killed or displaced are many times the numbers that will be affected by the use of a Hiroshima type A-bomb.

The United States totally ignored China and humiliated it for twenty long years till Nixon discovered that eight hundred million Chinese *armed with nuclear weapons* could not be ignored. They could be ignored before they got their nuclear weapons.

The story of Zulfikar Ali Bhutto's and Abdul Quadeer Khan's efforts to obtain the technology for a Pakistani bomb is fascinating. The connection between a nuclear-armed Pakistan and the *millat* concept that all Muslims will belong to the new nuclear brotherhood is terrifying! It is worth noting that the Public Broadcasting System has done a television program on “The Islamic Bomb”—a subject of real interest to the general public.

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In 1981 he was able to spend a month in India, and while there, he visited the famous high-radiation areas in Kerala State.