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INDIAN NUCLEAR DEVELOPMENTS AND THEIR LIKELY IMPLICATIONS

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INDIAN NUCLEAR DEVELOPMENTS AND THEIR LIKELY IMPLICATIONS

CONCLUSIONS

Indian Capabilities

A. India is capable of detonating a nuclear device within a few days to a year of a decision to do so. (Actual time required would depend on how far preliminary work had gone, and there is at present insufficient evidence on this question.) It could fairly quickly build up a stock of 10-12 low-yield devices using existing plutonium, and then make two per year until sometime between 1977 and 1980 when new unsafeguarded reactors will be in operation. Thereafter, it would be technically feasible to fabricate 50-70 each year.

B. India's delivery capabilities are rudimentary. They will consist, probably for some years at least, of a fleet of Canberra bombers with an effective radius of about 1,000 nautical miles and conceivably some Air-India Boeing 707s and 747s (which would require extensive modifications)—all vulnerable to Chinese air defense. Relying on native resources alone, India could probably not develop a strategic missile capability for at least a decade; effective help from external sources seems unlikely.

C. A crash or accelerated Indian program for the development of high-yield weapons and long-range delivery systems is unlikely during

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the 1970s. Present nuclear and space programs could enable India greatly to enhance its weapons potential by the 1980s; heavy additional expenditures now would bring only marginal returns.

Indian Intentions and International Implications

D. The chances are roughly even that India will conduct a test in the next several years and label it a peaceful explosion. It will certainly keep open the option to do so. It is, however, impossible to pinpoint a specific precipitant or time for a decision to go ahead. If India does conduct a test, it would almost certainly be conducted underground, and would probably be secretly ordered and prepared. Following a test, India would probably go ahead to make a small number of devices—which could be used as weapons.

E. To New Delhi, the arguments both for and against conducting a test are strong. Mrs. Gandhi knows that it would be popular at home, stimulate a rising sense of national pride and independence, and—in the eyes of many—reinforce India's claim that it should be taken seriously as a major power.

F. But a test would bring adverse foreign reactions. It might endanger some of the foreign—particularly economic—aid which is still valuable to India, though less critically necessary than formerly. An Indian nuclear explosion could also lead to demands for costly new weapon systems at the expense of Mrs. Gandhi's domestic programs and of conventional weapons procurement.

G. The USSR is opposed to nuclear proliferation, and would no doubt prefer to see India avoid testing. But Moscow would probably see its continued close ties with India as too important to jeopardize by very vigorous opposition to an Indian program. If the Soviets were asked to join in multilateral representations concerning an Indian program, they would probably be unresponsive.

H. In making a decision, India will, of course, take Western concerns into account. Private demarches and counsels well in advance of a decision might possibly have some effect. However, pressures by the US and other Western Powers would probably not have a decisive impact on New Delhi if Mrs. Gandhi was convinced that a test was required to serve important Indian interests. Indeed, given present Indian resentment of US policies, unilateral pressures by the US would

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probably prove counterproductive. We doubt that most non-Communist Powers would be willing to bring sanctions against India for going nuclear. Even if such sanctions were imposed and included substantial reductions in economic assistance and access to technology, India would accept these difficulties.

I. An Indian test would reinforce India's dominant position in South Asia. It would be a psychological jolt to Pakistan, but would probably not lead Pakistan to capitulate to India on outstanding disputes, and indeed for some time to come would make it more difficult for Bhutto to make concessions. Islamabad would seek more political and military support from China and especially the US. It would cause China some concern, but we cannot foresee any major changes in Chinese policies that would ensue from such a development.

J. While an Indian nuclear test would be a setback to the nonproliferation cause, we doubt that it would have a determining effect on whether any other non-nuclear power, e.g., West Germany, Japan, Israel, South Africa, Brazil, goes nuclear or not. Each would decide according to its own political and security considerations. Were any to go nuclear, however, it could cite the Indian precedent as one justification.

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DISCUSSION

I. INDIAN NUCLEAR CAPABILITIES

(N.B. This section is couched strictly in terms of capabilities. Intentions are discussed in Sections II and III.)

1. India has the requisite skills and materials to set off a nuclear explosion, probably of low yield. The civil nuclear program in India is broadly based, and an objective of that program has long been to move toward greater self-reliance and less dependence on foreign technology. The total program including power applications has been large; the Department of Atomic Energy (DAE), has spent almost $900 million since 1954. It employs several thousand scientists who have pursued studies in the US and Europe. As a result, the civil nuclear program could provide both the technical know-how and the fissionable material required for a nuclear explosives program. In addition, other technologies—electronics, metallurgy, computer capabilities, and high explosives—are more than adequate to support such an effort. From a technical standpoint, there is no distinction between a simple nuclear device for military or "peaceful" applications.

2. We have long estimated that it would take the Indians from six months to a year to manufacture and explode a device after a decision to do so. But we do not know how much, if any, preliminary work has been done, or whether or not the government has directed the DAE to have one readied for detonation on short notice. Depending on the amount of preliminary work already done, they could explode a device anywhere from a very short time to as much as a year after the order is given. Only a relatively small number of people, from the Prime Minister through the technicians, to those preparing the site need be involved. Security could be very tight. Thus both the decision and the test could come as a surprise both to most Indians and to the outside world. Intelligence might be able to give precise advance warning, but there is no certainty that this would be the case.

3. The weapons would have plutonium as their fissionable material. The Indians now have enough plutonium to make 10-12 bombs and could add about two additional ones annually from new production. Each would probably be similar in fissionable material and yield (15-20 kilotons [KT]) to the first US test in July 1945. The plutonium is produced and separated in the Bhaba Atomic Research Center (BARC) on Trombay, an island in Bombay Harbor. A reactor there, designed by the Canadians and built jointly

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by the two countries, is fueled by natural uranium mined in India. The only safeguard on the reactor is a written Indian promise that the reactor and its products will be used only for peaceful purposes. There are no provisions for periodic or automatic Canadian inspections of BARC. Nor is there agreement on what "peaceful purposes" means: Canada and the US have taken the position that any explosion is tantamount to a nuclear weapons test, regardless of the declared purpose of the explosion. India has not accepted this interpretation.

4. The selection and preparation of a suitable site for a fully contained test (India is signatory to the Limited Test Ban Treaty) would involve considerable time and expense. Relatively primitive facilities and modest instrumentation would probably be chosen for an initial test that could be conducted in a natural cave or man-made tunnel, possibly a worked-out mine. Vertical drilling for emplacement of the device would probably require more than a year.

5. Indian delivery capabilities, like the prospective weapons themselves, are modest. With respect to China they are marginal at best. A fleet of about 40 Canberra bombers with a radius of about 1,000 nautical miles and a carrying capacity of 5,000 pounds could reach India's closer neighbors, including most of Tibet and Sinkiang but not the heavily populated areas of China. India has no long-range bombers, but could conceivably, with extensive modifications, use some of its Air-India fleet of nine Boeing 707s and four 747s to carry weapons several thousand miles. All these aircraft would be vulnerable to Chinese air defense. In any event, the cost of a weapons system that used only current nuclear and delivery capabilities would not be great; the added expense of operating a program for the production of a few devices would probably be only $10-$20 million a year.[1]

6. For at least five years, India will be unable to enhance this extremely limited capability. A large Indian-built nuclear-power plant with two reactors using domestic uranium is scheduled to be in operation somewhere between 1977 and 1980.[2] With current and planned separation facilities, these reactors could produce enough unsafeguarded plutonium to make 50-70 20 KT bombs a year (or fewer ones of higher yield). A new generation of fast breeder reactors producing U-233 from India's huge supplies of thorium may be ready in the 1980s. To come anywhere near competing with the Chinese, the Indians would have to make higher yield (possibly thermonuclear) devices and develop a strategic missile system. Atmospheric testing might also be required. Costs in the billions of dollars, lead times of a decade or more, lack of required technical expertise, and competing demands for non-military and conventional military programs would serve as major—though not final—barriers to programs of this nature. In the unlikely event that India were able to buy complete systems abroad, the price would still be very high.

7. India's planned and slowly expanding capabilities in the nuclear and space-related field will eventually remove some of these constraints. By the 1980s there will be enough plutonium and U-233 to make a number of high-yield (up to 500 KT) weapons. The Indian space program, which is still in its earlier stages, will also probably have borne fruit by then. To date, only sounding rockets have been tested. A full-scale satellite launch is

[1] India's defense budget for the current year is $1.9 billion; its atomic energy budget $157 million. See Annex for details.

[2] There are two other plants under international safeguards; one is in operation and the other under construction.

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scheduled for 1975, though there will probably be slippage. After this, the Indians will be in a better position to develop a missile. Technical problems would be substantial, however, and it would still require quite a few years and considerable money to achieve an operational missile system.

II. FACTORS IN AN INDIAN DECISION

8. In formulating its future nuclear policies, India has three broad options. It could, of course, pursue nuclear research and development while postponing a nuclear explosion indefinitely. It could conduct an underground nuclear test, labeling it peaceful but acquiring a limited weapons capability as an inescapable by-product. It could proceed openly and with a determined effort to develop a substantial weapons capability. Each course has strong advocates; each can be supported or opposed with strong arguments.

A. A Major Weapons System

9. In Parliament and in the press, there are many advocates of a major effort to develop a credible nuclear deterrent.[3] Such an act would on the whole be politically popular in India. But the Indian Government (under both Shastri and Mrs. Gandhi) has rejected and, at least for the rest of the 1970s, will probably continue to reject this course. The present Foreign Minister's publicly stated reasons for refraining are probably still persuasive to the government: (a) that the building of a credible deterrent would be prohibitively expensive; (b) that India could count on third party support to deter Chinese nuclear aggression; and (c) that India's military problem with respect to China is primarily a conventional one.

10. There are other reasons as well. The development of an advanced system might require above ground testing. India has signed the Limited Test Ban Treaty banning this and its leaders continue to be strong in their support of it. Renunciation of that Treaty would be a major and difficult policy shift. In addition, the moral argument—the Gandhi/Nehru position that nuclear bombs are evil—still has adherents even in an India which seems to relish newly proven skills in realpolitik. And the Chinese, with their missiles and thermonuclear weapons, are already so far ahead of the Indians that "catching up" is out of the question for a very extended period. Some argue that a primitive anti-Chinese weapons system would more likely provoke Peking than effectively protect India. Given the fact that India, with its present nuclear and space programs, could approach the potential of a substantially improved weapons capability by 1980 or 1985, a decision now to speed-up the development of a high-yield, long-range, anti-Chinese nuclear weapons system would involve considerable extra costs for marginal returns.

B. A Nuclear Test

11. India could also conduct an underground nuclear test described as part of a

[3] Some who advocate the development of nuclear weapons argue that with no guarantee of a continuing third country nuclear umbrella, India must begin developing a credible deterrent against China. They do not contemplate a force in any way rivaling China's, but rather one which would have the capability of doing enough damage to the Chinese—the destruction of a number of cities for example—to preclude Peking's resorting either to nuclear blackmail or to actual nuclear strikes against India. What various bomb advocates perceive as a credible deterrent varies from forces based largely on India's present delivery capabilities to fairly sophisticated mixes of supersonic bombers, missiles, and submarines. According to proponents, the assorted sophisticated programs would cost anywhere from $1 to $15 billion. Those in favor of such programs maintain that India can absorb the costs, that there would be parallel savings on conventional weapons, and that parts of the programs will be undertaken anyway—in the space program, for example.

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peaceful uses program. It is conceivable that India, after conducting what it called a peaceful nuclear explosion, might actually rest there—i.e., avoid the production of further nuclear devices. Such a course would satisfy those who want simply to demonstrate India's nuclear capability; it would also skirt the issue of safeguards. Nevertheless, we think this course unlikely. We base this judgment on the view that strictly plowshare purposes make little sense for India and, further, that if India does decide to pay the price of any nuclear test, it would probably decide to acquire some weapons capability. Thus if an explosion is conducted, it will in all probability be conducted with intent to manufacture at least a few low-yield devices which could be used as weapons. The following discussion is based on this belief.

Arguments For

12. There have been continuing rumors and reports that the government is planning to conduct a test, and these have increased in volume over the past year or so (the Indians have denied all public ones). Some of these, e.g., those predicting a test immediately prior to the March 1971 elections, the January 1972 Republic Day celebration, or the June 1972 Simla Conference, proved wrong. But there may be rising pressures for, and possibly a greater official receptivity to the idea of exploding a nuclear device.

13. India has consistently refused to sign the Nuclear Non-Proliferation Treaty (NPT) despite considerable great power urgings. One of its publicly cited reasons has been that it insists on keeping the option to conduct peaceful nuclear explosions for plowshare purposes. One major, if unstated, reason for refusal has been that signing the NPT would, in the eyes of nationalistic Indians, permanently deny their accession to great power status. They point to their nation's vast human resources (only China has more people), its substantial industrial base, its considerable scientific and technological capacity, and its armed forces (the world's fourth largest) as proof that India is more than just an ordinary Afro-Asian country. Thus setting off a nuclear explosion would, they feel, force the world to view India in its proper perspective, i.e., as one of the world's principal powers.

14. A nuclear explosion would, as noted earlier, be extremely popular at home where national pride is riding very high; the detonation of an Indian device would be received with great enthusiasm. Many of those who are antinuclear in principle would be mollified by assurances that Indian-made devices would be used only for peaceful purposes. Many who believe that long run security for India should not rest on a commitment by the Soviets or any other external power would applaud the act as a step toward genuine national self-reliance. And the possession of what could be a nuclear weapon as easily as a peaceful device would appeal to many as a clinching symbol of India's dominant position in the subcontinent and its desires to be taken seriously as a great power.

15. The events of 1971, culminating in India's decisive military victory over Pakistan, could reduce the motivation for a nuclear demonstration especially in the short run, but over time are more likely to reinforce it. The military proved itself not merely big but highly effective. The breakup of Pakistan demonstrated India's paramountcy in South Asia. In New Delhi's view, India is a major Asian power to be taken not less seriously than China or Japan. In addition, the closer connection forged with the USSR (as signaled in the August 1971 Treaty of Friendship) has temporarily enhanced India's sense of security with respect to the Chinese. Indian fears that even a small inventory of nuclear bombs could, in time of crisis, trigger off a pre-emptive

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Chinese attack has almost certainly been eased by recent demonstrations of Soviet support. In these circumstances, the Indians may feel that a nuclear test now would not only enhance their country's image but entail much less risk than in the past.

16. The durability of the Soviet guarantee, however, is undoubtedly open to question in New Delhi. Moreover, New Delhi clearly believes it has lost any hope of a US nuclear umbrella against China. The fear of becoming further dependent on the Soviet Union for its ultimate security against China and the need to hedge against possible depreciation of the present Soviet guarantee would be two powerful motives in favor of an early nuclear decision.

A Nuclear Test: Arguments Against

17. But Mrs. Gandhi would think very carefully before ordering a test. It could bring adverse reactions from most if not all the principal world powers from whom India receives political, military, technical, and economic assistance. India's leaders would probably hope (but not be sure) that these reactions would soon die down. The Soviets have long urged the Indians to sign the NPT, though they apparently have not pushed the matter forcefully. The Indians cannot be certain that Moscow's reaction to an actual test would be confined to *pro forma* regrets.

18. Mrs. Gandhi's currently more relaxed view of the Chinese could change if she felt that Peking was going to become more threatening to India, possibly helped to do so by the Sino-US détente. Though the Pakistanis would be unable to match the Indians for many years, New Delhi could not be certain that Islamabad would not get substantial technical assistance or even weapons from its Chinese friend. India could not be sure that the principal non-Communist Powers would accept an Indian nuclear program without slashing their aid programs to India. And for all India's greater stature, it remains a poor country to which outside assistance is extremely valuable.

19. Mrs. Gandhi no doubt realizes that a successful test would set off new demands that India quickly use its technology to develop a full-scale weapons program. These demands would come from military leaders (some of whom have already said they favor this course) and patriotic civilians alike. Mrs. Gandhi may feel she could contain such pressures, and indeed she probably could do so, at least for some time. But with the high priority she has given to costly social welfare measures even at the expense of overall economic growth, she would probably see demands for new weapon systems as a threat to matters she considers more important.

III. INDIA'S LIKELY POLICY

20. There is no inexorable process, force, or logic compelling India soon to conduct, or not to conduct, a nuclear test. To the Indian Government the arguments pro and con are both strong. Over an extended period—with large quantities of unsafeguarded fissionable material on hand and the space program showing fruit—the arguments for are likely to become more persuasive; the odds are high that India will enter the nuclear club eventually.

21. The short-term outlook is far less certain, but some guidelines may be noted. The strongest factors impelling India to set off a test are: the Indians' belief that it would build up their international prestige; demonstrate India's importance as an Asian power; overawe its immediate South Asian neighbors; and bring enhanced popularity and public support to the regime which achieved it.

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22. Most of the arguments against conducting a test have to do with foreign reactions, and these are becoming of less importance to India. Though New Delhi is hardly entering an era of extreme xenophobic defiance, it has now clearly made resistance to outside pressures an important element of its foreign policy. "Self-reliance" is a regularly evoked, rarely challenged, and sincerely felt slogan of the Indian Government. A complete isolationist policy is unlikely, but the degree of effective persuasion available to outside powers is less than in the past. One main reason is the matter of economic assistance. Most of this has been in the form of loans; over the past 25 years, India has acquired a huge debt. The latter now requires repayments on principal and interest of over half of current aid receipts, greatly reducing its net value. There are now many articulate Indians who state that it would be in the country's interest to renounce new aid. In any event, the possibility of losing Western economic aid is one which would inhibit but not decisively deter the Indians from conducting a nuclear test.

23. The chances are roughly even that India will set off a nuclear device at some time during the next several years. The factors pro and con will vary at any specific moment in this period. India will never forego the option; at any given moment the decision will not be between "no" versus "yes", but between "yes" versus "not now". The decision would be made by Mrs. Gandhi. Her unquestioned dominance of the government and unchallenged political strength in the country give her full control of decisions over matters of this import. She could afford to do without the domestic political advantages of an affirmative decision, and she could also cope with the adverse consequences of going ahead. So far she has publicly defended the policy of abstaining from making nuclear weapons. But both foreign and domestic political considerations might work to change her policy.

24. Mrs. Gandhi is bent both on mobilizing the energy of her people in a massive assault on social inequities, and on making India's voice heard with respect in international councils. There are obviously contradictions between her domestic reform needs and spending vast sums on advanced weapons in pursuit of international status. But she may come to believe that some kind of nuclear capability would be useful in terms of adding to national support for her domestic programs, and that having a limited weapons capability, perhaps in the guise of a peaceful program, would give India increased stature or greater security on the world scene.

IV. MAJOR INTERNATIONAL IMPLICATIONS

A. The Soviet Position

25. From the point of view of the USSR's purely strategic interests, a limited Indian nuclear capability would probably not give Moscow great concern. Its relations with Mrs. Gandhi's government remain close and cordial; any step which would strengthen her regime and build up its image in South Asia and elsewhere has some advantages for Soviet interest. The USSR would probably not consider that a limited Indian capability would seriously aggravate area tensions.

26. At the same time, the USSR is seeking to prevent the future proliferation of nuclear weapons, and in principle would oppose any country's taking this step—India included. It has long urged New Delhi to sign the NPT, but has not made an issue of refusal to do so. Moscow would have to consider whether an Indian test would encourage other states (e.g., Japan, Israel, and particularly West Germany) whose joining the nuclear club would be a matter of grave concern to the Soviets, to take this step. Overall the Soviets are more likely to conclude that the damage to the cause of non-proliferation would be neither

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immediate nor great, and that its interests would be best served by making the best of it. Thus if India conducts a test, Moscow might pretend to accept New Delhi's peaceful protestations at face value, and exert such pressures as it could to keep the program limited. It would also continue to push for ratification of the NPT by other countries. If the Soviets were asked to join in multilateral representations concerning an Indian program, they would probably be unresponsive.

B. Western Positions

27. The Indians are not unconcerned about Western reactions. Any decisions they make will of course take their relations with the Western Powers and Japan into account. But concern is one thing and acquiescing to pressures by these powers is another. Almost any external pressures would be resented by the Indians, particularly if they came after a decision to conduct a test had been made, and most especially if they involved any publicity. Private demarches well in advance of a decision might possibly prove more effective; much would depend, however, on how many countries approached the Indians, how hard they pushed the matter, and how seriously India viewed the danger of sanctions.

28. Indian resentment would be especially severe if the US took the lead in efforts to pressure or even threaten the Indians into not pursuing a program of nuclear proliferation. The Indian Government is wary of the US, believing it to have a strong pro-Pakistani bias; this sentiment is paralleled in the press and among large sections of the articulate and politically aware public. Nor, with the end of the PL-480 food program, of even limited arms sales, and with suspension of new increments of economic aid, does the US have much tangible leverage on the Indian Government. Given this fact, plus the frosty suspicion about US motives which currently exists in some circles in India, active American pressures directed against Indian nuclear plans would probably prove counterproductive, at least in some quarters of the Indian Government.

29. This would probably not be so with respect to the UK, Canada, Australia, Japan, and the West European countries who collectively supply most of India's foreign economic aid and who individually get along pretty well with Mrs. Gandhi's government. But it is very doubtful that any one or all of these countries could persuade New Delhi not to go the course of nuclear proliferation, if a firm conclusion had been reached that it would be in India's interest to do so. Not only is it doubtful that these countries could or would offer enough inducements, e.g., security guarantees and money, to divert India from this path, but India would probably calculate that they would not, in the event, engage in serious punitive sanctions.

30. A threat by all non-Communist Powers to terminate—not just suspend—all economic assistance unless and until India renounced nuclear testing would require some hard thinking in New Delhi. India would also be concerned if it thought that a nuclear explosion might reduce its access to Western technology. The Indians probably feel that such contingencies are unlikely and they are probably right in this assessment. State to state ties with many of these countries are close and trade relations (as with Japan and the UK) are substantial. A united embargo on aid and technical access would be difficult to achieve and maintain. It would also cut both ways. India has large debts to these states, and a cutoff of aid could lead India to declare a moratorium on debt repayments. The obvious beneficiary, in terms of political position in India, would be the USSR.

31. It is difficult to say precisely how much India would be hurt by an aid cutoff. The loss

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of a net income of several hundred million dollars a year would force cutbacks in development programs, slow down economic activity, and reduce living standards for some people. Substantial cuts in imports would be required. But these would be unlikely gravely to cripple the modern economic sector (the principal beneficiary of aid), much less bring India to reverse its decision. Even with all its poverty and difficulties, India has considerable skills and resources and could make up for lost sources of technology from the French and the Communist countries. Its drive for "self-sufficiency" has not brought autarky, but has given India greater means to resist outside pressures and blandishments. These would be in a sense enhanced as a Western aid cutoff would bring on a massive nationalist public reaction in favor of official efforts to resist and overcome the new difficulties. Given this, and the fact that the Indians could probably hope to receive some additional Soviet and East European assistance in the aftermath, Western economic pressures to stop India's nuclear programs would probably be limited in effect.

C. Reactions Among India's Neighbors

32. China continues to be Pakistan's principal source of arms. No Indian nuclear capability, large or small, is likely to alter China's willingness to support Pakistan. China would continue to supply only conventional weapons; there is no apparent reason for Peking to break precedent and share its nuclear secrets with an outside power. Peking would feel little concern about Indian nuclear developments *per se*, at least for many years. Its margin of superiority in weapons' yield and delivery vehicles is overwhelming and will remain so well into, and probably beyond, the 1980s. Its principal concern will continue to be the USSR and secondarily the US, both of whose nuclear arsenals it does take very seriously. The Chinese would probably discount the threat to themselves of an Indian nuclear weapons program, and would perhaps recognize that the program was motivated primarily by India's aspirations to great power status.

33. The fact remains, however, that China is the only logical target for such weapons. Moreover, the Chinese would be concerned about the impact an Indian explosion might have on Japanese thinking. Peking would also take a dim view of any enhancement of India's prestige among the weaker countries of the Third World. For these reasons, the Chinese would be likely to condemn an Indian nuclear explosion. How strongly they did so would depend on whether Peking was interested, as it seems to be now, in a general improvement of Sino-Indian relations which have long been strained. It is even possible that an Indian decision to go ahead would make a Sino-Indian détente more desirable to both parties.

34. An Indian nuclear test would at least initially be a startling development in much of South Asia. To many there, it might even seem to bring an entirely new situation to the area. Some of India's neighbors, traditionally wary of New Delhi, would be concerned that India would feel a new sense of manifest destiny and be more inclined both to meddle in their internal affairs and arbitrarily to dictate settlements of outstanding disputes. But as the dramatic impact of the explosion faded, and as the fact of a nuclear India came to be taken for granted, it is likely to prove of less consequence than many would initially fear. In any case none would or could do much about it.

35. Most states would feel no new or pervasive sense of military threat; none could hope to match or counter, on their own, India's new capability. Political reactions would, of course, vary from country to country. For those who are client states, i.e., Sikkim and Bhutan,

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an Indian nuclear explosion would only reinforce New Delhi's already predominant status. Much the same would be true of Bangladesh. Burma and Afghanistan, whose ties with India have been distant and not greatly troubled, are not likely to see much if any new consequences for them. Nepal would probably feel some apprehension. The Nepalese, who saw open and direct Indian interference in their domestic affairs until the early 1960s, and who still must use Indian facilities for nearly all their trade and communications with the outside world, would be wary lest New Delhi try to again assume its former role as heir to the British Raj and protector of the little mountain kingdom. But Kathmandu has adroitly balanced off Indian pressures by maintaining friendly ties with neighboring China and to a lesser extent with other large outside powers. These efforts would probably be increased immediately following an Indian nuclear explosion. In the long run, New Delhi's position in Kathmandu is not likely to be changed by this event.

36. India's relations with Ceylon have traditionally been more distant and less abrasive than with Nepal, though not without their problems. About 20 percent of the residents of Ceylon are of Indian origin, and this minority has been the object of discrimination, communal rioting, and deportations. A 1965 Indo-Ceylon treaty agreeing to repatriation of some Indians and Ceylonese citizenship for the rest was intended to settle the problem. But it has been implemented only slowly and partially. In addition, Ceylon has suffered from social unrest so severe as to lead to Ceylonese concern that the colossus of the north might intervene to suppress subversion. In any event many in Colombo would, on hearing the news of an Indian test, probably fear that New Delhi would be less inhibited in further efforts to resolve problems in Ceylon to its own satisfaction. This would probably lead them, like the Nepalese, to seek some kind of greater support or assurances from one or more of the great powers. But the end result, in our view, would be little significant change in Ceylonese relations with India. In an extreme situation, either a non-nuclear or a nuclear India would probably intervene directly if developments in Ceylon involved important Indian interests; otherwise, the present not unfriendly relationship is likely to continue.

37. Most Pakistanis would be psychologically jolted by the news that India had gone nuclear. Despite their recent crushing defeat and their obvious military inferiority, the sense of hostility toward Indian designs remains strong. There would of course be considerable public excitement and alarm in Pakistan in the immediate aftermath of an Indian test. But balanced against this would be the fact that the government (which has long been well informed of India's nuclear potential and many of its plans) would not be greatly surprised. Nor would it likely be panicked into abrupt policy changes.

38. Islamabad in its own right would be in no position to do anything concrete to counter the event. One of President Bhutto's proposals during the 1970 electoral campaign was the development of nuclear weapons to counter India's larger size, population, and resources. But Pakistan will be technically unable to set off a nuclear explosion for many years; it has some research facilities, a large safeguarded Canadian reactor, a few informed scientists, but little more. On the whole we doubt that Bhutto (or any successor) would find it either necessary or desirable to concede much to a nuclear India that he otherwise would not. An Indian test, at least for some time to come, would enhance domestic pressures on the Pakistani Government to stand firm in dealing with India. In these circumstances, Pakistan's most likely course would

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be to continue to bargain hard over whatever disputes with India were currently outstanding, meanwhile using the new Indian threat to argue for as much outside backing, particularly from the US and China, as it could get.

39. Pakistan would try to build up and modernize its conventional armed forces (as did India both before and after China became a nuclear power). For some years its principal sources have been the US, France, and China. The US would be an especial object of new Pakistani request for defense guarantees, military materiel, and economic support. Iran and Turkey would be very sympathetic to Pakistan. But able to provide little themselves, they would urge the US to be generous.

D. The Cause of Non-Proliferation

40. A successful Indian test would of course set back the cause of nuclear non-proliferation. India would have demonstrated that it is feasible, even for an underdeveloped non-authoritarian country with limited natural and financial resources, to develop an independent nuclear capability. It would also come to be recognized as a potential source of the technology and personnel necessary for other countries interested in such a program. No other non-nuclear state, however, would be likely, simply because of India's example, to embark on a plowshare or weapons program of its own. Such decisions are going to be made by each government on the merits as seen by that government. Nevertheless, it is true that an Indian program would help erode barriers to further proliferation in the sense that additional countries would find it somewhat easier to get around the arguments against going ahead.

41. Such potential nuclear countries as South Africa, Israel, and Brazil would not be significantly affected by an Indian nuclear test or weapons program. Each of these states is involved in a different situation in another area and each will continue to act according to its national interests. The Israelis, for example, who are furthest along in this respect, could use the possibility of Indian-Arab nuclear cooperation as one more argument against signing the NPT and for keeping their options open. Overall, an Indian test would give these other states a reason to explain or excuse similar actions of their own (were they to take them); it would not cause them to do so in the first place. In the unlikely event that the other powers effectively made an example of India, one or another might be inhibited from going further with their own programs, but probably only temporarily.

42. In determining West Germany's policy towards nuclear proliferation, ratification of the NPT will depend on German relations with countries in Eastern and Western Europe, with the US and the USSR, and on negotiations on military safeguards being conducted by the European Community. Indian nuclear developments would play little role in determining Bonn's course of action.

43. Immediate Japanese concern over an Indian test would be stronger than in the case of West Germany. Japan is already aware of and concerned with India's nuclear potential. It has signed but not ratified the NPT. As a major industrial power, a principal Asian state, and a potential nuclear giant, Japan periodically hears a debate over whether it should exercise this option, and an Indian test would touch off another round of the argument. For most Japanese the threshold of nuclear anxiety remains high, and indeed public opinion against developing weapons has been rising in recent months. The new Tanaka government certainly does not wish to make nuclear weapons. The small group that does would use the argument that India's joining the nuclear club was an additional reason for a much more powerful Japan to

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do so. But the argument would carry little weight with those making the decisions, in the absence of radical changes in the international environment. Japanese decisions on nuclear policy will be based on such central factors as trends in public opinion, Japan's evolving relations with the great powers, and its view of its proper role in Asia. An Indian test will not materially affect Japan's disposition to avoid a nuclear weapons program. It might, however, tip the balance against a Japanese decision to ratify the NPT—already doubtful—or at least provide further reason for Japan to stall on this question.

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ANNEX

COSTS OF INDIA'S NUCLEAR AND MISSILE PROGRAMS

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COSTS OF INDIA'S NUCLEAR AND MISSILE PROGRAMS

1. India now has a gross national product (GNP) of about $55 billion, an annual federal budget of $8 billion, and spends about $1.9 billion on defense. Not included in the defense budget are the appropriations of the Department of Atomic Energy (DAE). During 1954-1971, the DAE spent about $870 million. Of this about $312 million has been for nuclear power plants, the rest for everything from research to uranium mining and the building of heavy water plants. The DAE spent $136 million (0.25 percent of GNP) in fiscal year 1971-1972 (1 April through 31 March); it is scheduled to spend $157 million in 1972-1973.

2. The expenses of present space related programs have been paid for by the DAE. Scanty evidence points to current expenditures of from $5-$10 million a year. With the development of more complex rockets and boosters (a satellite launch is tentatively scheduled for 1975), costs should rise, though we cannot give exact data.

3. Given the already heavy investment in nuclear activities, the additional costs of making nuclear devices alone would be very small. An initial underground test would cost no more than $10 to $20 million for research, development and fabrication of the device, and preparation of the test site. After the initial test, the annual average operating cost for a program to produce 1 or 2 weapons per year would be about $10 million to $20 million. Such a program would be adequate for any weapons system based on India's present capability for delivery by aircraft. The additional cost of a larger weapons program based on facilities now being developed and aimed at producing some 75 warheads over a 10-year period—perhaps for delivery by missiles—probably would be no more than $20 million to $40 million per year.

4. Indian plans with respect to future delivery systems are conjectural. The development of an intermediate-range ballistic missile (IRBM) delivery system would be an expensive, long-term project. The present space program is still in its research and development (R&D) stages. India could take advantage of its experience with its satellite launch vehicles to start missile R&D. Such R&D would probably take at least 5 years and cost some $500-$750 million. Once the initial know-how and technology had been acquired (perhaps by the early 1980s), India could start a program of production of IRBMs. This would be costly: $300 to $400 million a year (and much of that in foreign exchange) for at least 5 years—but still a sum within India's capabilities if it chose to do it.

5. In sum, the following rough cost options are open to India for the next decade and probably beyond.

a. Conduct an underground nuclear test. — $10-$20 million.
b. After a test, produce 1-2 weapons a year to be delivered by aircraft. — $10-$20 million a year.
c. Develop a strategic weapons system of some 50 IRBM launchers:
   1. Conduct missile R&D over approximately a 5-year period using experience gained from the space program. — $500-$750 million total program cost.
   2. Follow-on missile production for a period of at least 5 years. — $1.5-$2 billion total program cost.
   3. Produce 75 nuclear warheads over 10 years for delivery by missiles. — $20-$40 million a year.