

**A SELECTIVE, ANNOTATED BIBLIOGRAPHY ON CURRENT
SOUTH ASIAN ISSUES**

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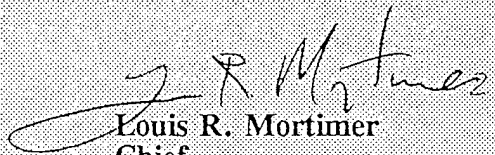
Author: Russell R. Ross

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PREFACE

This bibliography provides selective annotations of open-source material on two current issues:

--nuclear developments in South Asia, and

--tactics and organization of the Afghan resistance

The bibliography incorporates serials and monographs received in the previous month and is part of a continuing series on the above subjects.

Entries within each topic are arranged alphabetically by author or title. Call numbers for materials available in the Library of Congress are included to facilitate recovery of works cited.

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1. NUCLEAR DEVELOPMENTS IN SOUTH ASIA

KANUPP Karachi Nuclear Power Plant, a 125-megawatt reactor, was supplied by Canada on a turnkey basis and became operational in 1972.

MAPP-1 Madras Atomic Power Project's first Candu-type 235-megawatt unit was commissioned in January 1984. The center is located at Kalpakkam, Tamil Nadu, and was produced completely by Indian research and technology; consequently, its units and the plutonium they produce fall outside IAEA inspection safeguards. MAPP units are intended to provide electricity for Madras. In October 1985, MAPP was renamed the Indira Gandhi Atomic Research Center, but new names for individual plants have not been made public.

MAPP-2 The second unit at Madras Atomic Power Project is also a Candu-type 235-megawatt plutonium and heavy-water reactor. MAPP-2 went critical in August 1985 and was commissioned in October of the same year.

NPT The Nuclear Nonproliferation Treaty was ratified by the UN General Assembly in 1968. India and Pakistan contend that the NPT discriminates against nonnuclear states, but Pakistan has repeatedly offered to sign if India will do so simultaneously. In the UNGA, Islamabad voted in favor of the NPT.

PAEC Pakistan Atomic Energy Commission

PINSTECH Pakistan Institute of Nuclear Science Technology, the site of a US-supplied 5-megawatt "swimming pool"-type reactor installed in the 1960s

Tarapur The Tarapur nuclear power plant, located near Bombay, was built by the United States. It has a capacity of 600 megawatts and can annually produce 50 to 80 kg of plutonium. Tarapur and its products come under IAEA inspection safeguards.

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Ali, Akhtar. Pakistan's Nuclear Dilemma. Karachi: Economist Research Unit, 1984. 218 pages. Bibliography, index, notes. Not in LC.

The book centers on the issues raised for Pakistan by India's explosion of a nuclear device in May 1974, and Islamabad's refusal to commit itself to any pact limiting nuclear proliferation in South Asia. The work examines India's atomic energy program, and possible support in New Delhi for the development of nuclear armaments. At the same time, the author disclaims any Pakistani intent to move ahead on the fabrication of atomic weapons and challenges the shibboleth of an "Islamic bomb."

"Blast at Talcher Heavy Water Plant." Indian Express (New Delhi), 1 May 1986, p. 1.

An explosion at the heavy water plant of Talcher, Orissa, has put the facility out of commission. The blast occurred in the compressor unit handling gas synthesis and there is no possibility of radioactive or poison gas emissions or leakage. The Talcher plant produces heavy water through the bithermal-ammonia, hydrogen-exchange process and was placed in operation in 1985. India has been plagued by a succession of mishaps at its heavy-water production facilities over the years. The Baroda plant was damaged by an explosion in December 1977, and fire destroyed part of the Tuticorin plant in December 1982.

"The Criticism Will End When Power Generation Will Justify the Expenses." Telegraph Colour Magazine (Calcutta), 20 April 1986, p. 7.

Commercial generation of power by means of fast breeder test reactors (FBTR) will begin in India around 1995. The long lead time is attributed to the need to manufacture components domestically and to acquire experience in a new technology. The risk factors for FBTRs are no higher than for conventional nuclear plants, although fast breeder reactors use sodium as a coolant and highly enriched fuel. Sodium is an ambivalent element to use in a reactor because of its high reactivity with water. However, it

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also has the property of absorbing considerable heat without itself getting hot. Of India's six nuclear power stations, four (RAPP-1, 2 and MAPP-1, 2) use heavy water for neutron moderation and heat transfer. The production of heavy water is an ordinary chemical process, except that it involves high temperatures, pressures and explosive fluids. In India, the substance is produced in auxiliary units of fertilizer plants at Nangal, Baroda, Tuticorin, Talcher, and Kota. The latter plant is based on domestic expertise originating at BARC where scientists drew up the blueprints for the hydrogen-sulphide, steam-exchange process. It was the anticipated availability of heavy water also that prompted India to erect reactors that would use uranium as a fuel.

Guha, Pathik. "Critical - India's Nuclear Power Program."
Telegraph Colour Magazine (Calcutta), 20 April 1986, p. 5.

Out of an installed capacity of 1,330 MW, India's 6 nuclear power plants presently are generating a total output of only 280 MW. The status and output of each reactor is reported as follows: Tarapur-1, 150 MW; Tarapur-2, shutdown; RAPP-1 (Rajasthan Atomic Power Plant), shutdown; RAPP-2, shutdown; MAPP-1 (Madras Atomic Power Plant), shutdown; MAPP-2, 130 MW. In spite of this inauspicious performance caused by repeated malfunctions and breakdowns, India has committed itself to a nuclear power generation goal of 10,000 MW by 2,000 AD. Indian second-generation reactors to be installed will utilize plutonium that has been obtained as a byproduct in the fission of uranium. In contrast, present first generation reactors, exemplified by the RAPP and MAPP installations, use as fuel natural uranium, a resource of which India has only comparatively meager supplies. As part of its commitment to state-of-the-art, second-generation plutonium reactors, India in October 1985 unveiled an experimental fast-breeder test reactor (FBTR) at Kalpakkam. FBTRs, however, may cause even more problems than the first generation, uranium type, because they utilize sodium as a coolant. Nevertheless, Indian scientists are forging ahead. Based on experience gained from the Kalpakkam FBTR, they presently have designed a

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prototype 500 MW FBTR for the commercial generation of power. However, even this development is fraught with uncertainty, as the prototype design makes no provision for a containment building. Indian scientists assert that no reinforced containment shielding will be necessary because the novel arrangement of the fuel bedding will lead to reduced, rather than increased, reactivity in the core, if an accident causes a rise in temperature. In the event of a mishap, therefore, it is anticipated that the reactor will shut itself down.

"India Shopping for N-Devices: Report." Times of India (Bombay), 10 May 1986, p. 11.

Speculation surrounds recent attempts by the Indian Defense Ministry to purchase flash discharge X-ray machines. The machines typically are used to inspect welds and calibrate artillery weapons. However, because they can take a series of pictures through metals at extremely short intervals and can measure the movement and shape of components during an atomic reaction, they may have applicability to India's nuclear program. British firms initially were approached on the deal, but the United Kingdom declined to issue an export license for the apparatus. Indian defense officials then turned to Sweden, which is presently weighing the transaction. Officials of Scandiflash, the Swedish firm involved, verify that they have received an order for three of the machines from India, but they deny that the apparatus could be used to design nuclear weapons and note that they sold similar equipment to Pakistan in 1982. The order reportedly is worth about 800,000 rupees (\$66,000).

"Japan to Help India in Nuclear Field." Muslim (Islamabad), 9 March 1986, p. 8.

Toshiba, one of Japan's leading electronic and heavy industrial firms, has signed a contract with the Saha Institute of Nuclear Physics, a division of India's Department of Atomic Energy, for the provision of a nuclear fusion system. Under terms of the pact, the

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Japanese firm will provide capacitor banks, auxiliary equipment, and technical services for the project.

"No Chance of Mishap at N-Plants." Hindu (Madras), 10 May 1986, p. 6.

PM Rajiv Gandhi declares to a parliamentary committee that the expenditure for the Indian nuclear power program has amounted to \$11.47 billion at 1983 prices. Of this total, the outlay for reactors amounts to 63 percent, for heavy water 22 percent and for miscellaneous activities 15 percent. In the 1990s, the outlay is projected to fall to \$820 million per year. In the meantime, current income from nuclear power generation amounts to between \$122 million and \$163 million annually. In addition, India earns about \$9 million a year from the sale of ilmenite and other rare earth elements generated by the program and \$1.6 million from the sale of isotopes. By the end of the century, the sale of nuclear-generated electricity is expected to reach \$2.05 billion a year. In the meantime, India anticipates constructing three immobilization plants for nuclear wastes. One already is operating at Tarapur; a second at Trombay near Bombay is scheduled to come on line in 1990; a third at Kalpakkam near Madras is projected for 1993. In the coming years, use of heavy water is expected to be a constant in India's nuclear program. There are presently five heavy water plants in operation. Three more are projected. One at Hazira will be completed in 1991. Of the other two, one will be based on ammonia-hydrogen exchange, and the second on hydrogen sulfide-water exchange.

"No N-Leak Danger at Narora." Indian Express (New Delhi), 9 May 1986, p. 7.

Minister of State for Science and Technology Shivraj Patil declares to his interlocutors in the Rajya Sabha that the new atomic reactor under construction at Narora will be perfectly safe and in no danger of leaking radiation even though it will be located in a seismic zone. Patil also advises that India has developed its own nuclear

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technology and will not allow inspection of the Narora plant by its critics.

"Pakistani Leader Asks U.S. and China To Aid Nuclear Power Program." Nucleonics Week (Washington, DC), vol. 27, no. 18, 1 May 1986, p. 7.

PM Mohammad Khan Junejo has requested publicly that the United States and China help Pakistan develop its peaceful nuclear program to overcome the South Asian nation's energy shortage. US Ambassador Deane R. Hinton declares in response that Washington is willing to assist Islamabad in nuclear technology if Pakistan's peaceful use is verified by international inspection. The American envoy adds later that he doubts Pakistan can resolve its energy crisis without developing nuclear power facilities.

Reddy, G.K. "Pak. Closer to Nuclear Weapon." Hindu (Madras), 9 April 1986, p. 1.

Testifying before the Lok Sabha, PM Rajiv Gandhi warns that India will be forced to "think seriously about its own option" if Pakistan moves ahead and fabricates or acquires atomic weapons. The prime minister's remarks generally reinforce the commentary in the Indian Defense Ministry's annual report that the government in New Delhi had to "be cognizant of the fact that Pakistan has moved closer to acquiring the capability to make nuclear weapons which has an obvious bearing on our security." Gandhi assures his audience, however, that India is committed to using atomic energy only for peaceful purposes, that the nation has no nuclear weapons, and has no interest in acquiring them.

"Safety Marks Indian Reactors." Times of India (Bombay), 10 May 1986 p. 1.

In the wake of the Chernobyl nuclear mishap, PM Rajiv Gandhi assures a parliamentary committee that Indian

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atomic reactors have built-in safety features that preclude similar accidents. According to the prime minister, these features include properly designed cooling, ventilation, instrumentation and control systems and pre-stressed concrete containment shelters over the reactors. Gandhi also reminds his interlocutors that India now has its first atomic waste immobilization plant, which began operation in March 1985. The facility, co-located with the Tarapur reactor, is intended to solidify and isolate nuclear wastes produced by the latter installation.

2. TACTICS AND ORGANIZATION OF THE AFGHAN RESISTANCE

GLOSSARY OF TERMS

- Commander A resistance fighter who is recognized as a military leader in local or regional areas of conflict; some commanders are respected outside their own regions, but there is not yet a coordinated, nationwide, insurgent command in Afghanistan. The title commander is the only honorific or rank recognized by the resistance movement.
- Dushmani (singular: dushman) Soviet pejorative term for Afghan insurgents; it means "bandit" and originated during the 1930s Central Asia resistance.
- DRA The Democratic Republic of Afghanistan was established as the result of a coup led by Mohammad Nur Taraki and Hafizullah Amin in April 1978. Deteriorating internal security led to military intervention by the Soviet Union in December 1979 and Amin was killed by the invading troops. The Soviet invasion transformed armed resistance toward the modernistic but arbitrary reforms of Taraki and Amin into a war of national liberation.
- KHAD DRA intelligence service whose operations are entirely directed by its many Soviet KGB advisors. The acronym stands for Khedmat-Etala'at-e-Daulati (State Information Service). KHAD received ministerial rank in January 1986.
- Mujahideen (singular: mujahid) This Islamic term means "holy warrior," but it is most often used as a name for Afghanistan's resistance fighters, who consider their campaign a jihād (holy war) to drive unbelievers from their country.
- Spetznaz Soviet special warfare troops under the GRU (Military Intelligence Directorate) of the Soviet Ministry of Defense. These highly mobile units are deployed throughout Afghanistan for operations which require more skill or loyalty than is commonly displayed by Soviet or DRA troops.

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Arnold, Anthony. Afghanistan: The Soviet Invasion in Perspective. Stanford: Hoover Institution Press, 1985. 179 pages. Bibliography, index, notes. DS371.2.A76 1985

This is a revision of the 1981 edition of the work. The author, a Soviet specialist, contends that the Kremlin's position on Afghanistan is not irreversible, and that Moscow would withdraw from the embattled country under certain conditions. The key to such a withdrawal would be divisions within the Soviet bloc and world opinion, rather than the Afghan resistance. Nevertheless, the United States should continue its program of military aid to the insurgents, while maintaining a high level of publicity on the international scene to attract world attention to the Afghan struggle.

Chevalerias, Alain. "Islam Fuels Afghan Fire." Guardian (Manchester, UK), 31 January 1986, p. 9.

Islamic fundamentalists of the Muslim Brotherhood are reported to be proselytizing in Afghanistan. Saudi Arabia is allegedly funding the missionary effort, although most brotherhood recruits reportedly are Algerian or Syrian. The organization is composed of Sunni Muslims and should not be confused with Iranian efforts to gain influence in the Shiite-dominated Hazaradjat in mountainous central Afghanistan. These efforts, linked with military aid from Teheran, have paid off over the years, and now the entire region reportedly is under the control of pro-Khomeini activists.

"Des resistants trop peu mobiles" (Insurgents Have Become Insufficiently Mobile). Le Monde (Paris), 30 April 1986, p. 7. In French.

Afghan insurgents, abandoning the war of movement, have become insufficiently mobile, especially in Paktia Province. This was brought home forcefully to the guerrillas a few weeks ago when a task force of 10,000 Soviet and DRA troops overran the rebel stronghold of Jhawar after heavy fighting. The insurgents fought bravely, but were overwhelmed by superior firepower. They

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were defeated because they abandoned their campaign of harassment and ambushes in favor of setpiece warfare without having sufficient heavy weapons and personnel strength. Rebel leaders admit candidly, but off-the-record, that they suffered heavy losses at Jhawar and that establishment of the stronghold with its underground tunnels, bunkers, and storage depots was a major tactical error.

Girardet, Edward. "Afghan Guerrilla Leader: Soviets Have Made Significant Changes in Tactics." Christian Science Monitor (Boston), 31 December 1985, p. 7.

In a candid press interview, Abdul Haq, a representative of the young, able guerrilla commanders being produced by the war in Afghanistan, concedes that Soviet tactics to suppress the resistance have become more effective over the years. He cites especially the deployment of small, airmobile Spetznaz units, the use of helicopters for both tactical and transportation purposes, and the expansion of intelligence-gathering means, both HUMINT and technical, such as reconnaissance aircraft. Haq says the insurgents are coping with the improved Soviet tactics by innovations of their own, such as counterambushes of Spetznaz units and deception measures. He admits that the insurgents have lost many able commanders who take years to train, and that if the resistance is to survive, it must pursue an authentic guerrilla war, hitting specific economic and military targets. He also concedes the resistance needs better intelligence on Soviet movements and better counterintelligence to prevent the compromise of insurgent operations and ambush of caravans.

Hoche, Christian. "Afghanistan - Les paroles et le canon" (Afghanistan - Talking and Fighting). L'Express (Paris), 18 April 1986, p. 38. In French.

Amid signs of flexibility in the latest round of indirect negotiations in Geneva, the Afghan insurgents have been subjected to an unremitting series of punishing Soviet offensives during recent months. For the second year in a

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row, there was no truce during this past winter season. Soviet military pressure on the Pakistani frontier has increased as Moscow seeks to disrupt insurgent supply lines. Heavy fighting, spearheaded by Soviet airmobile commandos, has been reported this spring from Paktia, Kunar, and Nangarhar Provinces. In northern Afghanistan, the insurgents have been placed at a severe disadvantage by unfavorable geopolitical factors, among them flat, arid terrain ill-suited to guerrilla warfare, physical proximity to the USSR, and lack of rebel third-country sanctuaries. In the northern locality of Mazare-Sharif, Soviet bulldozers have plowed wide swaths through the densely populated inner city, thereby dividing the entire urban area into regular squares in order to render urban terrorism more difficult. North of Mazare, the Soviets are erecting a new, planned community named Heraton. The city may become the capital of a new Soviet socialist republic of northern Afghanistan.

"Iran's Interference in Afghanistan Grows." Patriot (New Delhi), 11 May 1986, p. 7.

Pro-Soviet sources in New Delhi report the existence of training camps for Afghan insurgents in Iran. One such camp staffed by 300 Iranian Army officers and Savama (Iranian intelligence service and secret police) agents is located at Dashte-Haki (Zulfagar). Another is collocated with the base of the Iranian Army's 77th Division at Zahedan (Baluchestan va Sistan Province). Beyond training Afghan insurgents, emissaries from the Iranian Government and Savama agents allegedly cross into Afghanistan recurrently on espionage, liaison, propaganda and recruitment missions. In a separate development, the sources report that Iran has announced plans to create an Islamic regime on Aghan territory because such a polity would meet the wishes of the Afghan people, whom Teheran considers its duty to support.

Javed, Nusrat. "Peshawar Drained of Colour by Refugee Fallout." Muslim (Islamabad), 5 April 1986, p. 1.

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Over 700,000 Afghan refugees are clustered around the Pakistani city of Peshawar in an environment that is growing increasingly tense. Local residents are resentful of the newcomers, and authorities harass them continually.

Refugee morale is sagging badly and there is ill-concealed resentment toward Afghan insurgent organizations and leaders who are enriching themselves at the expense of the Jihad while they are headquartered in Peshawar.

Metge, Pierre. "Die Sowjetunion in Afghanistan" (The Soviet Union in Afghanistan). Militärpolitik Dokumentation (West Berlin), Heft 45/46, 9 Jahrgang 1985, p. 1. In German.

Discusses Soviet relations with Afghanistan "from cooperation to occupation: 1947 to 1986." The work includes maps showing the location of Soviet garrisons in Afghanistan, scenes of major engagements, tabular data on Soviet-Afghan imports and exports and a lengthy bibliography of sources in English, French, German, and Russian.

Rupert, James. "Afghan Rebel Forces Regroup; Soviet Offensive Revives Debate Over Tactics." Washington Post, 12 May 1986, p. A1.

Afghan insurgents in Paktia Province are regrouping after suffering heavy losses and the Soviet capture of their major logistical base at Jhawar. The fall of the base camp has ignited controversy among guerrilla leaders about the wisdom of maintaining such large fixed installations in the face of heavy enemy pressure. In the meantime, the Soviets maintain a 2,000-man garrison in nearby Khowst which may be used as a springboard for renewed operations against the battered insurgents in the area.

Weaver, Mary Anne. "Young Afghan Represents New Breed of Guerrilla Leader." Christian Science Monitor (Boston), 21 March 1986, p. 1.

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The war in Afghanistan is producing a new breed of youthful guerrilla leaders who are leading the fight against DRA and Soviet forces. One such leader is 35-year old Amin Wardak who recently visited New York to promote the insurgent cause. During his trip, Wardak reported that only a trickle of US aid was reaching the resistance and that the insurgents were limited to ungainly and outdated Chinese weapons to resist Soviet firepower. He denounced the Soviet scorched earth policy in Afghanistan, but insisted that the population of his native Wardak Province had remained constant throughout the war years. Wardak also noted diplomatically that he and other young mujahideen commanders were in closer touch with the rural Afghan villagers than the insurgent organizations headquartered in Peshawar and that he and his contemporaries would press for a larger role in the future of the resistance movement.