# **Some Roots of Terrorism**

Paul R. Ehrlich
Stanford University
Jianguo Liu
Michigan State University

Although various hypotheses about the causes of terrorism have been proposed, a number of important factors have been largely ignored. Geopolitics, especially richworld attempts to control oil, help incite terrorist attacks on the rich by people from developing countries. But demographic and socioeconomic factors, especially poverty, inequality and large numbers of young men facing dim economic prospects, also are likely contributors to such terrorism. We show that those factors will not ameliorate soon without determined effort. Developed nations, particularly the United States, could help reduce terrorism by controlling over-consumption and increasing carefully targeted aid to developing nations.

KEY WORDS: terrorism; population structure; consumption; poverty; aid.

The United States and its allies have responded to the heinous attacks of September 11, 2001, with short-term campaign focused on the necessary but insufficient task of bringing the perpetrators to justice. There is much talk of a long "war" on terrorism, but little attention (at least in the U.S. government) to what must be a critically important part of that long war—changing the basic conditions that generate terrorist acts. While thoughtful people realize that those atrocities were connected to a variety of underlying factors, social scientists are far from understanding exactly what circumstances trigger such violent acts (Ehrlich, 2000). Few can doubt that one probable factor was geopolitical, the historic behavior of Western nations

Please address correspondence to Paul R. Ehrlich, Department of Biological Sciences, Stanford University, Stanford, CA 94305-5020, USA; e-mail: pre@stanford.edu.

in the Middle East. That behavior has been designed in large part to assure the abundant, uninterrupted flows of petroleum upon which developed nations have become dependent (Ehrlich et al., 1977; Yager & Steinberg, 1975, Yergin, 1991). That's why there are American troops in Saudi Arabia, whose presence has enraged some Moslems, especially Osama Bin Laden. And while a sane energy policy giving heavy weight to conservation and renewable sources would doubtless reduce the threat of terrorism, it would also threaten America's love affair with gas-guzzling SUVs and the energy interests that guide much of the foreign and environmental policies of the U.S. government. We emphasize: America's perceived interests in maintaining a flow of Middle East oil to U.S. and its allies led directly to U.S. armed forces stationed near the most sacred sites of Islam, and thus (if we are to believe Bin Laden's statements) to the great enmity of Bin Laden and his followers.

But oil alone can't explain the atrocity of the attacks on the World Trade Center and Pentagon on September 11, 2001 (hereafter 9/11). Although various hypotheses and arguments about the origins of terrorism in general (e.g., Crenshaw, 1990; Merari, 1990, Reich, 1990), and terrorism against the West based in Islamic fundamentalism in particular (Friedman, 2002a), have been advanced, an integrated framework that considers the possible causes of terrorism in a systematic manner is still lacking. For instance, why Arab nations have not maintained the enormous cultural lead they once enjoyed over Christendom and why the descendants of Saladin, who in 1187 crushed the Crusaders and won greatest victory ever by nonwesterners over Europeans, have slipped so far behind in power relationships, is a matter of debate. Whether cultural disappointment over these long-term trends makes Muslims more prone to terrorism than any other militarily impotent group in developing nations (as implied by some broadbrush theorists—e.g., Fukuyama, 2001) seems unlikely to us. The persistence of non-democratic governments, often supported by Western powers, certainly may be a factor in creating instability in Muslim nations. But it is hard to know what role that lack of political freedom might play in the generation of international terrorism. It seems likely to be a cause largely to the degree that western intervention in the cause of oil (or the issue of Israel) is perceived as a factor supporting corrupt, autocratic rulers.

Nevertheless, we can still examine some of the factors that seem to be involved in the 9/11 type of terrorism. We define that type of terrorism as actions carried out by militarily-weak sub- or trans-national groups from developing nations to gain political ends through violence against private citizens or public property of militarily-powerful developed nations. It is war, in the terms of Clausewitz, "simply a continuation of political inter-

course, with the addition of other means" (von Clausewitz, 1976 [1833], p. 605)—in this case the means available to the relatively frustrated but relatively powerless. This definition allows us in this short essay to ignore the complexities of other forms of warfare, state terrorism and the intranational terrorism of the IRA, Basque separatists, Tamils, violent American anti-abortionists, and so on.

Here we want to draw attention to persistent socioeconomic and demographic factors that create the weakness that can motivate this sort of terrorism and make it easier to recruit terrorists, factors the Bush administration seems not to recognize and the press all too often ignores. These variables can be relatively easily evaluated, in contrast to cultural (as discussed above) and individual factors that can be extremely difficult to measure and interpret (e.g., Jenkins & Bond, 2001). We emphasize that we do not consider these socioeconomic and demographic variables to be the only determinants of terrorism and we are not sure whether they are the main determinants of terrorism. But they are ones that we can both measure and, at least in theory, help to ameliorate.

In aid of this, we look at a sample of nations (listed in Table 1) that have citizens on the most wanted list of the U.S. Federal Bureau of Investigation (Federal Bureau of Investigation, 2001) because of alleged terrorist activities. We have added to the sample Afghanistan (where the current US-led "war against terrorism" is still taking place) and Pakistan (the largest neighboring country, where many people support militant Islamists in Afghanistan).

## **SOCIOECONOMIC FACTORS**

Some indicators of socioeconomic conditions possibly conducive to creating terrorists are summarized in Table 1. Poverty, especially because of its severely unequal distribution among nations, is obviously one of the most important. It has been claimed that Islamic rage against the United States is caused in part by the relative failure of Islamic nations to achieve economic success (Friedman, 2002a). In addition to the level and distribution of income, we include gender equity, public health, education, communication capabilities, and exposure to violence. As can be seen from Table 1, on average there is a substantial gap in all of these indicators between this sample of developing countries (the vast majority with substantial Muslim populations) and developed countries, with only a very few overlaps. We suggest that at the very least these interacting and largely structural factors can be important to the motivations and recruitment of

TABLE 1 **Socioeconomic Indicators of Selected Countries\*** 

Nations	PPP_L10% <sup>a</sup>	Gender Equity <sup>b</sup>	Health & population <sup>c</sup>	Knowledge <sup>d</sup>	Peace and Order <sup>e</sup>
Less Develope	ed Countries				
Afghanistan '		14	9	8	4
Comoros		46	24	8	40
Egypt	1522	30	45	49	78
Kenya	182	39	20	14	35
Kuwait		27	55	52	37
Lebanon		40	53	59	19
Libya	_	58	36	54	40
Pakistan	763	28	21	13	17
Saudi Arabia	_	36	16	38	21
Tanzania	140	46	16	6	63
Average	652	39	32	33	39
More Develop	ed Countries				
Canada	7123	66	86	95	72
France	6446	59	88	86	69
Germany	7758	66	83	85	75
Japan <sup>'</sup>	12082	44	91	93	92
Italy	7700	53	87	84	79
Norway	11537	74	85	91	77
United States	5744	58	82	94	58
Average	8341	60	86	90	75

<sup>\*</sup>Larger numbers mean better conditions.

terrorists, even when those terrorists are relatively prosperous individuals of the sort involved in the recent attacks in the United States. Although some terrorists (especially leaders such as Osama Bin Laden) were relatively well educated and well off, the socioeconomic and political conditions in

<sup>&</sup>lt;sup>a</sup>The average purchasing power parity (US Dollars) per capita in the group with lowest 10% share of income or consumption. PPP\_L10% was calculated based on the data from World Development Report 2000/2001 of the World Bank and 2001 World Population Data Sheet of the Population Reference Bureau. The remaining indicators were from The Wellbeing of Nations (Robert Prescott-Allen, 2001, Island Press).

<sup>&</sup>lt;sup>b</sup>The average of three unweighted indicators (gender and wealth, gender and knowledge, and gender and community).

The lower of a health index (healthy life expectancy at birth) and an index of population

<sup>(</sup>total fertility rate).

<sup>&</sup>lt;sup>d</sup>The average of two weighted indicators of education (school enrollment) and communication (telephone and internet use).

<sup>&</sup>lt;sup>e</sup>The average of two unweighted indicators (peace and crime).

their nations provided a good basis for both moral indignation and grass-roots support. And sadly, what projections can be made give little hope that this important socioeconomic gap between the developing and developed nations in our sample will be substantially closed in the near future. For example, projected population growth indicates that the economies of Saudi Arabia, Pakistan, Afghanistan, and Egypt will need to grow by about 100%, 75%, 70% and 40% respectively in the next quarter century just to keep per capita purchasing power parity from falling (Population Reference Bureau, 2001).

Furthermore, while the influence of cultural factors is difficult to evaluate, at the very least it seems unlikely that some potentially important ones, such as religious fundamentalism or attitudes towards globalization (Barber, 1995), will change rapidly. Indeed the very strictness of religious fundamentalism may make it extremely resistant to change (lannaccone, 1994) and may promote a willingness to die for beliefs, which at one time was a feature of western religious tradition (Gregory, 1999). Indeed, one could claim that in the western world today, a cultural fundamentalism surrounds the use of automobiles and SUVs, especially in the United States. That, combined with the long periods required for major transformations of energy economies, gives us little reason to assume that the problem of oil politics is likely to be ameliorated rapidly.

## RATES OF POPULATION GROWTH AND AGE STRUCTURE

The relationship of population growth rates to political instability is both important and complex (Goldstone, 1991). One often-neglected issue is the age composition of populations, which interacts with poverty and the other factors in Table 1. The vast majority of terrorists were young adult males. Based on the information from the FBI's most wanted terrorist list (Federal Bureau of Investigation, 2001), we found that approximately 90% of those on the list were all males and from 22 to 34 years old when their first alleged terrorist act took place. Ages of the twenty suicide terrorists discussed in one source (Merari, 1990) were between 16 and 28, with a mean of 21.3. This is hardly surprising; after all, the vast majority of violent anti-social behavior is generated by young males, often unemployed or underemployed. Some 65 percent of the crime in the U.S. is committed by those between 15 and 35, and almost 80 percent by males (United States Department of Justice [Federal Bureau of Investigation], 2000). Data from developing countries are sparse, but in China approximately 70% of the crime is committed by people below the age of 24 (Saywell, 2000).

In the first half of this century, the proportion of young males in developing nations will continue to be substantially larger than in developed countries. Huge numbers of boys now under 15, many in Muslim nations acquiring a hatred for the United States, will enter the high-crime years; and the effects of a youthful age composition will persist. By 2050, about 23% of the males in developing countries will be between the ages of 20 and 34, while less than 17% percent of males in the developed countries will be in that range (United Nations Population Division, 2001). Job opportunities for the disproportionate numbers of young men in poor economies are relatively scarce now. But high population growth rates are expected to continue in many developing nations, with a projected annual growth rate for people aged 20–34 of 2.82% as opposed to a rate of 0.16% in developed countries during the years 2000–2050 (United Nations Population Division, 2001). In the face of such growth, job opportunities may be doomed to become much rarer. And large numbers of unemployed, disaffected young men who see the West as their enemy, provide the cannon fodder for terrorism.

While disproportionate numbers of young males will be one result of rapid population growth in many developing nations, many believe that growth itself now retards development, widening the rich—poor gap (e.g., Mimouni, 1992) and increasing the distress of those being left behind. Others (e.g., Courbage, 1994; Fargues, 1997), however, see issues related to population structure as more critical causes of stress in Arab societies. These include migration, a growing number and high proportion of children seeking education, gender inequities, and stress on patriarchal family structures. One tension-causing factor in Saudi Arabia, in addition to economic inequity, is probably its extremely high rate of population growth (TFR 5.7, exceeded in the Arab world only by Palestine, Yemen, & Oman). That growth is unlikely to slow down much in the next couple of decades—Saudi Arabia's population of slightly over 21 million is projected to grow to 41 million in 2025 and 60 million in 2050 (Population Reference Bureau, 2001).

Disparities in population growth rates among different peoples (e.g., ethnic groups, religions) may also exacerbate the conditions that breed terrorism. For example, one element in Israeli attitudes toward Palestinians is the much more rapid population growth of the latter. The total fertility rate of Jews born in Israel is under 3, approaching replacement level, while that of Palestinians in the Gaza strip is over 7, the highest of any national-level entity (Fargues, 2000). On the other hand, the Jewish population has more immigrants. After taking natural growth and migration into account, the annual growth rate of the Moslem population in Israel was 6.0% from 1950

to 1995 while that of Jews was 3.1% (Central Bureau of Statistics of Israel, 2001). Indeed, even within the Jewish population, the high growth rate of the ultra-orthodox population (TFR 7.6) is a cause of tension, threatening, among other things, to make the Israeli welfare system insolvent (Berman, 2000). Some Jews are afraid of being overwhelmed by Arab numbers; some Arabs see their baby boom as a weapon with which to destroy Israel (Friedman, 2002b).

## **DISCUSSION AND CONCLUSIONS**

We have not addressed two obvious and important questions. First, why have many countries (e.g., in Latin America and Southeast Asia) sharing some socioeconomic and demographic conditions with the countries in our sample, and with ample reason to have grievances against the United States or other Western nations, not generated the same sort of terrorist threats against the rich countries as have originated in the Middle East? One answer might be that the United States' exceptional support of Israel and oil profligacy as a clear single-resource root of policies, have served as triggers absent in other regions. Also the active suppression of guerilla movements such as the Sendero Luminoso in Peru (Harmon, 2000) by national governments is probably significant as well. Second, and perhaps more interesting: why are the vast majority of people in the sample nations not terrorists? One obvious answer is that most people, rich and poor, tend to be much more focused on their own lives and families than on political action of any kind.

To answer these two important questions definitively, however, will require much more detailed understanding of the interactions of factors such as differences in culture, history, political organization, peer pressures, and individual personality and background. Until more is known about these interactions, it will remain difficult to demonstrate a quantitative and fully convincing causal linkage between terrorism and the socioeconomic and demographic factors that we have discussed. But we are convinced that the prudent course is for the United State and other developed nations to work to ameliorate them while trying to unravel the complex root causes of terrorism. After all, we would reap many other benefits from improving conditions in developing nations even if that did not lead to a significant reduction of terrorism. The United States should play a central role in helping to improve demographic and socioeconomic conditions in developing nations. It is one of the stingiest rich nations in terms of development assistance—ranking 15<sup>th</sup> by donating one tenth of one percent of GNP while

Denmark, Netherlands, Sweden, and Norway all give more than eight times that proportion and all but Italy in the list give more than twice as much (French, 2002). In addition, more than any other nation, America has leverage to persuade Israel to break the grip of its right wing and ultra-orthodox and take the obvious steps towards a settlement with the Palestinians.

If we are correct, however, without dramatic action the demographic and socioeconomic conditions in the selected Islamic nations in the Middle East and South Central Asia could continue to generate terrorism and terrorists for many decades to come. Other areas where comparable conditions exist now and seem sure to prevail for decades include sub-Saharan Africa, central Asian border areas of Russia, parts of western China with minority populations, Cambodia, Laos, and parts of Latin America such as Haiti, Guatemala, Honduras, Nicaragua, and Bolivia. Thus some, and we emphasize just *some*, of the factors that we believe provide a substrate on which 9/11-type terrorism can thrive are strongly present in a substantial portion of the world, and are very unlikely to disappear soon. A contributing factor that surely will exacerbate terrorist tendencies (or at least not reduce them) are policies of the developed nations designed to expand their consumption and maintain their access to cheap natural resources in less developed regions.

There is one overriding conclusion we would draw. The factors that are clearly within the power of the United States and its allies to alter are the economic ones. In our view, a win-win-win-win strategy today for the United States economically, environmentally, militarily, and ethically would be to assume that our hypothesis that economic macro factors do help to promote terrorism is correct. The United States and other rich nations should then move as rapidly as possible towards an energy-efficient economy that minimizes dependence on oil (and coal), while putting much more effort into limiting wasteful resource consumption and closing the rich-poor gap (Holdren, 1991). In the process, the rich could create brandnew markets for the outputs of the new economy and speed the reduction of their own population sizes to more satisfactory and sustainable levels (Daily et al., 1994). While setting an example, the United States could also increase its pathetic level of international aid, and carefully target that aid on efforts that would change social and demographic conditions (e.g., increase employment and help to lower fertility rates) in developing countries. Aid to education, particularly of women, and to development of laborintensive enterprises are two examples. This will require innovation, care, and tough diplomacy, and could not be done overnight. That is all the more reason for changing American attitudes, announcing our good intentions, and showing the changes to be genuine by getting started right now.

## **ACKNOWLEDGMENTS**

We are indebted to Loy Bilderback, Gretchen Daily, Anne Ehrlich, Gary Luck, Jai Ranganathan, Shripad Tuljapurkar, and an anonymous reviewer for critical comments on the manuscript. We also thank Jennifer Baca and John Holdren for their help in providing us with some references.

### **REFERENCES**

Barber, B. R. (1995). Jihad vs. McWorld. New York: Ballantine Books.

Berman, E. (2000). Sect, subsidy and sacrifice: an economist's view of ultra-orthodox Jews. Quarterly Journal of Economics. NEED DETAILS

Central Bureau of Statistics of Israel (2001). www.cbs.gov.il/shanton51/sto2-old.pdf.

Courbage, Y. (1994). Demographic change in the Arab world: the impact of migration, education and taxes in Egypt and Morocco. *Middle East Report 190*, 24, 19–22.

Crenshaw, M. (1990). Questions to be answered, research to be done, knowledge to be applied. In. W. Reich (ed.), *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind*, pp. 247–260. New York, New York: Cambridge University Press.

Daily, G. C., Ehrlich, A. H., & Ehrlich, P. R. (1994). Optimum human population size. Population and Environment, 15, 469–475.

Ehrlich, P. R. (2000). *Human Natures: Genes, Cultures, and the Human Prospect.* Washington, DC: Island Press.

Ehrlich, P. R., Ehrlich, A. H., & Holdren, J. P. (1977). *Ecoscience: Population, Resources, Environment*. San Francisco: W.H. Freeman and Co.

Fargues, P. (1997). From demographic explosion to social rupture. In. N. S. Hopkins and S. E. Ibrahim (eds), *Arab Society*, pp. 75–83. Cairo: American University in Cairo Press.

Fargues, P. (2000). Protracted national conflict and fertility change: Palestinians and Israelis in the twentieth century. *Population and Development Review*, 26, 441–482.

Federal Bureau of Investigation (2001). http://www.fbi.gov/mostwant /terrorists/fugitives.htm. French, H. (2002). Reshaping global governance. In. L. Starke (ed.), *State of the World 2002*, 175–198. New York, NY: W.W. Norton.

Friedman, T. L. (2002a). The core of Muslim rage. New York Times, March 6, A25.

Friedman, T. L. (2002b). A foul wind. New York Times, March 10, 19.

Fukuyama, F. (2001). Their target: the modern world. Newsweek, December 17.

Goldstone, J. A. (1991). *Revolution and Rebellion in the Early Modern World*. Berkeley, CA: University of California Press.

Gregory, B. S. (1999). Salvation at Stake: Christian Martyrdom in Early Modern Europe. Cambridge, MA: Harvard University Press.

Harmon, C. C. (2000). Terrorism Today. London, Great Britain: Frank Cass.

Holdren, J. (1991). Population and the energy problem. *Population and Environment,* 12, 231–255.

Iannaccone, L. R. (1994). Why strict churches are strong. American Journal of Sociology, 99, 1180–1211.

Jenkins, J. C., & Bond, D. (2001). Conflict-carrying capacity, political crisis, and reconstruction. *Journal of Conflict Resolution*, 45, 3–31.

Merari, A. (1990). The readiness to kill and die: suicidal terrorism in the Middle East. In. W. Reich (Ed.), *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind,* 192–207. New York, New York: Cambridge University Press.

Mimouni, R. (1992). De la Barbarie en Général et de l'Intégrisme en Particulier. Paris: Les Préaux Clercs.

#### POPULATION AND ENVIRONMENT

- Population Reference Bureau (2001). 2001 World Population Data Sheet, Washington, DC 20009-5728. Population Reference Bureau, 1875 Connecticut Ave., Suite 520.
- Reich, W., Ed. (1990). Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind. New York: Cambridge University Press.
- Saywell, T. (2000). Crime Unlimited. Far Eastern Economic Review, November 2, 72.
- United Nations (Population Division) (2001). World Population Prospects: The 2000 Revision. New York: United Nations.
- United States Department of Justice (Federal Bureau of Investigation) (2000). *Crime in the United States, 1999.* Washington, DC: USGPO.
- von Clausewitz, K.P.G. (1976 [1833]). On War. New York: Viking Press.
- Yager, J. A., & Steinberg, E. B. (1975). Energy and U.S. Foreign Policy. Cambridge, MA: Ballinger.
- Yergin, D. (1991). *The Prize: The Epic Quest for Oil, Money, and Power.* New York: Simon and Schuster.