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The Findings of the Environmental Scarcities, State Capacity and Civil Violence Project: China, Indonesia and India

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*[**Editor's Note**: The following summaries are from the Project on Environmental Scarcities, State Capacity, and Civil Violence, a joint project of the University of Toronto and the American Academy of Arts and Sciences. This meeting addressed these studies.]*

Summary of the China Case Study

by Elizabeth Economy

Since 1978 and the onset of reform in China, water scarcity in many regions of China has intensified. Unrestrained economic development and rapid societal change without attention to the ramifications of these transformations for the environment and natural resource use have placed China's already threatened water supply under tremendous stress. Population and water use per capita are growing; the physical condition of China's water facilities is aging; competition between the potential uses for water is increasing; aquifers are becoming depleted; water pollution is rising; and the societal costs of subsidizing increased water usage are increasing.

Chinese residents currently face a shortage of 28.8 million cubic meters of water daily. According to one Western expert, these shortages cost the Chinese economy between 5 billion yuan and 8.7 billion yuan[1] (US $620 million and US $1.06 billion) in 1990. The China case study examined the impact of growing water scarcity on state capacity. Perhaps surprisingly, it concludes that while water scarcity contributes to diminish state capacity, it does so primarily in an indirect manner and over the long term. The more compelling story is that political and economic reforms are transforming the very nature of the state. This process, in turn, has implications for the overall capacity of the state to develop and implement the policies neccesary to respond to water scarcity in the PRC.

The reform process has ramifications for several characteristics of state capacity: the state's legitimacy, its fiscal strength, its coherence and its reach. Frequently, the relationship between the reforms and these factors is a negative one. The reforms have engendered an overwhelming emphasis on economic growth, a devolution of authority from central to provincial and local levels,[2] an institutionally weak environmental protection bureaucracy especially relative to other industrial and economic agencies, and corruption at all levels of the Chinese bureaucracy. These trends all contribute to diminish the efficacy of the state. At the same time, the reforms also contribute to enhance state capacity. Institutional innovation within the system of environmental protection has extended the reach of the state. Moreover, greater openness to the international community has enhanced its fiscal strength.

The reform process also has a more direct impact on levels of water scarcity. Continued population growth, rising standards of living, and rapid industrialization intensify the problem of scarcity in water resources. Water use per capita is growing, competition between the potential uses for water is increasing, and water pollution is rising.

The picture that is painted by these trends is a complex one. The Beijing leadership recognized that the reforms have diminished state capacity as well as contributed to a growing range of natural resource related problems. However, its legitimacy is rooted in the continued exponential economic growth that these reforms

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have engendered during the past almost two decades. Thus, while Beijing is racing to redress the negative institutional and environmental ramifications of the reforms through campaigns, exhortations, and new laws, it is not willing (or in some cases not able) to implement policies that might slow the pace of economic development, such as raising the price of water, increasing pollution discharge fees, or devoting sufficient state financial resources for local water conservation or waste management projects.

In this scenario of overall diminishing state capacity and growing demand for resources, the impact of water scarcity on state capacity might be expected to be dramatic. However, it is not. In some respects, the potential negative ramifications are mitigated by opportunities presented through the transformation of state capacity by the reforms. Nonetheless, there are important signals that over the longer term, water scarcity may indeed significantly diminish state capacity in several key areas.

Both demand- and supply-induced scarcities of water are increasing demands on the state for new infrastructure such as dams, canals, wastewater treatment facilities, and irrigation systems. This is placing greater stress on the fiscal strength of the state. Beijing has attempted to shift a greater portion of the burden of financing these projects on to the local and provincial governments as well as the international community. In many cases, however, the provinces lack the resources to make such substantial investments. Even Beijing has been stymied by the overwhelming costs associated with its desired river diversion project. In response to the growing responsibility of local leaders to pay infrastructure costs, they have used China's integration with the international community to turn to the international community for substantial funding assistance for these infrastructure projects.

While the short-term implications of this behavior appear relatively benign, there are potentially quite serious longer range ramifications for state capacity. First, the autonomy of the state may be diminished by a greater reliance on foreign lenders. These lenders not only provide financial aid but also insist on additional politically sensitive measures such as pricing reform. In addition, a diminished role for Beijing in the financing of projects and greater dependence on local sources of funding also suggests a longer-term decline in the reach of the state that will not be limited to resource management issues. Local leaders, especially at the provincial level, have become increasingly vocal in their opposition to some state policies. For example, the Sichuan governer's vocal response to Beijing's inadequate financial contribution for resettlement engendered by the Three Gorges Dam indicates a threat to legitimacy of the state. In its most extreme form, this loss of legitimacy and decline in the reach of the state contribute to social instability and violent demonstrations of the sort that have occured among those slated for resettlement or already displaced along the Yangtze River.

Both demand- and supply-induced water scarcity result in substantial interprovincial conflict. Contin-

The Case Study of Bihar, India

by Thomas Homer-Dixon and Valerie Percival

Despite robust economic growth in the last few years, India is beset by a daunting combination of pressures. Population growth stubbornly remains around 2 percent; the country grows by 17 million people a year, which means its population doubles every 35 years. Demographers estimate that—even under the most optimistic estimates—India's population will not stabilize below 1.7 billion. Cropland scarcity and degradation affect large areas of the country. While data on the state of India's forests are of low quality, fuel-wood shortages, deforestation and desertification can be found over wide areas.

Resource scarcities in many rural areas, combined with inadequate opportunities for alternative employment, have produced rural-urban migration. The growth rate of India's cities is nearly twice that of the country's population. Their infrastructures are overtaxed: Delhi now has among the worst air pollution of any urban area in the world, power and water are regularly unavailable, garbage is left in the streets, and the sewage system can handle only a fraction of the city's wastewater.

India's recent urban violence was concentrated in the poorest slums. Moreover, it was not entirely communal violence: Hindus directed many of their attacks against recent Hindu migrants from rural areas. The rapidly growing urban population also leads to evermore competition for limited jobs in government and business. Attempts to hold a certain percentage of government jobs for lower castes have caused inter-caste conflict.

These pressures express themselves in a social environment already stressed by corruption and communal animosity. Political parties, including the Congress Party, increasingly promote the interests of only narrow sectors of society. The central government in Delhi and many state governments are widely perceived as incapable of meeting the society's needs and have lost much of their legitimacy.

ued population growth, as well as increasing demands from industry and agriculture, contribute to diminish the coherence of the state by engendering a growing number of interprovisional claims to these water resources. Rising pollution levels also result in growing interprovisional disputes over the responsibility and costs of treatment facilities and clean-up costs. These problems are endemic with little prospect for immediate resolution. Moreover, Beijing has yet to develop an effective mechanism for resolving such conflicts.

Water scarcity and pollution also occasionally have triggered violence in rural and urban areas. There is no evidence that these are more than isolated incidents with limited ramifications over the long term. It is worth mentioning, however, the extreme scenario in which security continues to grow, especially in urban areas, and a more sustained challenge to the state is posed. In continuation with a contraction in the economy and the continued spread of corruption and abuse of power at both the elite and local levels, a much more threatening form of urban civil violence, involving migrant workers, unemployed state enterprise workers, grain-short urban dwellers, and disgruntled peasants, might arise.

In the final analysis, water scarcity probably does not pose a substantial or direct challenge to state capacity. Moreover, as provincial and local regions grow wealthier, they may replace the center as the primary initiator and financial sponsor of environmental protection policies. Thus, while state capacity may be diminished in some respects, other elements of the state may emerge to respond more effectively to regional water demands. In this context, water scarcity in China should be considered a long-term threat to continued economic growth and state capacity that has yet to be acknowledged fully by the Chinese leadership. Even so, it remains a challenge that China may well meet as the economic and political reform process evolves.

[1] Vaclav Smil, *Environmental Problems in China: Estimates of Economic Costs*, East-West Center Special Reports, No. 5 (April 1996): 55.

[2] This process is not uniformly negative for state capacity.

For more information on the Project on Environmental Scarcities, State Capacity, and Civil Violence, go to the Project's website at **http://utl1.library.utoronto.ca/WWW/pcs/state.htm**

Summary of the Indonesia Case Study

by Charles Victor Barber

Indonesia is the world's fourth most populous nation, and the planet's largest archipelago. Blessed with abundant natural resources and one of the earth's greatest assemblages of biological diversity, Indonesia was nonetheless among the poorest nations in the mid-1960s, with a per capita income of just $50[1] and its economy in shambles. Since coming to power following a spasm of civil violence sparked by an attempted coup in 1965—events that left as many as 500,000 dead—the "New Order" regime of President Soeharto has utilized exploitation of the archipelago's rich natural resources—primarily oil, timber, and minerals—to jump start and sustain a process of economic development that the World Bank has praised as "one of the best in the developing world." The economy grew at nearly 8 percent annually in the 1970s, and despite external shocks averaged 5.3 percent in the 1980s. Per capita income has risen from $50 in 1967 to $650 today, and poverty has been cut from 60 percent to an estimated 15 percent of the population.

The regime has, however, used natural resources as more than timber for economic growth. The delivery of tangible development benefits—increased food production, roads, schools, health care, and the like—to a large segment of the populace, made possible by revenues from resource extraction has helped ameliorate long-standing social cleavages within Indonesian economy and society and cement allegiances to the regime.

Natural resources—and resource policies—have also been used to strengthen various dimensions of the New Order's state's capacity. Natural resource revenues have provided a strong financial basis for strengthening state power, while natural resources policies have provided an important vehicle for projecting New Order values and priorities throughout society.

In this process, new conflicts have arisen between state-led resource extraction activities and local communities deprived of their long-standing access to forests and other resources. Up until now, the regime has been relatively successful in localizing, suppressing, or resolving these conflicts far short of the point where they might, taken together, pose a threat to the regime's capacity or stability.

The state's ability to contain conflict over natural resources has depended, though, on particular circumstances: abundant natural resources; continued economic growth and poverty reduction for many; an efficient and heavy-handed military intelligence and domestic security apparatus; transformation of the electoral process into a state-controlled mechanism for reinforcing regime legitimacy; a quiescent and

depoliticized peasantry and urban workforce; the continuity of President Soeharto's thirty-year rule; and a small and politically quiescent middle class willing to accept authoritarian politics in exchange for growing economic prosperity.

All of these conditions are changing rapidly in the mid-1990s: Conflicts over natural resources are not as "local" as they once were, due to the globalization of communications and strengthened international human rights and environmental advocacy networks. The international development Zeitgeist has changed in thirty years from a single-minded focus on "economic growth" to "sustainable development," with growing attention to environmental, social, and human rights concerns. It is no longer as acceptable to "break a few eggs" locally in order to make an "omelet" of national economic growth. And as Indonesia takes a higher profile on the international stage (chairing the Non-Aligned Summit in 1993-1994 and hosting APEC in 1994, for example), the government is more sensitive to international opinion.

The natural resource base of the country is increasingly degraded, leaving less for the regime to exploit, and less for the growing rural population to seek its livelihood from. Forests, for example, are declining by as much as 1 million hectares per annum, and Indonesia is expected to become an oil importer early in the next century. At the same time, while the relative share of primary commodities in total GDP has declined from 60 percent in 1970 to 39 percent today, and will likely reach 17 percent by 2010, the absolute value added from primary commodities in total GDP has declined from 60 percent in 1970 to 39 percent today, and will likely reach 17 percent by 2010, the absolute value added from primary commodities has more than doubled over the past twenty years, with nonrenewables (oil, LNG, minerals) up 128 percent and "renewables" (agriculture, fishing, and forestry) up by 91 percent. The total value of these sectors is expected to increase by 50 percent by 2010. Thus, while the regime will continue to rely on natural resources, it will do so in the face of growing absolute scarcities, pressures to conserve, and increasing demand from growing rural populations.

Indonesia's economy and society have changed dramatically since the 1960s, and the pace of change is accelerating, leaving a transformed sociopolitical landscape in its wake. The economy grew at nearly 8 percent annually in the 1970s, and despite external shocks averaged 5.3 percent in the 1980s. The manufactured goods sector has grown by an average 11 percent annually since 1986. Per capita income has risen from $50 in 1967 to $650 today, and poverty has been cut by two-thirds, and life expectancy at birth has increased by twenty years (almost 50 percent). Fifteen percent urban in 1970, the country's population is already 30 percent urban today, and may reach 50 percent by 2020. The regime's impressive development achievements have created a wholly new class of educated, increasingly mobile, urban, and informed people with greater expectations for political participation and less tolerance for autocratic or corrupt behavior on the part of government officials and agencies.

The concentration of natural resource-based wealth in the hands of a small political-economic elite, in which the president's family is very prominent, is under growing attack from many parts of society. The power and conspicuous consumption of these elites—often ethnic Chinese in league with members of the president's family and other regime figures—is increasingly unacceptable to a general public long suspicious of the country's wealthy Chinese minority; to the rising middle class which sees its own business prospects constrained by cronyism; and to elements within the military and civilian state elite itself who see the growing power and profile of the Chinese conglomerates and "the kids" as obstacles to a smooth presidential succession, and as a potential source of general social unrest and political opposition.

President Soeharto, 75, has been in power since 1966, no clear successor is in view, and there is no reliable—or even tested—mechanism for managing this crucial political transition. The sudden death of his wife in May 1996 and a highly publicized trip to Germany for medical treatment a few months later put these questions front-and-center. Soeharto is the linchpin and the symbol who holds the New Order Regime—and hence the current stability and prosperity of Indonesia—together.

It is unclear exactly what the "Indonesian state" is apart from the New Order regime, and it is equally unclear what the New Order without Soeharto will look like.

As current trends and events play themselves out over the next decade, it seems unlikely that the regime can continue to contain growing conflicts over natural resources, continue to appropriate the resource rents needed to maintain the support of clients and the bureaucracy, or sustain the cohesion of the elite interests and actors who constitute the power centers of the regime. With three-fourths of the nation claimed as "state forestalled" and the pressures on those lands building, for example, forest lands and resource conflicts are likely to intensify far beyond the current situation.

Indonesia holds the second largest tract of tropical forests on the planet. Currently thought to cover some 92-109 million hectares—an expanse second only to Brazil's—they blanketed more than 150 million hectares—over three-fourths of the nation—as recently as 1950. In the Outer Islands, many forest areas have long been home to indigenous groups which gained their livelihoods from forest farming, hunting, and gathering.

Since the late 1960s, these forests—and the lands on which they grow—have played important roles in

the political and economic strategies of the New Order. They have been a substantial source of state revenue, a resource for political patronage, a safety valve for scarcities of land and resources in densely populated Java, and a vehicle—through the policies applied to them—for penetrating New Order ideological, political, security and economic objectives into the hinterlands. In short, forest lands, resources, and policies have been a key arena for the New Order's program of economic development, political control, and social and ideological transformation.

Under these circumstances, it is not surprising that forests have become the arena for increasing levels of conflict, sometimes violent, between the interests of local communities on the one hand, and those of the state, its clients and agents on the other. Allocation of the huge resource rents derived from commercial forest exploitation—such as the $1.3 billion Reforestation Fund—have also recently provoked disputes within the elite.

These conflicts have potential to erode state capacity in various ways, although only the community-level conflicts have realistic likelihood of turning violent—some already have. Even short of violence, local forest conflicts are poisoning relationships between local communities and government agencies and increasing local resistance to both forest production and conservation efforts. And conflicts within the elite over the distribution of forest resource rents threaten to weaken the coherence of power centers within the New Order constellation. As these conflicts grow, they are compounded by increasing absolute scarcity of forest resources and intensifying population pressures on the forest frontier.

The ability of the regime to respond to these snowballing pressures and conflicts is limited by forest policy choices made over the past few decades. From nearly nothing in 1966, the timber and forest products industry has with the state's active support grown into a highly concentrated, wealthy, and well-connected political and economic actor dependent on cheap raw materials, used to high levels of profit, and accustomed to passing the environmental costs of unsustainable logging practices to local communities, the state, and society at large. The industry is now a significant factor in forest policy-making and thus lessens the autonomy of the state to move policy in directions that might be more sustainable but would hurt the industry.

At the same time, just as consensus is growing among forest management experts and many government policy makers—not to mention nongovernmental organizations and donor agencies—that sustainable forest policies must grant local communities greater access and more participation in management, the state's capacity to work with or even listen to local communities is severely constrained by three decades of "top-down" development policies and the erosion of community management capabilities caused by these policies.

Moreover, the New Order's capacity to adapt its policies to deal with these growing conflicts is weak, in contrast to the nimbleness of its macroeconomic policy-making in recent years. The choices and policies of the New Order over the past three decades developed from the perceptions and experiences of its leaders during the first twenty years of Indonesia's independence, and the violent transition from Old Order to New. Those policies have served the internal interests of the state well over the past three decades. And they have delivered sustained and broad-based economic and social development to the majority of Indonesia, although they have also been the cause of a great deal of oppression and suffering for some. But the regime now seems bereft of ideas, mechanisms, and skills to adapt to the rapid changes engulfing the archipelago in the late 1990s. Unless the dormant reserve of political and social ingenuity is soon tapped, the impressive development gains of the past three decades may prove fragile in the face of growing conflicts over forest and other natural resources, and the broader societal conflicts which they mirror.

And the challenges of the next few decades will require vast amounts of ingenuity to surmount. By 2020, Indonesia's population will likely rise from 180 million to nearly 260 million, a 45 percent increase. Fifty percent of that population will be urban, up from 31 percent in 1990, putting pressure on Java's irrigated rice lands, some 10 percent of which may be converted to municipal and industrial uses over the next two decades. Total GDP will increase by 320 percent over 1990, and fully 63 percent of it will come from manufacturing and services by 2010. Demand for petroleum products by 2020 will expand nine-fold, and the demand for electricity thirteen-fold. Proven oil reserves will be exhausted by about 2015 even at current rates of extraction, and the production of coal and natural gas will have skyrocketed. With rapidly rising demand, though, it is likely that Indonesia will be a net oil importer by as soon as 2000.

In the forestry sector, as current deforestation rates continue, an additional 15 million to 32.5 million hectares of forest will be lost by 2020. And the demands for agricultural land, timber plantation sites, and coal mining will increasingly compete with logging, intensifying pressures and probably increase the deforestation rate. If demand for wood continues to climb at present rates, a serious timber shortage seems likely. And while the timber plantations are the cornerstone of the government's strategy to bring supply in line with demand, the bulk of current investment in timber plantations are for stock to feed the new and rapidly expanding pulp and paper industry, not to replace timber now coming from the natural forests.

To ameliorate growing scarcities of renewable resources, minimize the spread of scarcity-induced conflicts, and protect the capacity of the state from erosion, the New Order must take its "ingenuity gap" seriously, and take steps to close it. Failure to unfetter the generation and delivery of ingenuity needed to deal with the complex challenges of the next few decades will stunt the ability of both state and society to counter the impacts of growing resource scarcity. These challenges include intensifying social conflicts (some violent), impediments to the continued growth of the economy, rising social dissatisfaction and serious threats to the legitimacy and overall capacity of the Indonesian state. Failures of ingenuity are likely to reinforce themselves: lack of creative state adaptation to increasing scarcity and conflict may in themselves even further limit the state's ability to respond effectively. As conflicts grow more severe, the state may cut itself off from innovative solutions that might otherwise arise from local communities and other elements of civil society.

This need not be. Indonesia's rich resources and incredible diverse cultures provide the basis for rapid and sustained increases in ingenuity equal to the challenges of rising population and consumption, a fixed resource base, and growing scarcities. The history of Java, where nearly 100 million people—65 percent of the population—live on 7 percent of the country's land, shows the potential of the Indonesian people for productive social and technical adaptation to the growing scarcity (although other islands, with far poorer soils, could not support anything near Java's population density). The "portfolio" subsistence strategies of many Outer Islands peoples—in which reliance on a wide variety of crops and income sources secures the people against scarcities of any source—provide another important example.

Nor is the New Order state apparatus itself bereft of ingenuity by any means. The dramatic economic rise of Indonesia since the 1960s, the major strides made against poverty and illiteracy, and the deft handling of global economic turbulence in the 1980s amply illustrate the ability of this regime to produce ingenuity and act upon it. Anyone who has spent time working with officials of the Indonesian government will attest that there are untold numbers of them bursting with innovative ideas—both visionary goals and rudimentary practicalities—on how to better realize the goals of sustainable development, stability, and equity. If the combined ingenuity of the state and society can be unleashed from the outmoded and harmful structures, attitudes, and webs of special interests that have developed over the past thirty years, Indonesia will stand a good chance of surmounting the challenges of resource scarcity that all of humanity faces on the cusp of the twenty-first century.

[1] The dollar amount ($) mentioned in this paper represent U.S. dollars at the exchange rate as of May 1997.

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Civilian-Defense Partnerships on Environmental Issues: Past Lessons and Successes, Potential Pitfalls, and Opportunities

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DoD Role/Contribution/Comparative Strengths/Future Plans

Sherri W. Goodman

The Department of Defense has a long history of working to protect the environment. There are now over eight thousand environmental professionals working in the Department of Defense. Senator Inhofe, chair of the Armed Services Subcommittee on Military Readiness, said last month that environmental issues affect the quality of life, military training, and readiness of our military facilities.

We now realize that there is a linkage between environmental degradation and resource stability around the world. In his Earth Day remarks this year, Defense Secretary Cohen said, "environmental protection is critical to the Defense Department mission, and environmental considerations shall be integrated into all of its activities." We have evolved from perceiving environmental considerations as a strain on military activities to viewing them as opportunities to serve as good stewards. From the top generals to the newest recruits, the military today makes environmental protection a matter of business.

At home we are committed to building partnerships with other agencies like State, EPA, Energy, and with citizens and non-governmental organizations. One of the things that we are trying to bring to the table is our ability to work with the different militaries around the world. We have tried to reach out with a regional approach, working closely with the unified commands within the Department of Defense: Southern Command for the Western Hemisphere, European Command for Europe and Africa, Pacific Command for the Asia-Pacific region, Central Command for the Middle East, and then Atlantic Commands for the Atlantic area. Whether regionally or with individual militaries, DoD's environmental experts can help build institutional and intellectual capacity within these nations to address environmental issues.

We are working under the terms of our Memorandum of Understanding (MOU), with EPA and DoE to leverage the resources that our agencies have. For example, there is an effort among Russia, Norway, and the United States to bring U.S. environmental management techniques and methods to the Russian military, particularly the Russian navy. The Russian navy's activities include operations in the Kola peninsula, which is not far from the Norwegian border. As virtually any Norwegian will tell you, the threat Norway feels from Russia today comes not from weapons, but from contamination by Russian fleets very close to the Norwegian border. The Norwegian defense minister approached the U.S. Secretary of Defense in June 1994 and asked for help in engaging the Russian military on these issues.

In September 1996, Secretary of Defense William Perry and the Russian and Norwegian defense ministers signed a Declaration on Arctic Military Environmental Cooperation (AMEC). Since then, the U.S., Norwegian, and Russian militaries have combined their efforts to begin applying modern environmental management techniques to address military-related radioactive and non-radioactive problems in the Arctic. We are working on supporting Russian efforts to use proper environmental methods in their submarine dismantlement procedures. To build trust and cooperation with the Russian military, we share information and provide training, teaching, and education.

We think that through global engagement, we can promote democratization and very importantly, civilian control of the military. Our activities show great promise in fostering international security and regional stability.

DoE Role/Contribution/Comparative Strengths/ Future Plans
Marc Chupka

Environmental problems vary from region to region and in time span. Some problems are immediate, and some are longer term.

One environmental problem in particular directly relates to the stability in Russia and the Newly Independent States. Civilian nuclear reactors may affect the health of local and regional populations. Everyone may recall the destabalizing effect of the Chernobyl catastrophe on the region and on the environment, the health of the people, and the government. Nuclear weapons clearly present an environmental security problem.

In Central and Eastern Europe, definitions of security are expanding. Providing such services as clean water, healthy air, environmental protection, and economic support is essential to the countries' collective strength and viability. Environmental components to development become part of the security equation.

The Department of Energy has been engaged in dismantling the nuclear legacy of the Cold War here and abroad. We now know that environment and security are linked. One of our major responsibilities relates to controlling nuclear weapons and materials. Our focus on energy security traditionally concerns global oil markets as our nation's main energy provider. To secure our energy sources, we must invest in clean and efficient energy production.

The Department of Energy can make an impact in many different areas by improving science and technology. The DoE's enormous investment in high performance supercomputing has allowed us to keep our nuclear deterrent viable without actually testing weapons. These same computational capabilities help us to study weather patterns, the evolution of ecosystems, the dispersal of pollutants, and global climate change.

One project that we are working on involves improving nuclear safety in Russia. A major effort goes into the transport of weapons-grade materials. Under Project "Sapphire," we moved about 600 kilograms of highly enriched uranium that we got out of Kazakhstan in 1994.

We are also focusing on the safety of nuclear facilities. Since Russian facilities that house high demand substances have sleeping guards, rusty padlocks, and fences with holes, we find ourselves in an incredibly dangerous situation. We are working with the DoD and the EPA on the AMEC treaty, and we are also working with officials from several Nordic countries on a site in Estonia.

Our most extensive programs are geared towards improving the safety of Soviet-designed nuclear reactors. In the past five years, we have actually been involved in safety operations at twenty reactor sites with sixty-four operating reactors in eight countries. We have also been working in Poland and Hungary to reduce emissions from coal power generating facilities, increase efficiency, improve waste water treatment facilities, and clean-up some contaminated sites.

Our agency's ability to lead on some environmental security issues—regional or global—depends on continued support. I think the American people will support our efforts, if we continue to reap benefits on both the environmental and security sides.

EPA Role/Contribution/Comparative Strengths/ Future Plans
William Nitze

The idea behind the new cooperation on the environment (with the Department of Energy and the Department of Defense) is that the definition of national security has expanded to include conflicts caused by environmental degradation.

From the EPA's perspective, environmental security can best be described as a process whereby the solution for an environmental problem figures into national security objectives. Each environmental activity complements other major goals of this administration. With the help of a participatory democracy, nongovernmental organizations, open processes for resolving conflict, and laws and statements, we would like to enhance environmental performance.

The EPA mission statement asserts that EPA will work with other key agencies to minimize environmental problems in the Ukraine as well as in other countries that may over time have significant negative impacts on U.S. security. The philosophy behind this mission statement is to avoid border patrol solutions, by making it more attractive for people to live under stable conditions at home rather than to immigrate to the United States and other developed countries.

Because human pressure on the environment has grown, the environment has become a much more important component of what I call the civil society challenge. We have to work with investors and other groups to transfer environmentally-friendly technology that stimulates investment, builds jobs, promotes economic opportunity, and improves the quality of life. Properly conceived environmental security programs will be able to achieve all of these goals.

For example, the Murmansk Project grew out of Russia's noncompliance with the prohibition in the London Dumping Convention against the disposal of radioactive material at sea. We managed to get agree-

ment from the U.S. government to proceed in expanding Russia's facility for treating low-level liquid radioactive waste in Murmansk. By transfering technology and creating investment opportunities in Murmansk and across Northwest Russia, we have helped Russia begin to implement a broader radioactive waste management strategy.

In the Baltics, we had a very strong environmental relationship both on the civil and military fronts. The Baltics share development interests with Poland and the Ukraine. The Poles actually have a development assistance program directed towards training the Ukrainians. In Estonia, we hope to up-grade a rare-earth metals facility, so that the facility can supply valuable rare metals for defense and other uses.

When dealing with a contamination problem, we need to convert defense facilities to other uses, transfer technology, create commercial opportunities for U.S. firms, and protect and create jobs in local economies. As we gain more confidence in environmental development, we will strengthen both regional and global security.

State Department Perspectives
Jonathan Margolis

International environmental issues have wide-ranging political, economic, and social implications, and, therefore, increasingly are and should be an integral part of the conduct of foreign policy. To meet this challenge, the State Department is pursuing both global and regional strategies. This initiative is referred to as Environmental Diplomacy.

Global environmental problems, such as climate change, the flow of toxic chemicals and pesticides, species extinction, deforestation and marine degradation respect no border, and threaten the health, prosperity, and jobs of all Americans. They threaten our national security. Often, no one country is responsible for these problems. Many nations have contributed to their causes, and they can be addressed effectively only if the nations of the world work together, adopting and implementing policies that are result-oriented. It is, therefore, in our national interest to ensure that the international community takes steps to prevent and/or mitigate the potential harmful affects associated with these global environmental problems. We use diplomatic efforts to negotiate framework agreements and conventions, and to work bilaterally with key allies to address these global problems.

Some environmental problems require cooperation by countries of a particular region to solve. Regional issues include clean air and water, water scarcity, energy, land use, and urban/industrial growth. By their nature these transboundary issues involve multiple actors in a single region, and there's no clearly defined mechanism or institution to address these problems. Water scarcity in the Nile River is an example of a regional environmental issue that can either lead to increasing tensions about that limited resource's use, or be a potential source for regional cooperation and integration. Using the Nile example, the State Department's role is to raise environmental issues and work towards solutions in the foreign affairs community, such as discussion on how to manage a river basin collectively, efficiently, and effectively. The implementation of these policies is then made by U.S. technical agencies working with their international counterparts.

The State Department will play a major role in raising the profile of global and regional environmental issues. Our goal is to bring other governments on board—especially in the developing world—recognizing that they may have competing interests. Balancing these competing interests and convincing countries that economic growth and sustainable development are not mutually exclusive is one of our major foreign policy challenges.

Commentary on Civilian-Defense Partnerships Worldwide: Lessons, Successes, Possible Pitfalls
Kent Butts

There is substantial potential for the type of civilian-defense partnership that proved successful in the Baltics. The U. S. National Security Strategy explains the benefits through its strategy of "shaping the international environment." This strategy recognizes that environmental issues are useful for reducing tensions among regional states and promoting cooperation and communication, often among formerly antagonistic countries. Thus, U.S. military support to regional environmental initiatives can be seen as a mission that promotes global security and reduces the likelihood of U.S. involvement in regional conflict or costly humanitarian missions such as Somalia and Haiti.

Often, a civilian government will recognize that it lacks the technical resources or manpower necessary to address an environmental issue. The military however, rarely wants to assume nontraditional missions because such missions often divert scarce resources away from operational readiness. Thus, an important first step in such relationships may be convincing the military that supporting environmental operations is beneficial. It is important to identify the degree of cooperative attitude present in the militaries and, when necessary, to dedicate resources to convincing the military that civilian defense partnerships are in its own best interest.

There are many regions and nations where civilian defense partnerships on the environment are logical and necessary. However, one must be particularly sensitive to regional attitudes and interagency relations within the countries involved. Important questions

include, What capabilities exist in the government or private sector for solving the environmental problem in question? In Zimbabwe for example, the U.S. Security Assistance Program, aimed at funding African militaries to perform biodiversity and conservation work, was thwarted by the fact that game-park management was the responsibility of the police, and U.S. laws prevented funding police activities. If sufficient governmental or private sector resources exist, encouraging the military to take over environmental missions could undermine private sector development.

Next, it is important to examine the reputation of the military. Is it oppressive? Is it feared or revered? In some countries in which I have worked, the military was a guarantor of the constitution and the people revered it. In such situations, involving the military in civil-military partnerships promoted governmental legitimacy. In many countries the opposite was the case. Nonetheless, the reputations and attitudes of the military can and do change; therefore it is important not to let the past sins of a reformed military preclude the creative use of that military to support a struggling democratic state. For example, when the Marcos regime was in power in the Philippines, the military was perceived as oppressive and supportive of a corrupt government. Today, under the Ramos regime, the military has a substantially different reputation and has been used repeatedly by the government's Department of Energy and Natural Resources to supplement its limited manpower and technical capabilities. The Philippine military has supported the government by serving as forest rangers, protecting rain forests from illegal logging, dedicating entire units to rainforest reconstruction programs, building artificial reefs, and protecting the complex 7,000 island marine habitat from illegal fishing.

When developing a potential program to promote civilian-defense partnerships in a region, the best source of information on the elements of such partnerships can be found on the U.S. Embassy country team. The Embassy can review the appropriateness of the plan, recommend how to succeed in that country, and, perhaps, suggest other donor nations, NGOs, or regional organizations with which a civilian-defense environmental partnership might also work. In addition, the Embassy would know how this program could be used to support other U.S. interests in the region.

Civilian defense partnerships have the potential to promote military support to democracy and provide technical and manpower support to resource-poor governments for solving environmental problems that threaten to undermine the health, welfare, and economy of the country. At the same time however, one must be on guard not to promote military involvement in environmental projects when this would provide a rationale for retaining a bloated military or when such a role would provide disproportionate importance to a military that does not fully support the concept of civilian democratic rule.

General Discussion

Comment: What are the estimates for the budget that the State Department is seeking? Has there been a lot of support from Congress and private donors?

Comment: We have an entire program for nuclear nonproliferation. The details are a little fuzzy right now, but I don't have any worries about the security of the budget.

Comment: We are pooling our resources. We leverage our people, divide training and technical assistance, and provide meetings and working groups. We are not trying to clean up fully the Cold War legacy, because we do not have the resources. Tax payers will invest just under 5 billion dollars a year for security. We also need to draw resources from other countries. We want all the participating countries, including Norway and Russia, to contribute as a sign of their commitment to address environmental protection.

Most of our budget is committed to core operations in North America, including Mexico. We may have an additional 2 to 4 million dollars in next year's budget for environmental security. We need to do a major marketing job, to get funds from other sources in the federal government. The U.S. private sector—and that could include small or medium sized companies—is looking for markets overseas and thus has an incentive to contribute to defense. Perhaps foreign governments can also contribute funds.

In the area of banishing nuclear materials, the United States is uniquely a market provider. Where other people have created nuclear messes, our expertise is needed. Radio-active waste management is not only a serious environmental project but also a huge leverage for the United States to use.

Comment: Please comment on the opportunities within the Russian military for downsizing or the potential for defense conversion.

Comment: The Russian military will always have a strong role. In the North Sea area, unfortunately, the Russian military is rather unenlightened. Understanding the problems of the locals, and the implications of what is going on, and dividing the resources necessary for education training would pay great benefits and would certainly indicate to our allies in the north that we recognize their needs.

Comment: We do work with militaries of other industrialized nations, and we have technology or practices that we would like to import into our own country. For

example, we are learning from the Scandinavian countries about new technologies. We worked with the Australians on clean up technology, and we try to bring those technologies or practices back into our own work. Under NATO offices, the handbook on environmental guidelines for the military sector has been shared with many militaries around the world, helping develop environmental programs in the military.

Comment: How will AMEC cope with Russia's inability to deal with certain projects?

Comment: That poses a very difficult problem. Russia lacks funds. How much money will the Russians put up for their projects? We have signed some project agreements already, and we are moving forward on these projects. We are also working closely with the Russian navy.

In Russia, if you think you've made two steps forward, you've usually also taken one and a half steps back. So, we have to be patient. Russia will continue to be a priority. We need Russia because of the importance of the Russian military.

To deal with the legacy of the Cold War, we will continue to work with countries. We have active engagements with Poland, the Czech Republic, and Hungary. The possibility might exist of having meetings with China in the near future, and we are now considering the Middle East as well.

Comment: I'd like to know what the next steps are in terms of priorities, regional issues, and areas of the world where you may be focusing in the future?

Comment: What are our next priorities? One of the things that we are going to do is to set up a regional environmental house program, placing foreign service officers in various embassies around the world. This summer that program will actually join forces with the first six house operations in East Africa, Central America, the Middle East, Central Asia, East Asia, and Southeast Asia. Our next step will be to start various inter-agency teams to actually carry out some of the substantive activities that we have proposed.

Comment: We have shut down or redeveloped some of the military bases we have overseas. What new environmental and economic benefits have resulted?

Comment: Many of our activities overseas are advantageous to the U.S. We conduct health impact research on air pollution in China that produces results difficult to obtain in the United States. Scientifically, we have cleaned out our most obvious particulate and air pollution at a much lower cost. In Mexico, we had an Air Quality Management district try to build in El Paso. If we continue to provide such assistance, El Paso may be able to meet its own clean air goals. Activities in northwest Russia solve environmental problems by helping Russians manage radioactive waste.

Domestic leadership on global issues is strategically important. We can finally break through to a new level of political consensus on global climate change. We could indeed change the world.

May 21, 1997

Findings of the Pivotal States Project

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Sumit Ganguly, City University of New York/Columbia University
Emily Hill, International Security Studies, Yale University
Paul Kennedy, International Security Studies, Yale University
Peter Smith, Latin American Studies, University of California at San Diego

Paul Kennedy

The United States is the last remaining world superpower. For fifty years, the Cold War provided the overall structure for U.S. foreign policy, including its policies towards the developing world. The passing of the Cold War has led to a period of intellectual and political confusion. Most likely, the U.S.'s strategic priorities in the future will remain focused upon Europe, and NATO expansion in Russia, China and Japan. The United States will continue to have special strategic relationships with a small number of states: Israel, South Korea, Saudi Arabia, and Kuwait. And, the United States will keep a close eye on rogue states like Libya, Iraq, Iran, North Korea, and Cuba.

The other 130 states in the world represent about two-thirds of the population of the globe and about 75 percent of the member states of the United Nations. What should the sole remaining superpower's strategy be towards the majority of humankind, towards the developing world? The answer is the pivotal states strategy. While we do not believe that the United States should get involved everywhere on earth, we would like to raise the consciousness level of policymakers by establishing priority regions overseas. We are calling for the United States to pay special attention to the fate of a number of countries in the developing world, countries that we call pivotal states.

Today's threats in countries like Turkey, Algeria, Mexico, Indonesia, and Egypt come not from external aggressions but from internal social, demographic, and environmental pressures which strain the political process. Should some of those pivotal states collapse, American lives, business interests, and sea communications could be threatened. In this fractured, post-Cold War world, non-military sources of instability can easily have military consequences.

In focusing on pivotal states, we can make foreign policy more cost-effective, protect the global environment and achieve more effective arms control. We can also secure international understanding on important matters like intellectual property rights, trade abuses, child labor, illegal immigration, and human rights, and we can improve health in the developing world. Finally, we can use the United Nations and other international bodies more effectively, ensuring U.S. allies, like Israel, Australia, Japan, and Italy, regional stability.

The pivotalness of each state varies depending on geography and the extent of regional influence which a country leverages. We enjoy challenges to the selection of the nine states designated as pivotal.

Such interest in pivotal states reflects an increased willingness to define U.S. strategy in the developing world. What are our priorities? How can we explain them to a suspicious Congress? How can the United States help foster stability in the developing world? Given the vastness of U.S. interests across the globe, it is important to re-examine the purposes, the intellectual coherence, and the practical execution of American strategy.

Emily Hill

What is a pivotal state? Two years ago, we began to identify states in the developing world that were swing states, precariously balanced between hegemony and stagnation. These states were rushing to develop while attempting to stave off political and social chaos. In our view, pivotal states meet the following criteria:

First, pivotal states are modernizing states that face third world challenges. They are not basket cases like Somalia, Burundi, or Zaire. Prime examples of pivotal states include Mexico and Turkey. Stand in one part of Istanbul, and you can imagine yourself in modern Europe but walk three blocks, and you know that you are in the developing world.

Second, a pivotal state is balanced precariously between success and failure. The future could either bring continued political, social, and economic reform, or harbor chaos and regression.

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Third, these pivotal states potentially have a significant influence on their regions, perhaps as engines of economic growth, or as models of political liberalization.

Most importantly, these states are geo-strategically placed. They are large and populous, with a growing middle class, and they are located in positions of importance to U.S. security, perhaps near some of the world's hot-spots or along major maritime routes.

The point is not to split hairs about which state is pivotal but rather to use this model as a means to assess the strategic importance of different states in the developing world. Right now, the following states have been designated as pivotal: Egypt, Turkey, Brazil, Mexico, South Africa, Indonesia, Algeria, India, and Pakistan.

What does the existence of these pivotal states mean for U.S. foreign policy? The pivotal states project provides a rigorous means to prevent instability and to promote prosperity in the developing world. Instead of directing scarce national resources haphazardly to humanitarian projects, the pivotal states strategy directs funds to the establishment of relations with particular developing countries.

After the end of the Cold War, many legislators thought that less money was needed for foreign policy. As Sir Halford McKinder once noted, democracies fail to think strategically in times of peace. The repercussions of rapid change in the developing world will affect American national interests. A pivotal states strategy will encourage policymakers to confront these challenges directly, before they threaten American national security.

Robert Chase

The pivotal states idea is a device to get people talking about American priorities at the end of the Cold War. Many people have thanked us for getting the discussion started about where U.S. interests lie, but there has also been some criticism. One group of people called it overly simplistic to choose nine states out of 130 as pivotal. Some people asked, "What about America's responsibility to the poorest countries of the world?" Another group said that for diplomatic reasons, it did not make sense to list openly the countries that the United States prioritized. A fourth group said that development assistance could not help foster security.

That there are so many contradictory ideas about the pivotal states model suggests a lack of coherency among international experts in U.S. foreign policy. The pivotal states project has invested effort in bringing people together to exchange ideas and to share their expertise.

The original article on pivotal states presented the new strategy as a pragmatic re-focusing of American aid. By focusing AID's scarce and diminishing resources on a limited number of countries, U.S. resources would make more of an impact. However, over the last year, we have learned from country experts that even if USAID focused all existing resources on only nine countries, these countries would see few tangible results. They are not looking for development assistance but rather for American investment, technology, and trade.

If the United States handles primary responsibilities for a list of nine states, perhaps other multilateral organizations could be given primary responsibility for dealing with other countries. Another finding is that it is important to address issues that cut across national borders using a state-focused framework. The National Security Council would be the most appropriate body to affect this sort of policy review.

The pivotal states approach offers the United States an opportunity to reassess its policies, ensuring coherence and coordination.

Case Study on Indonesia

John Bresnan

The American public knows little about Indonesia, a country with the fourth largest population in the world and the largest economy in Southeast Asia. The population of Indonesia is very diverse. Eighty-seven percent of the people are Muslim; 300 separate ethnic groups exist, with no ethnic majority; and 250 different languages are spoken. The location of Indonesia is strategic—with three thousand miles of water and islands stretching across all the sea lanes between the Pacific and the Indian oceans.

Indonesia is regionally influential, a founding member of the Association of Southeast Asian Nations, and the leading figure in the nation's diplomatic affairs. The country played a critical role in the creation of APEC and in the creation of the first security organization in the history of the Pacific nations.

Indonesia is also globally significant, with the country gaining leadership among Third World countries, and currently representing a major new interest for the IMF and World Bank.

The government of Indonesia has been authoritarian, successful in increasing the size of the economy, and effective in reducing population growth over the last twenty years, with growth down to 1.8 percent a year. The economy has grown by an average of 6 percent per capita in real terms over the last twenty-five years.

As a result of the extraordinary economic growth, rapid social change is occurring. The government is making an effort to stress education and to address poverty issues. So many people have benefited that expectations are extremely high. During the run-up to the recent election, riots broke out. The country is in the early stages of a political transition, in a precarious state between rapid modernization and social stress.

Case Study on India
Sumit Ganguly

Why does India matter? It matters because one cannot afford to ignore a fifth of humanity. India is one of the ten leading emerging markets, and despite some setbacks, India is clearly on the path towards economic liberalization. In India, democratic institutions have survived. Since 1991, India has been growing at approximately 5 percent per capita, and the projection is that it will grow at 7 percent. In ten years, income will essentially double.

What about India's longevity? There are a number of causes for concern, including ethnic-religious conflict and overpopulation. India adds approximately eleven million people, the entire population of Australia, to its population every year, with important consequences in terms of health, housing, and sanitation. However, India is not on the verge of crisis nor in immediate danger of collapse. In contrast, India has achieved extraordinary integration; the 1997 elections have improved the government's stability; and institutional renewal in India has taken place. India's economy will continue to grow, particularly as institutions acquire a great deal of robustness.

On the part of the United States, India has been the subject of considerable neglect since the 1960s. Now, there are several ways that the United States can show a renewed interest in India. The president should be swifter in terms of appointing an ambassador. The NSC could use a full-time staff for South Asia, and a position similar to assistant secretary in the State Department should be created. The Indian region would also be enhanced by a presidential, or at least a vice-presidential, visit. No president has visited India since President Carter, and now would be a good time to demonstrate American interest in India. Regional arms control, particularly within the Indian military and the U.S. military, would encourage nonproliferation. Continued support of economic liberalization in India, perhaps by increasing access to American markets, would also help stabilize the Indian economy.

Case Study on Mexico
Peter Smith

The pivotal influence of Mexico is, in some ways, overshadowed by the presence, power, and influence of the United States. However, Mexico is critical to the United States because of bilateral links.

The future of Mexico is difficult to predict. Right now, Mexico has a "checkerboard democracy," with free and fair elections and democratic rule in some sectors, and authoritarianism in other sectors. In the last fifteen years, there has been an escalation of violence, a string of high-profile political assassinations, and rebellions in Chiapas and Guerrero. The traditional political apparatus is in an advanced state of institutional disintegration.

One prediction for the future is that there will be a continued process of democratization in Mexico. Mexico's political situation is undergoing considerable change, and it may even be possible for an opposition candidate to win the presidential election in the year 2000 or the year 2006. For democratization to happen, free and fair elections must occur.

A less fortunate possibility for Mexico's future may be a throw-back to authoritarianism, with an alliance between reactionary elements within the PRI (the so-called dinosaurs), segments of the military, and law-enforcement agencies. In fact the populistic dinosaurs are not all old, retrograde, corrupt, right-wingers as their opponents claim; only some of them fit this description. If we start seeing social unrest in Mexico City and other metropolitan centers, we might conceive an authoritarian response.

Alternatively, we may see an equilibrium or uneasy balance between democracy and authoritarianism in Mexico over the next ten to fifteen years. This would mean perpetuation of the checkerboard pattern that is now in place. Though Mexico has not collapsed—Mexico is no Yugoslavia, Rwanda, or Zaire—there is considerable uncertainty about its future.

According to the World Bank, the Mexican population is likely to be 108 million by the year 2000, 135 million by the year 2025, and 165 million by the middle of the decade. This growth may cause unemployment and social agitation, leaving the state vulnerable to authoritarian repression.

There is no sign in the near future that Mexico is going to employ its next generation, so an increased number of migrants may enter the United States. We are trying to build triple fences in San Diego, double the budget for border patrol, and carry out operations like "Hold the Line." However, these policies push the migratory stream from one place to another but do little to ameliorate it.

The United States will also continue to deal with drug trafficking. Mexico was thought to be the transit point for about 30 percent of cocaine imported into the United States in the late 1980s, and 70 to 80 percent in the mid-1990s. Newly strengthened cartels represent a source of major political corruption and have caused an escalation of violence. These problems will continue to complicate our relationship with Mexico.

U.S. policy is, in some ways, institutionally and bureaucratically "balkanized" between trade, state, DEA, and INS, with each agency having its own policy toward Mexico. We need a more coherent and unified policy, with a reconciliation of our policies on immigration and trade. Right now, we have free flows of capital and products, but in contrast, no free flows of labor. What can we do to improve our policies? Guest worker programs could be explored, and collaboration along the border could be increased. As far as drug

control policy is concerned, we could turn our attention away from supply control to demand reduction.

President Clinton met briefly with opposition leaders, in the middle of a campaign swing, two months before an important mid-term election in Mexico. The PRI saw this as a great opportunity to bolster its own political capital. Though we applaud Mexico's transition toward democracy, we have to be careful about our alignment with the PRI and the ruling party.

General Discussion

Comment: Did you make any attempt to quantify the different variables to lead to your pivotal states' conclusions?

Chase: Many of the definitions that make states pivotal are very difficult to quantify. We have, however, been putting together matrices to evaluate the different dimensions that Emily put together. Quantifying the different variables is certainly a valuable idea, and we are open to suggestions.

Comment: Do you agree that leadership in having a free market is one of the most important things that the United States can provide?

Kennedy: I clearly support economic integration, and open markets, but as our individual state experts would caution, the transition will not come easily. For example, as Egypt opens, bureaucratic and trade union backlash will result from the high levels of unemployment that accompany societal restructuring. By focusing upon the nine pivotal states, we could head towards a more specific state-centered policy, which we could use in conjunction with the general message of opening the world economy.

Comment: At the heart of the rationale for pivotal states is bringing the new security issues onto the agenda, with non-military threats leading to military consequences. How can these issues lead to military consequences in any of the pivotal states?

Kennedy: Approaching an environmentally driven social threshold could cause tensions and instability. For example, Egypt's population is growing by 600,000 per year; the population is increasing from fifty-five to eighty-five million; and the people all have to fit in a five or six mile wide distance along each side of the the Nile. Significant water depletion, and large-scale youth unemployment feed the Muslim Brotherhood. As environmental and population pressures build, despite some signs of modern reforms, the regime worries about its social fabric unraveling.

Comment: If you are talking about U.S. aid being a less significant factor, when pivotal states need more investment, technology and trade, rather than funding, what exactly does a pivotal states strategy accomplish?

Kennedy: The pivotal states strategy asserts that aid needs to be viewed in a global sense. The issues of population, migration across borders, and environmental pollution across borders should be dealt with on an international scale, not just with U.S. funds.

Comment: On what basis was Ukraine excluded as a pivotal state, since it seems to meet the profile?

Chase: My own research is on the Czech Republic and Slovakia, and I originally argued to include Ukraine. However, one of the elements of pivotalness is the degree to which events in that country have broad-reaching global effects. We argue that even if there was horrendous political instability in the Ukraine, the surrounding nations could act as buffers from the negative impacts. Russia overshadows Ukraine as a pivotal state in Eastern Europe.

Kennedy: I cannot separate the Ukraine problem from the Russia problem or the future of NATO expansion, so I see the Ukraine as important to our foreign policy.

Comment: We are working with NGOs in the Former Soviet Union, and we keep hearing that the NGOs in other parts of the world are making a huge difference. I am curious to know if there are some general statements that you can make about the development of the NGO sector in the pivotal states?

Comment: The NGOs can do analytical work and provide missing information. By institutionalizing the NGOs, we can gain a unique scientific perspective and analysis, and input on policies. The NGO's human rights sector is building up pressure in developing states, including India, Pakistan, and Indonesia.

Comment: Dr. Hill said that it is hard to think strategically in times of peace. A corollary is that it is very hard to talk about environmental and population problems when the global market is at its most propitious point of the century. How do you emphasize these environmental issues in the midst of a global market boom?

Comment: It is difficult to convince the American public that environmental problems pose security threats, especially since the economy is booming. Most environmental problems are not instantly noticeable. Pollution does not immediately cause harm. But when a threshold is reached, suddenly major effects become noticeable. For example, China has devastating local air pollution problems; in the last year, they have an-

nounced that 26 percent of deaths in China are respiratory disease related. It takes a little time for that data to penetrate, but senior Chinese policy officials know that staggering public health problems require attention. China's controlled media keeps environmental problems from making an impression on the public. In democracies, it is easier to ignite attention towards resolving environmental problems.

Comment: In the Philippines it was suggested that environmental drag was going to affect GDP, but instead markets have opened up more. Is this a case of decoupling?

Comment: With respect to environmental drag, a huge portion of the environmental effects of economic growth are exported. From the rational Chinese point of view, since they do not pay the full price for their pollution, they have less incentive to cut down. They do have terrible problems with respiratory disease, but they drag the United States into paying for some of the other pollution costs. We need to resolve this externality problem. If we do not signal to these countries, if we keep paying for their economic growth, there is no real impetus for action on their part.

Comment: What is the state of political security in India, and how does that relate to India's status as a pivotal state?

Comment: India is a patch-work quilt, with varying state capacity. Certain portions of that quilt have become rattled with disregard for the law and corruption in the government. The prime minister is on the verge of going to jail. There are also new security threats in Bangladesh. The changing demographic balance in Bangladesh contributes to ethno-religious tensions. Large numbers of people are infiltrating into India across the Chinese border. Indian politicians are colluding, so they can issue these people ration cards to vote. If I were an Indian decision maker, I would invest heavily in Bangladesh's economic development. That way people there would have opportunities to turn to at home and would not seek haven elsewhere.

Comment: What would be the most useful way to intervene in Mexico?

Comment: Working to stop internal institutional disintegration in Mexico and the cocaine trade is key. In the old days, marijuana and heroin was transported by local cartels and dealers, but today the cocaine operation has dramatically transformed the economic and paramilitary situation. The first thing we need to do is to change our drug policy that does not, cannot, and will not work. We need to focus on demand instead of supply.

Tensions in countries like Mexico arise from a rapidly rising population, food shortages, desertification, water depletion, and pollution. Unmanaged urbanization creates public health concerns for populations, especially along the U.S. border. Pollution and toxic exposure, and other public health problems arise from poor management of the development process.

Environmental factors are rarely direct causes of failure, but they do create social tensions, drive up infant mortality, and cause public health threats. Countries like Canada, Mexico, and the Caribbean have the potential to spill their environmental problems on the United States. Air pollution and waste can filter across the border into the United States. Emissions, climate change, ozone layer, fisheries depletion, and biodiversity issues cause global problems. These problems present the classic collective-action problem.

Comment: What are the most environmentally significant countries?

Comment: The two most environmentally significant countries are China and Russia. Coal burning from China pumps emissions into the sky at unprecedented rates. By 2030, China alone will contribute 30 percent of the emissions, doubling the greenhouse gases in the atmosphere. Russia, as a source of fuel for a great many other countries, also emits a large share of greenhouse gases. Brazil plays a huge role in environmental problems as a sequester of carbon dioxide. Brazilian forests are a major place for reducing carbon, and if they are cut, or worse yet if they are burned, there is the reverse effect. Rather than absorbing carbon dioxide, we are seeing additional emissions. Brazil also has huge biodiversity, an important resource.

The pivotal states strategy helps determine how to address environmental problems by asking specific questions. Do environmental issues affect state-regional stability? Is there potential for environmental spill-over in the United States? Is this country an important player in global-environmental issues? Many countries fit this criteria, but Mexico, Brazil, China, and Indonesia are all superpowers in the environmental arena. The environmental dimension is key both in shaping environmental policy and in forming a pivotal states strategy.

Comment: If you added states to your list of nine that were environmentally pivotal, which states would you add?

Comment: I would add states with vast population and economic growth which cause environmental harm, such as Thailand, Malaysia, and Nigeria. However, in the environmental debate, the key set of countries on any particular issue might vary somewhat in this core set. If biodiversity is a high priority, Kenya may be an

additional state. If saving whales ranks a priority, Norway should be included. The pivotal states model can be refined, depending on the particular issue.

Comment: My fear is that leaving China and Russia off the list does not acknowledge the need for attention to global issues. For example, on climate change, we have heard from some senior Chinese officials who basically say that the United States should treat China as a developing country when it comes to international environmental issues. China would like to get more technology, and more assistance to meet environmental challenges. My fear is that by leaving them off as pivotal states, even though Russia and China will still get a lot of attention with traditional issues, they will not get much needed attention as developing countries.

Comment: I do not think that we should feel threatened by Russia and China in the midst of your global environment accords. We started off with a list of nine states essentially to provoke debate and to identify our priorities.

Comment: How does the pivotal states strategy propose to address the issue of human rights?

Comment: The pivotal states strategy enables the focus required for the promotion and application of human rights standards. An effective policy has to promote and support a human rights culture. Human rights is about protecting the physical, intellectual, and spiritual dynamic of the human condition. As the *Journal of Human Rights* noted, the application of small amounts of targeted assistance to elect core value institutions, including NGOs, could promote human rights. Such institutions often lay the grass roots for development in human rights groups, such as citizen's groups, women's organizations, educational groups, and institutions.

Much of the human rights program's success is owed to the promotion of standards, in the form of policies, and mechanisms. Unfortunately, promotion has been more successful in Geneva, New York, and London than in Islamabad, Jakarta, and Algiers.

However, the geometric rate by which global telecommunications are accelerating has become critical to the promotion of human rights. Rapid transnational signaling can accelerate the response of the United Nations Human Rights program to individual and community needs.

How can human rights laws be applied in pivotal states? If the United States human rights policies concentrate on select states, application of the law might be more achievable.

I would also use human rights programming in pivotal states to promote neighboring state and regional initiatives. Pivotal states such as Pakistan, for example, could serve as platforms for the promotion of human rights in neighboring states, such as Afghanistan. Next, I would initiate concentrated human rights monitored trading in pivotal states, in close conjunction with citizen and grass roots organizations. Finally, government sponsored national human right's institutions, such as the increasingly effective Human Rights Commission of India, should be supportive and new human rights organizations should be promoted.

30 September 1997

Bridging the Gap between the EU and the U.S.: Attitudes, Analyses, and Strategies

Michael Grubb, Energy and Environmental Program, The Royal Institute of International Affairs

Last year, in Geneva, the United States called for the Kyoto negotiations to establish leading binding targets for the reduction of CO_2 emissions. There are still considerable skeptics who question the seriousness and adequacy of these targets, but after years of debate, governments have largely gone beyond the "whether" to the "how."

The Kyoto Agreement on restraining CO_2 emissions can be more efficient and environmentally effective through the use of intergovernmental emissions trading. After an international agreement enters into force, one government may reach agreement with another participating government to exchange part of its allowable emissions, so that one may emit more and the other correspondingly less. The terms upon which they agree to the exchange would be a matter between them—the terms might involve monetary transfer, a non-monetary political trade-off, or something in between such as debt cancellation.

Intergovernmental emissions trading increases economic and environmental efficiency. A country which has higher abatement costs for reducing emissions can trade with a country that has lower abatement costs. Therefore, the cost of achieving a collective reduction in emissions is lowered. Intergovernmental emissions trading also allows for more flexibility in negotiating binding commitments. Countries such as Norway will not be as risk-averse towards an agreement, if the security exists that when target goals cannot be met, trading to gain more emissions can ease economic strains. Clearly, introducing the option of trading increases the willingness of countries to enter into an agreement. Countries can then ease the political problem of allocation by negotiating among themselves to change individual emissions levels.

A significant part of my own efforts over the past year has been to persuade European and Japanese governments that emissions trading is a good thing. Key European policymakers came to accept that intergovernmental emissions trading is a practical proposition, and that it could have advantages. But one real and potent concern remained: could emissions trading become a means by which the world's biggest and richest polluter, the United States, could escape from having to take any significant domestic action? Specifically, if the targets established at Kyoto are relatively weak, could the United States buy in, at little or no cost, to sufficient additional quotas to avoid having to take any significant action at all?

Against this background, the European Council of Ministers met in June and crafted a simple but effective compromise that called on countries to clarify their specific commitments. The European Union stated that it is prepared to accept the logic of emissions trading, but only if clear benefits result, with greater efficiency enabling a stronger overall outcome.

The "international trade in emission allowances" (ITEA) model is an easy-to-use and transparent tool that predicts the outcome of intergovernmental trading and explores key themes related to defining commitments in the Kyoto negotiations. The costs to the European Union, the United States, and Japan were predicted and compared under the following conditions: without trading of CO_2 emissions, with trading of only CO_2 emissions, without trading of all greenhouse gases, and with full intergovernmental trading of all greenhouse gases. The data used came mainly from governmental submissions made available by the International Energy Agency. The results show that the costs to the major OECD countries associated with reducing domestic CO_2 emissions by 5 percent from 1990 levels are the same as those arising from a flat-rate reduction of 13.9 percent across all industrialized countries, if that 13.9 percent reduction is implemented with the 'full flexibility' of including all greenhouse gas emissions with full intergovernmental trading. In other words, when costs are kept constant, full intergovernmental trading of all greenhouse gases results in a net benefit of about 9 percent in reductions.

Technological developments can further reduce the cost of emissions reduction and help provide more efficient electricity. For example, the United Kingdom owes its ability to reduce carbon dioxide output to advances in the electricity sector. Around the world, improved technology has made possible the use of alternative energy sources. The use of wind energy was negligible in 1990, but capacity in Europe has grown at roughly 25 percent annually. Wind energy capacity in Europe is now projected to exceed 6000 MW by the year 2000 with rapid increase thereafter.

The most valuable aspect of Kyoto is the creation of a structure which offers a first and simple step on the road to defining appropriate commitments. Developing countries should be involved, but the responsibility for reducing emissions should reside with the countries that cause the bulk of the problem, release the most emissions, and have the best technology. When those countries demonstrate seriousness of intent—when they bring their own emissions down to historic levels—then a precedent for developing countries to follow will be set. Therefore, the reduction in Kyoto is a pre-condition for negotiating with developing countries. An important goal is to remove the hesitation of developing countries to being drawn into commitments and to make it attractive to those countries to reduce emissions. Emissions trading offers a way forward.

Wilson Center Fellows and Scholars

The Wilson Center has a long history of fellows and guest scholars coming to research and write on environment, population and security issues. Here is a selection of recent and upcoming fellows and the Wilson Center programs sponsoring their stays. For more information on all Wilson Center programs and projects, visit our web site at http://wwics.si.edu.

Asia Program:

Dai Qing - Woodrow Wilson Center Fellow
Freelance Writer and Jounalist, Beijing, China
"Zhang Dongsun: The Fate of China's Leading Independent Intellectual"
September 1998-May 1999

Division of U.S. Studies

Robert Fishman - Public Policy Scholar
Professor of History, Rutgers University
"Metropolitics: What Washington Needs to Know About the New Regional Politics of Cities and Suburbs:
September 1998-June 1999

Latin American Program:

Raul Benitez-Manaut - Guest Scholar
Researcher of the Centro de Investigaciones Interdisciplinarias en Ciencas y Humanidades
UNAM, Mexico
"Mexican National Security at the End of the Century: Challenges and Perspectives"

Charles Briggs - Woodrow Wilson Center Fellow
Professor of Ethnic Studies, University of California, San Diego
"Infectious Diseases and Social Inequality in Latin America"
September 1997-June 1998

Kennan Institute for Advanced Russian Studies:

Theresa Sabonis-Chafe - Short-Term Scholar
Ph.D. candidate, Department of Political Science, Emory University
"Power Politics: National Energy Strategies of the Nuclear Successor States"
June-July, 1997

Viacheslav Glazychev - Guest Scholar
President of the Academy of Urban Environment and Professor, Moscow Architectural Institute
"Cultural Foundations for the Urban Environmental Development"
July-August 1997

Tatyana N. Garmaeva - Guest Scholar
Russian Academy of Sciences, Siberian Division, The Baikal Institute of Nature Management
"Problems of Sustainable Development and the Role of International Cooperation in the Lake Baikal Region"
January-April 1998

Frances L. Bernstein - Research Scholar
Postdoctoral Fellow, Department of History of Science, Medicine and Technology, Johns Hopkins University
"Gender and the Politics of Public Health in the Soviet Union"
September 1998-February 1999

The Challenges of Freshwater Resources into the Next Millennium

As the world's population and global economy grow, demands on the world's freshwater resources are expanding rapidly. Traditional water institutions, laws, regulations, and treaties are straining to meet the new demographic and economic realities of the twenty-first century. To examine this critical issue, the Environmental Change and Security Project convened a conference entitled *Conflict or Cooperation: The Challenges of Freshwater Resources into the Next Millennium*. Held at the Woodrow Wilson Center on 18-19 November 1997, the conference brought together international scholars and hydrological experts to further understanding of freshwater and water resources management. Chaired by Jerome delli Priscolli, Director of the Army Corps of Engineers' Water Resources Institute and editor of the journal *Water Policy*, the conference examined the diplomatic, political, social, and economic importance of water, not only as a catalyst for conflict, but as a potential tool for preventive diplomacy.

Participants focused on keys to unlocking shared interests in river basin negotiations. Many thought the answer lies in emphasizing benefits rather than rights. Instead of each country arguing for its 'right' to specific portions of a river—regardless of how unsatisfactory this might be to the other nations involved—nations should look at the basin as a whole and build sustainablity into agreements. However, debate continued over whether it is possible to determine water needs for all people. Many argued that putting benefits and sustainability first were useful goals in water negotiations, but that there were other important dynamics to consider, such as the symbolic role of water.

Presenters discussed the Middle East as one of the best examples to illustrate the intersection of "high politics" and water concerns. Various ongoing Middle East negotiations include both bilateral and multilateral agreements on freshwater. Yet challenges remain. In informal talks, Israel offered to provide 500 million cubic meters of water to Gaza from the carrier system that draws from the entire basin, but the Gazans resisted and demanded *their* water. Illustrating the difficulty in water negotiations, this demand referred not to quantity or capacity, but instead to symbolic recognition. A number of presentations traced how freshwater resources have acted as a catalyst for peace and cooperation rather than for war.

The conference convened a diverse group of scholars and practitioners. In particular, the international water expert community with technical expertise came together with a broad selection of participants from within the U.S. government and the private sector. As integrated water management calls for a new dialogue between policymakers, diplomats, financiers, lawyers, scientists, and engineers, this two-day meeting was a step toward building greater understanding across the various disciplines.

Agenda

Framing the Debate: Scarcity versus Distribution
Sandra Postel, Director, Global Water Policy Project

Framing the Debate: Allocating Benefits versus Allocating Water
Evan Vlachos, Associate Director, International School for Water Resources, Colorado State University

Water and Conflict Resolution
Aaron Wolf, Assistant Professor, Department of Geography, University of Alabama

Water and Civilization
Jerome delli Priscoli, Senior Policy Advisor, Institute for Water Resources, U.S. Army Corps of Engineers

Extreme Hydrological Events and Social Change: 7,000 Years in the Nile Valley
Fekri Hassan, Professor, Department of Egyptology, University of London

Capacity Building for Integrated Water Resources Management
Frank Hartvelt, Senior Water Policy Advisor, United Nations Development Programme

Changing International Legal Regimes for Water
Joseph Dellapenna, Professor, School of Law, Villanova University

The Indian-Bangladeshi Riparian Conflict and the Role of Incentives
Sumit Ganguly, Professor, Department of Political Science, Hunter College

History of Water Plans, Negotiations, and Agreements in the Middle East
Miriam Lowi, Assistant Professor, Department of Political Science, College of New Jersey

Water Scarcity and Regional Security in the Middle East
Steve Lonergan, Director, Center for Sustainable Regional Development, University of Victoria

Water and the Role of Incentives in the Middle East Peace Process
Ambassador Clovis Maksoud, Director, Center for the Study of the Global South, American University

The Future of Technological Responses to Freshwater Management
Andras Szöllösy-Nagy, Director, International Hydrological Program, UNESCO

The Nile Forecast and Management System
Aris Georgakakos, Professor, Georgia Water Resources Institute, Georgia Institute of Technology

Real Time Interactive Simulation in Multiparty Stakeholder Water Negotiations
William Werick, Policy Analyst, U.S. Army Corps of Engineers

20 November 1997

Damming Troubled Waters: Conflict over the Danube

Ronnie D. Lipschutz, Associate Professor of Politics and Director of the Stevenson Program on Global Security, University of California, Santa Cruz

Dr. Ronnie Lipschutz, a prominent contributor to the ongoing debate over environment and security linkages, presented findings from his case study on conflict and the Danube River. With research originally prepared for the Environmental Security Project of Columbia University, Lipschutz provided a detailed historical examination of the conflicts that have arisen along the Danube. He paid particularly attention to the modern confrontation between the states of Slovakia and Hungary over their shared Gabcikovo-Nagymaros Barrage System (GNBS). In this case, the Danube River provided an important example of a "dog that didn't bark," a case where shared water concerns led to strained tensions but did not result in violent conflict. Lipschutz highlighted the critical roles played by institutions in mitigating a violent outcome.

Beginning in Germany and ending 2,888 km later in the Black Sea delta, the Danube River Basin includes 13 countries in Europe and is shared by a mix of religious and ethnic groups. Historically, the delta was a flood plane that people struggled to manage. Over the last two hundred years, the river has turned from a "natural habitat" into a highly industrialized area. Paradoxically it is now the fact that flood control is so good that there is a water shortage for some parties along the river.

In the 1920s, the Soviet Union proposed to build a barrage system across the Danube to make the region navigable for military purposes. By the 1950s and 1960s, joint planning among the communist countries of the Eastern Bloc proposed the Gabcikovo-Nagymaros Barrage System (GNBS) on the middle part of the Danube River running through Czechoslovakia and Hungary. Supporters argued that the new source of electricity that would come with the dams and power plants would substitute for air-polluting soft brown coal, help meet the energy needs of both countries, provide flood control and agricultural irrigation, and improve the river's navigability. Although there was skepticism on environmental, ethnic, and other grounds, the governments and water management sectors of both Hungary and Czechoslovakia were enthusiastically in favor of the project. Hungary and Czechoslovakia finalized plans for the river in a 1977 bilateral treaty.

In the 1980s with work on the barrage system underway, opponents of the GNBS formed the group Danube Circle in Hungary. In 1988, 40,000 people turned out to protest before the Parliament Building in Budapest. Not long after, the organization was able to give the government 140,000 signatures from people against the project. Hungarian officials did not strongly curb these political actions as they thought it less threatening for their citizens to protest water rights than human rights. The officials miscalculated according to Lipschutz. What first began as an environmental group turned into a broader force of opposition to the Hungarian regime. Although external funding had been obtained and construction begun, growing political opposition in Hungary to the dam coalesced into a mass movement that was eventually able to raise the matter to the highest political levels and bring the project to a halt on the Hungarian side.

However, in Slovakia, the plans for damming the river were not similarly sidetracked: a new alternative plan for the series of dams, known as Variant C, came into favor. Without building on Hungarian territory, the Slovaks managed to alter drastically the Danube's water flow by closing off side channels in Slovakia. The project aspired both to create scenic views and to harness the Danube's hydropower.

Hungary tried to stop Variant C while Slovakia kept moving forward with dam development. It is at this point that a violent confrontation was conceivable with the environmental elements fanning ethnic tensions. Yet instead it was the reliance on institutional alternatives for conflict resolution that led Lipschutz to describe the case as evidence for a more skeptical view of environmental contributions to violent conflict.

In 1992, Hungary took Slovakia to the International Court of Justice (ICJ); Slovakia then filed a counter-suit. Hungary claimed the construction and operation of Variant C blatantly violated the 1977 treaty, while Slovakia claimed that Hungary had no right to break the 1977 treaty. The 1997 ICJ verdict was what Lipschutz called a "political monster." The ICJ found that Variant C could be built but not operated. The Court also ruled that Hungary had no right to break the 1977 treaty and would have to compensate Slovakia. Finally, the countries were obliged to negotiate a compromise agreement for future arrangements.

Variant C remains a symbol of sovereignty and strength for Slovakia. Slovakian Prime Minister Meciar can shore up his own power base by using the issue to play what Lipschutz calls the "Hungarian card" in eastern Slovakia where there is a sizable Hungarian minority. Politically, Hungary has more incentive to find a solution: the carrot of European Union membership could be a reward. Since EU membership is further off for Slovakia, Lipschutz believes that the final outcome will favor Variant C.

In terms of lessons to be taken from the Danube and the Gabcikovo-Nagymaros dispute, the emphasis according to Lipschutz should rest on recognizing the importance of domestic and international institutions in conflict resolution. In the realm of environment and conflict, institutions matter and future research must better integrate these variables intervening between environmental degradation or depletion and violent conflict. In the case of the conflict between Hungary and Slovakia, recourse to the European Commission and the International Court of Justice in The Hague provided a social structure that allowed for the exploration of alternative social arrangements. A density of linked and overlapping institutions dampened tendencies toward an anarchic and violent relationship between contending parties.

Editor's Note: For more on Ronnie Lipschutz's arguments on environment, conflict and security, see his publications cited in sections A, B, and D of the Bibliographic Guide to the Literature. For more on Columbia University's Environmental Security Project, see the entry in the Updates Section.

December 11, 1997

U.S. Population Activities: Ongoing Plans and Future Directions

Julia Taft, Assistant Secretary of State, Bureau of Population, Migration and Refugees, Department of State
Duff Gillespie, Deputy Assistant Administrator, Center for Population, Health and Nutrition, USAID
Patricia Rowe, Chief, Population Studies Branch, International Programs Center, Census Bureau

Julia Taft

The State Department has established that international population policy is critical to sustainable development strategies. International family planning policy affects the ability of people around the world to sustain livelihoods. It also has an impact on issues surrounding women's health, children's survival, and healthy families. I think that there is a great deal of misunderstanding or conscious deception in what the U.S. policy is toward population.

When we promoted our pro-choice program and tried to provide worldwide family planning assistance, some people characterized our policy as pro-abortion. Actually, pro-choice is pro-life. Our emphasis is on keeping the already-born children alive, opening up options, and educating women.

When children are too closely spaced, their survival rate is very low. How do we provide families with an environment in which their children can survive? The U.S. funds family planning programs. We give money to Georgetown University for consultations, to try to help families determine the best method of birth spacing for them. We conduct programs in micro-credit so that women have options of working rather than just staying at home and producing more children. We promote female education because women who are educated gain more respect as well as develop the ability to take care of the children they already have.

The legislative challenge that we face is the global gag rule. We all know and comply with the restriction that all recipients of federal money may not use these funds to pay for abortions. There was, in fact, a recommendation that organizations could not—even with their own money—fund discussion about abortions or the promotion of policies to change rules, in their own or other countries. The Istook Amendment attempted to tell recipients of federal money, the NGOs, that they could not use any portion of their own money to try to influence national legislatures. That has been discarded; I hope permanently. The debate around the amendment centered on free speech. Does the federal government have any authority to tell organizations or individuals what they can do with their own money?

Family planning is particularly relevant to the national security community. Look at some of the countries that have incredibly high unsustainable population growth— Nigeria, Saudi Arabia, Liberia, and in particular, Rwanda. These countries do not have room for all their people. They cannot educate their citizens nor handle migrations of people. They devastate forests to create land and grow food. Major tensions exist between ethnic groups, as factions attempt to gain economic and political leverage. When governments cannot service the needs of their societies, the result is upheaval.

There are 125 million women who have already expressed a need, a willingness, and an urgency for family planning, but who are unable to obtain it. Because of this, many will have abortions, and many of them will die. We need to consider these women as we put forward a new population policy.

Duff Gillespie

USAID is the primary executor of the U.S. government's population program, which was begun in 1965. The bulk of USAID funds go to family planning activities either directly, such as for the provision of contraceptives, or indirectly, such as to research related to the assessment of family planning efforts. The budget in FY 1998 is $385 million. We operate in sixty countries, but there are fifteen countries designated as priority countries. These include the largest countries in which we have bilateral programs: India, Bangladesh, Indonesia, Ethiopia, and Peru.

We classify eight additional countries as "special concern countries." These are countries in which we are active either because of a crisis situation, such as Haiti, or for historical reasons, such as Mexico. At the present time, Haiti receives more population funds per capita than any other country in the world. This is because of the

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special crisis situation that exists there. However, that level of support is probably not likely to continue. For most of these eight countries—special concern countries—we are either in the process of withdrawing or reducing aid.

The rationale for the program, as defined by Congress and the administration, is to make population dynamics consistent with sustainable development. We do not set a particular demographic target, but we do see population as an important dynamic for our social and economic development. In most cases, the actual population plan of action that occurs in a particular country is that which is defined by the host country's government.

USAID has focused on building upon its family planning and research programs in order to have a greater impact in the areas of family planning and reproductive health. For example, a major new initiative under the Clinton administration is post-abortion care, which I might add is fairly noncontroversial, even on the Hill. This post-abortion care involves taking life-saving steps for women who have had incomplete abortions, usually as a result of illegal abortions.

We are much more active in programs focused on sexually transmitted diseases, such as HIV/AIDS programs. We are also involved with internal and reproductive health programs, and a population health nutrition program, with spending on health-nutrition totaling about $550 million per year.

What has been the result of our work? USAID is by far the largest donor in the area of population and, with the exception of China, has played a pretty important part in all major family planning programs in the developing world. There has been a major shift in the demographic situation of the world. In the 1960s the doubling time for the developing world was thirty-four years, and the average family size was over six. Now, the doubling time is forty-six years, and average family size is under four.

Groups like ours try to show that in order to improve health and empower women, societies must make population control and reproductive health a priority. I have serious doubts, however whether these findings will provide enough incentive for host country governments to start making major investments. The challenge is to try to show individuals who control policies why this is something that should be considered as important for the well-being of not just their citizens but also their economies.

Patricia Rowe

The International Programs Center is part of the U.S. Bureau of the Census. The U.S. Bureau of the Census does not do policy; it essentially produces data. The Center has two components, technical assistance and research. For more than forty years, the bureau has been helping countries by providing technical assistance in gathering information. This assistance in more than 100 countries has taken the form of teaching statistical office staff how to plan, design, conduct, analyze, and disseminate the data.

The Center provides to their sponsors information that they could use to evaluate the potential for security or environmental problems. An example of the latter relates to the potential catastrophes due to environmental situations—such as erupting volcanoes—in a country. The Center provided a sponsor with the number of people living near the volcano so they could assess the potential for a catastrophe. The Center has developed two databases, the International Database and the HIV/AIDS Surveillance Database. The former contains demographic and socioeconomic data and the latter contains epidemiological information on HIV/AIDS seroprevalence for developing countries.

We produce population projections for all countries of the world, as well as for selected subnational areas, except the United States. Policymakers use these projections to make informed decisions. On the research side the Center uses data from censuses, surveys, and administrative statistics to evaluate the economic and social development of selected countries. We also produce reports on countries going through the transition to market economies. It is essential that population projections be revised as new data are available. Ten years ago we predicted that the world population in 2050 would be more than ten billion. Our recent projections expect the 2050 world population to be closer to nine billion.

General Discussion

Comment: The change in demographics, especially in certain developing countries, may cause a very volatile situation. Although we can help the developing regions of the world adapt to population growth, we probably can't stop the increase to approximately 9 billion people. Are we doing things to help developing countries accommodate that growth in order to make the situation less volatile?

Gillespie: I think that the three major effects of population growth will relate to water, urbanization, and unemployed youths. So what are we doing in response? USAID is involved in economic development, job creation, water projects, and urban planning. But we are doing nothing to really prepare countries for their increasing urban populations.

Comment: Is there an explanation—that fits within the context of evolutionary theory—of why people who are wealthy are having, in many cases, so few children? Does this suggest a change in values, and is it likely to create a problem in the next 40 or 50 years? I understand the arguments about how poverty might stimu-

late large families for various economic reasons. But why would people who are wealthy refrain from having more children?

Gillespie: Child survival may play a very important role. The expectation of children living to adulthood is incorporated into people's decision-making process, and therefore, almost invariably, there's a change in the desire for fertility. That change actually takes several generations to take place, so the relationship between child survival and fertility is much more complex than it may at first seem. The other factor is that people realize the relationship between their number of children and lifestyle. That relationship is not as good as it used to be. In an agrarian based economy, with little technology, it was advantageous to have an extended family. Now, when you have inheritance, a large family actually decreases the family's power.

Comment: All the initiatives that focus on girls' education are really important. The relationship between the education level of the girl and her fertility is just incredible. For every year beyond four years that a girl goes to school, she later has one less pregnancy and 20 percent more future earning income. Providing her with other alternatives and more value in her society, through education, should be a continued focus, and hopefully we will find more money for that.

Comment: There are a lot of people who are unemployed and undereducated. There are many angry and rebellious youth. How do we find ways of lessening these pressures? What kinds of health services are needed? I think there is a real gap—which I know DIA is trying to reduce—with the NGOs. We've got to figure out how we can keep these issues from becoming so mysterious that we lose sight of the fact that the only way to address them is by having people come together and share information. To meet the challenges of today, we need to foster open discussion.

Comment: We have to recognize the appropriate limitations and use of classification. Just by virtue of CIA and USAID or NGO in the same sentence, we may stand accused of spying on an NGO, which we do not do, or of somehow being involved or tainted with the spread of AIDS. It is as bad as being accused of promoting crack-cocaine in some circles.

The point is that we are all concerned about the issue of unsustainable population growth. We have to broaden the constituency of people who are as committed as we are to trying to do something constructive. We must figure out a way to have at least the ability to talk to one other.

[**Editor's note:** This meeting also featured a speaker from the U.S. intelligence community who asked that his comments not be reproduced.]