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INTELLIGENCE NEEDS OF NEWLY INDUSTRIALIZING COUNTRIES IN THE 1990s

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Editors Note:

Concepts that only futurists might have used a few years ago^{—}: "transformation of the international system" and "globalized technology access"^{—} have quickly become realities in the new world order. These concepts are particularly significant in any discussion of the intelligence needs of newly industrializing countries (NICs): how will NICs gain access to the technology they need? How will they use it? And what will they target that they cannot obtain overtly?

The author, Dr. R. Henderson, is a strategic analyst on contract with the Analysis and Production Branch of CSIS.

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With the end of the Cold War, why spy?

As well as the traditional intelligence needs of most nation-states (internal security, political

intentions of foreign leaders and forewarning of impending military attacks), a broader pattern of intelligence needs has emerged for the Newly Industrializing Countries (NICs) of the Third World in the 1990s

There is a growing perception in the Third World developing countries, although particularly among the leaders of the NICs, that their national survival depends on advanced technologies and international commercial data to increase their economic capacity and competitiveness.

According to the 1979 Brandt Report on international development issues, "the sharing of technology is a worldwide concern. But clearly it is most important to the developing countries; and it can even be argued that their principal weakness is the lack of access to technology, or of command of it" [p.193].

How will the NICs gain such access? By government-to-government R&D projects, commercial technology transfers and joint ventures with foreign corporations? Or by "leakage" (hiring) of foreign technical expertise, covert acquisition of restricted technology and equipment, and industrial espionage with state involvement?

Who are the NICs?

In the late 1960s, a small number of the more advanced developing countries located principally in Asia and Latin America referred to collectively a few years later as the NICs individually embarked on similar strategies for creating a national industrial base. Whether by state-developed heavy engineering industries (machinery, shipbuilding, even armaments) and/or state-encouraged manufacturing of goods for export, these industrializing approaches resulted in sustained (even high in some countries) growth rates. They became relatively industrialized economies, compared to the developed countries in the First World (the West) and the Second World (the East, the ex-Soviet bloc) now more accurately viewed as the North.

By the end of the 1970s, these "established NICs" accounted for almost three-quarters of the Third World's manufactured exports [R. Broad and J. Cavanagh, *Foreign Policy*, Fall 1988, p.81]. While this increased capacity was closely linked to state investment and joint commercial ventures, it was also due to the availability of advanced technology from large international corporations, as well as from trade access into foreign markets.

In the 1980s, a second grouping of Third World countries strove to achieve such NIC status. These "aspiring NICs" based their industrialization on a variety of sources, including rising petroleum and/or other natural resources revenues, a large pool of workers and a large domestic or regional market. But most used fears of domestic insurrection or foreign attack to justify massive funding of domestic arms industries and other strategic enterprises, including nuclear energy programs. While such funding did create some industrialization and provided a claim to regional power status and influence, it often led to regional arms races and conflicts ranging from bloody border clashes to destructive conventional warfare.

Intelligence needs of the NICs during the Cold War

During the Cold War, the established NICs were either allied to industrial countries in the West or had declared themselves non-aligned to either of the two ideological military blocs. Their basic intelligence needs tended to centre on potential internal threats and aggressive regional neighbours, both of which were often communist-led or communist-sponsored. Whether targeted on a truly indigenous opposition movement or a "surrogate" group supported by a foreign communist power, these needs could generally be met by their own intelligence service(s), although often supported with intelligence data, training, equipment and/or funding from a

Western government.

They conducted their inter-state economic relations primarily within the international free market system, and most permitted —if not actually encouraged —foreign investment and technology transfer by international corporations. With the exception of India, which established its arms industry with Soviet assistance, generally their military hardware and technology needs were readily met by Western governments anxious to counter any perceived communist threats, or by Western defence companies anxious for export sales.

In the case of the aspiring NICs, their intelligence needs were broader, as they also tended to harbor aspirations to becoming "regional powers" as well. Such dual aspirations —industrialization and regional influence —often generated national and religious-cultural rivalries, leading to arms build-ups and conflicts. Their military and technology needs were met mostly by a combination of Western or communist export sales, creation of domestic strategic industries, clandestine acquisition of restricted technologies and even barter trading with pariah Third World arms producers.

Two factors have changed the intelligence needs of both the NICs and the aspiring NICs: the globalization of technology and the transformation of the international system.

Globalization of technology

Strong international competition, expanding multinational corporations and a worldwide market have spread technological capabilities globally as the world has begun functioning as a single technological evolution system.

However, access to most current advanced technology, particularly information technology, is controlled by the developed industrial countries. Although most of the established NICs have aligned themselves or maintained strong trading relations with those northern sources of technology, there has been a growing perception among Third World élites that their national independence and survival depend on obtaining current and emerging technologies, including electronics, bio-technology, telecommunications, and information storage. Generally, the acquisition of this technology has been achieved by technology transfer via commercial purchase, foreign investment or joint venture, although at significant cost in foreign exchange or natural resources revenue.

It is now increasingly difficult to differentiate between military and civilian technologies. Rather, civilian technology results in "evermore recognizable 'spin-on' benefits for military use" [T.J. Welsh, *The Washington Quarterly*, Spring 1990, pp. 111-12]. By using enhanced computer software, it is often more cost effective to upgrade existing weapons and communications systems to extend their operational life, than to develop or purchase new systems. Similarly, improved computer-assisted designing permits an upgraded version of a system already in production —with corresponding lower unit production costs.

Restricted technologies ...

Restrictions on technology transfer have been imposed by the northern industrialized countries to block proliferation of mass destruction technologies or their means of delivery, such as ballistic missiles. Some of the technologies are civilian in nature —as in the case of powerful mini-computers or processing equipment for a petrochemical industry or a pharmaceutical factory —but, due to their spin-off potential for military use, are on a restricted list. Alternatively, the technology may be restricted by the country or the company which developed it in order to recover research costs by retaining a commercial monopoly over production and

distribution rights.

Currently, the northern industrial countries co-ordinate a number of supplier-control régimes which seek to block the export of a variety of weapons-making and dual-use technologies. The Co-ordinating Committee for Multilateral Export Controls (COCOM) was originally created to prevent the export of militarily useful technology to the former Soviet bloc countries, directly or through a third country. Despite a recent loosening of COCOM restrictions which basically benefits the new Eastern European countries, these export controls have continued to be applied to high-risk Third World countries to check proliferation of "enabling technologies", which beyond their basic use could be adapted to designing or building weapons systems [*The New York Times*, 21 January 1991]. Further, the United States and Japan have agreed — as the two major producing countries — to bar the sale of high-speed mainframe supercomputers to high-risk countries that could use them to design nuclear weapons or ballistic missile systems [*The Globe and Mail*, 10 June 1991].

"We [Iran] have learned that preserving our independence and survival in this unsuitable international climate is not possible without science, technology and the necessary tools".

- Iranian President Rafsanjani [*New York Times*, 18 November 1991]

Similarly, the Missile Technology Control Regime (MTCR), was created to establish exporting guidelines for the industrial producer-countries selling missile equipment and technology. In a view shared by many NIC leaders, South African Foreign Minister Pik Botha stated that South Africa "wants to belong to the [MTCR] club and be part of an organization which can together control and perhaps exchange technology and knowledge with one another" [*SAPA*, 12 October 1991]. Despite its domestic missile development program, no membership was offered. Rather, the United States imposed a two-year ban on South Africa for exporting missile technology, particularly to Iraq.

... and clandestine acquisition

Where access to sought-after technology has been restricted, the technology-dependent — or the technology-lacking — southern countries have reverted to clandestine means, including government and commercial espionage, recruitment of foreign scientific expertise, purchase of restricted equipment via "front companies", and technology trading between embargoed countries. Examples vary from Pakistan's clandestine acquisition of nuclear energy equipment to Iraq's open and covert purchases of a range of arms manufacturing machinery (including nuclear, chemical, biological, and hi-tech conventional), to South Africa's efforts secretly to obtain hi-tech surface-to-air missile designs, to North Korea's "reverse engineering" to acquire ballistic missile technology. There have even been news reports that mainland China stole neutron bomb secrets from an American national laboratory [*Chicago Tribune*, 23 November 1990].

The NICs' desire for greater technology access — often dual-use technology — will be heightened in June 1992 when the United Nations-sponsored Earth Summit meets in Rio de

Janeiro. Intended to map out a multilateral program to stop global environmental deterioration, this summit is already being perceived in the South as the forum for creation of a covenant between the northern and southern countries under which transfer of technology would be accelerated in exchange for "environmentally friendly" economic development in the South. An example of a divisive technology is the recently declassified U.S. government-developed membrane technology for enriching uranium for hydrogen bombs, as it can also be used to filter industrial smoke pollutants and purify water [*The Wall Street Journal*, 8 December 1990].

This South perspective is reminiscent of the nuclear non-proliferation treaty (NPT), under which Third World countries agreed to forego establishing nuclear weapons programs in exchange for freer transfer of nuclear technology for peaceful uses. Although the NPT régime will remain in force until 1995, Third World leaders have repeatedly criticized the low-level of nuclear energy technology transfer, often citing it as a key reason for clandestine acquisition of nuclear technology and equipment.

Transformation of the international system

Coincidental with the emergence of a "new world order" is an escalation of a continuing trade friction between the three largest trading blocs: the North American Free Trade Area, the European Community and Japan^{—} and a lack of accord on a new General Agreement on Trade and Tariffs (GATT) during the current Uruguay Round. Similarly, the United States has outstanding commercial complaints dealing with technology transfer, proprietary rights, intellectual property and market access with a number of the industrializing countries, including Taiwan, India, Brazil, People's Republic of China and Pakistan [*The New York Times*, 20 April 1991 and *Far East Economic Review*, 5 December 1991, p. 64].

The present multipolar economic power network among the industrial countries will further fragment as the NICs and the aspiring NICs increasingly industrialize and compete in international trading. Coupled with the loss of the previous key global structure^{—} the East-West politico-military bipolar system^{—} this continuing fragmentation of economic power suggests an alternative international pattern is emerging.

Over the course of the next decade, there will emerge a new hierarchy in the international system, composed, on the one hand, of an aristocracy of "technology have" countries^{—} although some will depend on the even more technologically advanced ones. On the other hand, there will be a larger and more populous grouping of "technology have-not" countries. Increasingly, the relationships between these two groupings will be characterized by commercial exchanges of the "have" countries' developed industrial technologies and hi-tech consumer products for the "have not" countries' natural resources, labour-intensive goods and domestic market access.

Over time, however, this perception of the North-South geographical separation between industrialized and developing countries will become increasingly inadequate in describing the emerging pattern. Rather, by the beginning of the 21st century, a number of the "technology have" countries will be found in the present geographical South, while a number of the currently aspiring NICs^{—} which fail to achieve such industrialization^{—} will most likely remain regional powers in military capability only.

Such "failed NICs" will have unresolved domestic development problems, related either to their manner of governance or to their economic policies. In attempts to satisfy internal and foreign pressures for resolution of these problems, they will focus their attention on regional neighbours or, at least, those neighbours' economic and technical assets. It can be expected that both overt and covert efforts will be made towards dominating and possibly attempting to make commercial dependencies out of their "technology have" neighbours^{—} in a manner similar to Nazi

Germany's 1930s economic domination strategy towards Central European countries. Even outright military assaults cannot be ruled out, as shown by Saddam Hussein's occupation of neighbouring oil and finance-rich Kuwait!

A number of other causes^{—}ethnic, nationalistic or religious rivalries, border disputes, and natural resource claims^{—}could also precipitate the same types of action.

Fears of such impending conflicts, coupled with increasing economic competition for trading in technology, will drive the intelligence requirements of NIC decision-makers. These concerns will lead to increased defence expenditure among the established NICs^{—}a trend already noticeable in the current naval armament build-ups by most of the Asian NICs^{—}and even to regional arms races. But this pattern will create a paradox for those NIC leaders. On the one hand, it will increase their need for ongoing collective security arrangements with other "technology have" countries and, on the other hand, their efforts to increase their technology level and productivity will result in further trade competitiveness with those very same "technology have" countries. In effect, their economic competitiveness efforts will conflict with their national security needs, endangering their ultimate goal of national survival.

Into this alternative international pattern, there is now an additional set of countries: the former Soviet republics, released with the collapse of the ex-Soviet Union. Even among themselves, they are divided by regional and cultural perceptions and their level of economic development. Russia, Ukraine and the other independent republics formed out of the industrialized European portion perceive themselves as part of Europe (the North). But the independent republics formed out of the less-developed Central Asian portion, with their majority Muslim populations, appear to view themselves culturally as part of an enlarged Middle East region (the South)^{—}notwithstanding their recent admission to the CSCE forum. And, because of the developing nature of their economies, some of these Central Asian republics will harbour aspirations to achieving NIC status.

A growing debate on intelligence needs?

In this era of tight economic competition and rising costs for developing technology, increased attention among NIC decision-makers will focus on the acquisition of information and technology which they perceive as essential to their national survival. However, such national survival is seen not only in terms of industrialization, but also in terms of security, influence and status at the "high table" of international affairs forums.

NIC decision-makers are reconsidering how best to allocate their finite intelligence resources. In effect, these leaders must determine what constitutes their primary intelligence needs in the 1990s, and separate them out of a "wish list" of potentially useful information. To a large extent, the type of government^{—}authoritarian ruler, military régime, one-party, multi-party^{—}will determine the priority given to the various intelligence requirements. Another significant factor will be the degree to which the national and military intelligence services are part of that country's decision-making process.

It is possible to project four primary categories of intelligence requirements which most NICs and aspiring NICs will target. First, those NIC governments which maintain an authoritarian or military rule will continue to allocate substantial intelligence resources to *internal security surveillance* on opposition groups both locally and in exile. Next, there will be a continuing need for early warning as to *foreign political and military intentions*. This would include both leaders of regional states and of the northern industrial countries.

Third, there will be rising demands for *access to restricted technologies* for competitive commercial and military use. Although there will still be some desire for technologies of mass

destruction and appropriate delivery vehicles, much of the demand will be for civilian technologies restricted due to their dual use^{—} minicomputers or pharmaceutical manufacturing equipment^{—} or due to commercial monopolies over their distribution.

Finally, there will be an increasing requirement for international commercial intelligence, including proprietary corporate technical information, international financial data and foreign trade reporting. Such economic intelligence will become increasingly important as the need to be ever more competitive in world trade escalates.

Although each NIC and aspiring NIC will have a variety of factors specific to that country influencing how its intelligence resources will be allocated, the predicted policy agenda for the 1990s and beyond lends greater weight^{—} and therefore resources^{—} to gathering information on restricted technologies (more than simply weapons systems) and commercial matters than was the case during the Cold War period.

The allocation of intelligence resources will have to take into account collection capabilities. It will be necessary to establish whether the intelligence required can be obtained overtly or clandestinely. And while there are costs involved^{—} financial as well as political^{—} for open information gathering, there are very substantial costs for covert collection, particularly for establishing any system of national technical means (NTM) of collection. Even so, some intelligence collection may be only possible by covert means. Being better informed and more technologically capable will enable NIC leaders to better pursue their primary goal: national survival.

Increasing use of open source intelligence?

At a time when industrial countries are looking toward greater use of open sources of information and use of analytical think-tanks in their intelligence production, most NICs and aspiring NICs have regimented government bureaucracies which lack adequate information technology infrastructure. While some maintain relatively closed societies in term of religiously and politically correct information sources, the majority are connected into the vast range of information available from international television and wire services and even from international data banks, via telecommunications.

Intelligence on foreign political intentions, new technologies and commercial affairs is readily available from international media services, numerous trade publications and even from some of the governments themselves. By accessing a 24-hour international television news service, such as CNN, or purchasing commercial observation satellite photographs from the American Landsat or the French Spot satellites, it is possible to obtain significant real-time political and business information.

Growing costs of covert intelligence gathering

The two primary foreign intelligence gathering tasks which need to be done covertly are the collecting of foreign, political and economic secrets and acquisition of restricted technology. A major constraint in seeking to improve such clandestine activities is the financial cost. The paramount costs for Third World countries relate to (i) technical equipment acquisition costs^{—} either by purchase or domestic development^{—} and (ii) location of the targeted secrets or technology.

In relative terms, government-directed intelligence operations within a country's national territory are the least costly. Higher economic costs and political risks would be incurred in establishing covert human intelligence or signals intercept operations on foreign soil, particularly in a country

with an effective counter-intelligence agency and/or a high level of technical expertise. But it may be possible to recruit ex-intelligence personnel with specialist expertise¹⁵¹, particularly from the former Eastern European communist intelligence services [see *Commentary* #4, July 1990]¹⁵¹ to gather foreign intelligence or to assist in implementing such operations. For example, in mid-1990, Iraq recruited a former East German *Stasi* agent in West Germany to collect information on allied military preparations in the Gulf [*The Guardian*, London, 25 November 1990].

The highest economic and political costs would result from establishing a unique national technical means, such as long-range aerial electronic reconnaissance capability or a space-based observation satellite system. Mainland China, India and Brazil have all pursued expensive space satellite programs; even South Africa has actively considered using its missile technology to establish its own satellite and launch vehicle program.

Prospects

With the globalization of technology and, more recently, the transformation of the international system, there has been a relative reduction in the "development gap" between the industrial countries and the growing number of NICs and aspiring NICs. Even so, for continued economic growth, the established NICs will require greater inputs of advanced technology¹⁵¹, whether acquired through national R&D or from enhanced access to northern technological work sites and data¹⁵¹, to maintain significant growth in their maturing high-cost economies.

While their national capacity to absorb and use advanced technologies will gain them greater access to, and influence at international forums, it constrains the NICs within a politico-economic dilemma. To develop further, they must either engage in high-cost national R&D programs or continue to acquire relatively lower-cost northern technology, an alternative which maintains their national economies and decision-making in a position of dependence. Most NIC decision-makers have opted to seek greater access to northern commercial technology, where control over their national sovereignty and security is not compromised.

However, in areas where there might be a loss of sovereign authority or a greater need to rely on foreign governmental assistance, a number of NIC decision-makers appear prepared to invest significant resources in domestically developed technology. In addition to providing commercial telecommunications and resource scanning capacities, such programs also can become the vehicle for developing national technical means¹⁵¹ under their own sovereign control¹⁵¹ for strategic intelligence gathering, particularly within the regional context.

A comparable investment in advanced signals intelligence technology by the NIC governments would constitute a qualitative improvement in their intelligence-gathering capability toward foreign communications, both governmental and commercial.

The views expressed herein are those of the author, who may be contacted by writing to :

CSIS
P.O.Box 9732
Postal Station T
Ottawa, Ontario K1G 4G4
FAX: (613) 842-1312

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