

Population and Consumption

Task Force Report

The views expressed in this report are those of the Task Force members and were not the subject of endorsement by the full Council. Many of the federal officials who serve on the Council also serve on the Council's Task Forces and participated actively in developing the Task Force's recommendations, but those recommendations do not necessarily reflect administration policy.

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Preface

Our task is not to fix the blame for the past but to fix the course for the future.

John F. Kennedy

The Population and Consumption Task Force was created by the President's Council on Sustainable Development (PCSD) in July 1994. Over the course of the ensuing 14 months, the Task Force followed guidelines established by the full Council with respect to the development of goals and policy recommendations. Having begun its work approximately one year after most of the Council's other Task Forces, a prodigious effort was required in order to comport with an ambitious timeline established by the PCSD. Together, the nine Council members who served on the Population and Consumption Task Force were able to complete their work on time and make valuable suggestions to the PCSD in deliberations of its final report.

These efforts would not have been possible but for the contributions of time, effort, and resources by a number of individuals. First, the Council members wish to acknowledge the invaluable contributions made by their staff liaisons - their work is reflected in this excellent piece of work - and all members are grateful for their efforts. Second, the Task Force benefitted from the diverse and knowledgeable citizens who, while not members of the PCSD, were integral to the Population and Consumption Task Force and whose insights and suggestions serve as the foundation for this report. In particular, the Task Force wishes to recognize the contribution of Wade Greene, without whose support and guidance this report would not have been possible.

The Task Force derived much of its initial information and direction from suggestions made by participants in three roundtables organized to explore population and consumption issues. Jennifer Day, Jacqueline Forrest, Susan Martin, and Ellen Kraly were panelists at the first roundtable which examined population related issues. Robert Repetto, Robert Williams, Candace Skarlatos, David Gershon, and Vicki Robin provided valuable insights on consumption issues at our second roundtable. At a final roundtable exploring policy alternatives related to both population and consumption, Judith Desarno, Margaret Pruitt Clark, Jule Hallerdin, Michael Teitelbaum, Roger Dower, and Norman Dean all offered

outstanding suggestions that guided the Task Force in its pursuit of goals and policy options.

Coordinating the Task Force's work at the PCSD's offices was a significant substantive and logistical challenge. Our Task Force was fortunate to be shepherded through its work by Monica Gonzales, whose hard work and good cheer were indispensable and who deserves a great deal of credit for the Task Force's work. Monica was assisted in these efforts by her colleagues on the PCSD staff. In particular, Peggy Duxbury and Alissa Schmeltz played a critical role in the final production of our report. In addition, we want to thank Molly Harris Olson, Executive Director, and the rest of the PCSD staff for their support and guidance.

Early on, the Task Force made the wise decision to engage Judith Jacobsen of Boulder, Colorado to conceptualize and organize three roundtable discussions to help guide its work. Judith organized and moderated these roundtables with such skill that she was called upon to help write the Task Force report. The final report reflects the work and conclusions of the Task Force and any shortcomings rest with the members. However, the plainspoken eloquence that we believe characterizes this report is a tribute to Judith's commitment and excellent work. We are also grateful to Joanne Omang for her invaluable editorial suggestions and executive summary of our report. The Task Force report was written and edited with support from Public Interest.

The Task Force wishes to acknowledge those who helped make the Task Force's work possible. The Task Force's roundtables were made possible by a grant from the John D. and Catherine T. MacArthur Foundation. The Walter Orr Roberts Institute administered this grant and helped to organize the roundtable discussions under the Secretary of the U.S. Department of the Interior, Take Pride in America authority. Cynthia Schmidt at the Roberts Institute did an outstanding job in coordinating these efforts. The Task Force also wishes to thank the George Washington University, the University of Tennessee at Chattanooga, and the New York Museum of Natural History for hosting our roundtables.

Executive Summary

The President's Council on Sustainable Development (PCSD) was created in June 1993 to develop recommendations to help move the United States toward sustainable development-- simultaneous economic, social, and environmental progress that enables current generations to attain a high quality of life without compromising the ability of future generations to do so. To complete its work, the PCSD created eight Task Forces, including the Population and Consumption Task Force, which developed this report.

The size of our population and the scale of our consumption are essential determinants of whether or not the United States will be able to achieve sustainability. U.S. population and consumption trends demonstrate that a great deal of work needs to be done.

The U.S. population is 263 million, growing among the highest rates of any industrialized country (one percent per year). Unparalleled anywhere, is U.S. consumption--which includes goods as well as services, waste products, and raw materials; in short, the total mass of materials and energy sources that make its way through our economy. For America's future, the United States must strive to manage its resources, reduce waste products, and stabilize population so that the total impact of its activity is sustainable.

Since America embarked on serious efforts to protect the environment 30 years ago, tremendous progress has been made in reducing pollution and enhancing efficiency. Nonetheless, with the world's largest economy, the United States consumes enormous amounts of resources and still generates more wastes of all kinds. In addition, steady population growth has been a major force driving up the use of many resources. These factors make the job of protecting the environment, maintaining jobs and economic progress, and achieving greater equity extremely difficult, and explains, in part, the enormous challenges America faces as we approach the 21st century.

The Task Force believes that the two most important steps the United States must take toward sustainability are: 1) to stabilize U.S. population promptly; and 2) to move toward greater material and energy efficiency in all production and use of goods and services.

STABILIZING U.S. POPULATION

America's population now grows by three million each year-- the equivalent of another Connecticut each year, or a California each decade. U.S. population is likely to reach 350 million by the year 2030; a level that would place even greater strain on our ability to increase prosperity, clean up pollution, alleviate congestion, manage sprawl, and reduce the overall consumption of resources. Fortunately, the United States can stabilize its population by addressing the determinants of growth with the sensitivity and forthrightness these issues deserve.

Every year, almost 60 percent of all pregnancies and 40 percent of all births in the United States are either mistimed or unwanted. Some 30 million American women are estimated to be at risk for an unintended pregnancy. One third of these women do not use contraceptives, and the unhappy consequence is that half of all unintended pregnancies occur to these women. Most vulnerable are sexually active teens. More than 80 percent of the one million teen pregnancies every year are unintended.

The consequences of unintended pregnancy can be tragic-- including such health challenges as low birthweight and infant mortality, as well as social concerns such as poverty and the high incidence of abortion. Mistimed births are highest among young women, and unwanted births are highest among older women. Poor women have the highest percentage of both. If all pregnancies were planned, America would be able to lower its infant mortality rate, enhance economic hope and make the demand for abortion scant indeed.

Meeting Americans' reproductive health needs will go a long way toward reducing unintended pregnancies and slowing population growth towards the point of population stabilization. This significant challenge for American health care can be met through provision of education, information and voluntary reproductive health services; contraceptive research and development; by attacking poverty and promoting personal responsibility; and by addressing the remaining obstacles to women's full economic and social opportunity. Special attention and sensitivity must also be

given to addressing the needs of adolescents--emphasizing abstinence and, as a precautionary measure, providing education and services that enable young people to behave responsibly.

Americans are of two minds about sex and sexuality: they are reluctant to discuss the issues; and yet media images are laden with sex, especially sex without consequences. Encouraging personal and social responsibility and fostering educational efforts are essential for America's future. Finally, one-third of U.S. population growth comes from legal and illegal immigration, now at an all-time high. This is a sensitive issue, but reducing immigration levels is a necessary part of population stabilization and the drive toward sustainability.

POPULATION POLICY RECOMMENDATIONS

- Increase and improve public outreach, educational efforts, and access to related contraceptive methods and reproductive health.
- Increase education and services for adolescents through various school-based, community-oriented, peer-based and adult mentoring programs.
- Work in a public-private partnership to reduce poverty and provide greater economic, social, and political opportunities for all, especially women.
- Develop immigration and foreign policies that reduce illegal immigration, while researching the links between demographic change and sustainable development.
- A national commission should report on changes in national population distribution that affect sustainable development prospects.

CURBING U.S. CONSUMPTION

U.S. consumption is not usually seen as a problem but rather as a model for the world. However, without a change in U.S. consumption habits, stabilizing population will not have the desired effect of moving the country toward a sustainable economy.

In the late 1980s, the world's industrialized nations had 20 percent of the global population but consumed 85 percent of all aluminum and synthetic chemicals; 80 percent of paper, iron, and steel; 75 percent of timber and energy; 65 percent of meat, fertilizer, and cement; half the world's fish and grain;

and 40 percent of the fresh water. The United States is the world's largest single consumer and the greatest producer of wastes.

U.S. per capita consumption is not rising except in plastic and paper, but because of population growth, its total resource consumption is still increasing. Yet studies show that U.S. quality of life is not keeping pace.

Appropriate incentives and policy tools can change the efficiency with which Americans use materials and energy. One way is to raise the price of natural resource use and waste generation to reflect their true environmental costs - by imposing charges and reducing subsidies for harmful practices.

At the moment, federal and state tax codes encourage a number of environmentally damaging activities and discourage beneficial ones. The Task Force recommends shifting these burdens, with care for broad public involvement and for descriptions and analyses, so as to avoid misunderstanding about "winners" and "losers."

Another way toward sustainable consumption is a comprehensive program to educate consumers, both individual and institutional, in the environmental consequences of their consumption choices. Polls find consumers eager to help make a difference for the environment with their own actions, and increasingly concerned with the concept of global stewardship. However, even experts have a hard time making informed choices in a clamorous marketplace.

The Task Force focused on environmental labeling and certification, government procurement policy, and public education as ways to help people make wise consumption decisions.

Education should take six forms: formal education (in the schools), media messages (in television story lines and movie plots), advertising (in guidelines for accuracy), education for financial literacy (to encourage savings and personal economic stability), community-based education (on local issues), and development of a stewardship ethic (that raises concern for future generations' welfare).

A third approach to redirecting consumption patterns is to move toward a new materials economy that reduces the total volume handled, cuts reliance on virgin resources, and uses both raw and secondary materials more effectively, while recycling materials already used.

Each American now produces 4.5 pounds of trash per day, by far the world's highest level. Each year, 180 million gallons of motor oil are improperly sent to landfills or poured down U.S. drains - an amount equal to 16 Exxon Valdez oil spills. Citizens understand the problems of packaging, garbage, and household toxics, and show concern about these issues in polls. The Task Force recommends programs to streamline packaging, to implement weight-based municipal fees for collecting garbage, and to spur proper handling of household toxics.

At the same time, technological innovation should be encouraged to boost efficiency of material and energy production and to prevent pollution in the first place. If polluting technologies are priced in accord with their environmental costs, clean technologies will be able to compete more effectively.

CONSUMPTION POLICY RECOMMENDATIONS

- Shift the federal tax burden from labor and investment toward consumption, - particularly consumption of natural resources, virgin materials and goods and services that pose environmental risks. Ease the burden on the poor with payroll tax deductions.
- Reduce and eventually eliminate inefficient and environmentally harmful government subsidies, particularly those related to natural resource extraction and use.
- Establish federal "eco-labeling" procedures through a nongovernmental, third-party group that would set criteria and standards for labeling certain goods environmentally superior.
- Set government procurement policies at all levels to increase the use of environmentally preferable products, and provide an incentive for the creation of products that exceed standards for environmental superiority.
- Educate citizens about consumer practices and choices that will lead to sustainable consumption

patterns and lifestyles in accord with a stewardship ethic.

- Encourage manufacturers to insure appropriate recycling, reuse and disposal of all packaging, making it returnable and certifying it for compatibility with a sustainable economy.
- Issue federal guidelines and models for municipal volume-based and weight-based household waste collection systems and curbside recycling programs.
- Adopt state and local programs to curb the flow of toxic materials into municipal waste streams, focusing on incentives for recycling, deposits, or buybacks.
- Develop civilian technology in partnership with the federal government to provide new ways to increase materials and energy efficiency and prevent pollution in the first place.

CONCLUSION

The Population and Consumption Task Force, with an agenda of "everything under the sun," sought to strike a balance between individual and government actions, between action at the federal and local levels, between providing individuals with information for making sustainable decisions and creating conditions that make those decisions good sense, and between actions that affect our numbers and actions that affect our resource use and waste production.

We did this in an effort to create a better balance between our population and consumption on the one hand, and the environment, economy, and society on which we depend, on the other.

The Population and Consumption Task Force urge readers of this report to join with us in the challenging task of striking this new balance and of creating a sustainable way of life in the United States.

Introduction

Context of the Report

At the Earth Summit in Rio de Janeiro in June 1992, the largest gathering of heads of state in history, more than 120 nations agreed to a blueprint for global action called Agenda 21. The goal of Agenda 21 is to move the world toward economic activity that meets the needs of present generations without compromising the ability of future generations to meet their own needs—that is, toward "sustainable development."

Sustainability requires a commitment by institutions and individuals everywhere to the simultaneous goals of economic prosperity, ecological integrity, and social equity. In a sustainable world prosperity is accessible to ever one and does not come at the expense of the environment.

To begin translating the vision of Agenda 21 into U.S. action, President Clinton created the President's Council on Sustainable Development (PCSD) in June 1993. This group of 25 industry, government, and nongovernmental organization leaders organized itself into eight "task forces" to address significant aspects of the broad sustainable development agenda and to make recommendations for a National Sustainable Development Action Strategy. The Population and Consumption Task Force is one of the eight and this report is part of that Action Strategy. (A brief administrative history of the Task Force and its work follows at Appendix A).

Why Consider Population and Consumption?

The sum of all human activity, and thus the sum of all environmental, economic, and social impacts from human activity, is captured by considering *population* together with *consumption*.

"Population" customarily includes numbers of people and the rate at which those numbers are changing. The U.S. population is relatively easily understood: it is the number of human beings within our borders (263 million in 1995).[1]

Interesting features of population in the United States include: the number of babies born in year (about four million); average family size (about two children), the number of deaths in year (about two million); the number of people migrating into the United States in a year (a one million); and net annual growth (three million people or about 1.0 percent). Not so easily understood are the many social, economic, and cultural conditions that underlie and derive from those numbers: the

variations in wealth, education, culture, and other aspects that produce—and are affected by—different childbearing patterns, family sizes, life spans, and migration patterns. The simple term "consumption" masks a great diversity of meanings. At one level, consumption means all the resources used in an economy by all consumers, both individual and institutional, and the waste that accompanies that resource use. It means both end-products and their raw material and intermediate ingredients. This meaning of consumption includes the total amount of resources used and wastes produced in the course of extracting, processing, manufacturing, packaging, transporting, selling, using, and discarding goods of all kinds— from houses, steel girders, and shipping pallets to automobiles, mattresses, and food.

Also included are the resources and wastes involved in creating and delivering services of all kinds, from college educations to health care and television repair. Another term for this meaning of consumption is "throughput"—used by ecological economists to mean the total mass of materials and energy sources that makes its way through the economy. This is the meaning that is intended when the term consumption is used in this report.

Raw Materials Must Be Included

To many people, consumption means using and discarding finished products in households. Though this meaning has an everyday familiarity, it does not readily capture the notion of the raw materials—the ingredients—that go into making a finished product or the concept of the waste produced along the entire life-cycle of a product. It also neglects the use of materials and energy by industries, governments, or other non-household institutions. The use of the term consumption in this report includes household consumption and waste production but is not limited to it.

At times, the term consumption carries with it the negative connotation of unnecessarily high and wasteful levels of resource use. This report does not use this meaning. Instead it uses the term consumption objectively as resource use and waste production, though we discuss the consequences of U.S. consumption patterns and present facts about the scale of U.S. consumption and waste production.

In fact, there is nothing inherently wrong with a population (even a large one) meeting its material needs (even meeting them generously) by consuming resources and creating

wastes. Problems arise when the numbers of people combine with the scale and kinds of consumption and waste production to have negative impacts on the environment, on the economy, and on society.

Negative environmental impacts can occur because the use of a material, even in small volumes, is toxic, or has other harmful environmental consequences. Dioxin and chlorofluorocarbons are two examples of this effect. Negative environmental impacts can also occur because the scale of an activity severely disrupts or overuses the natural systems from which it derives or in which it occurs, though it is not inherently toxic. The use of wood, not harmful per se, may become so if forests are overharvested and ecosystems are severely disrupted in order to harvest timber. Similarly, nontoxic wastes are not harmful in and of themselves. But when they become so voluminous that they blight entire landscapes, strain municipal governments, or contaminate groundwater beyond its cleansing capacity, then they are a problem.

Negative impacts--environmental, economic, and social--reach a particular severity and importance when they undermine the ability of the environment, the economy, and society to continue, to endure, or to sustain themselves - in short, when the activities are unsustainable.

What is Unsustainable Behavior?

<p><i>In the Environment ...</i> Eroding soil; depleting groundwater; degrading rangelands; significantly polluting the air, water, and soil; destroying habitat and extinguishing species; depleting the Earth's protective ozone layer; dramatically changing the Earth's climate; harvesting fisheries to collapse; producing toxic and radioactive substances that must be contained to be safe; and otherwise contaminating and diminishing the resource base and the ecosystems on which economic activity and a high quality of life depend--these acts cannot be considered environmentally sustainable. Yet all these things occur in the United States today, and sustainability requires changing them.</p>	<p><i>A sustainable activity is one that can be continued indefinitely without harming the environmental, economic, or social bases on which it depends and without diminishing the opportunities of future generations to enjoy resources and a quality of life at least equal to our own.</i></p>
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In the Economy... A negative balance of trade and balance of payments; deficit spending by governments and households; large-scale spending for environmental cleanup and compliance rather than investing in prevention; inefficient use of resources; and production of large amounts of waste--all undermine the very economic success that drives the American way of life. Yet all these things occur in the United States today, and sustainability requires changing them.

In Society... Wide and growing disparities in wealth and income; the existence of a disadvantaged "underclass" from which it is difficult to escape; disproportionate siting of toxic facilities in minority and low-income neighborhoods; gender- and race-based discrimination; the use of more than a fair share of the world's resources and capacity to absorb waste; and the accumulation of material goods to the exclusion of non-material sources of satisfaction such as personal, family, and community connections--these acts cannot be considered socially sustainable. They fray the fabric required for a durable society. Yet all these things occur in the United States today, and sustainability requires changing them.

A constellation of social, economic, political, demographic, and cultural factors produces this litany of unsustainable

impacts in the United States, but at the physical root of everything is our growing U.S. human population and the pattern and scale of U.S. resource consumption and waste production.

Not every person has the same environmental impact as the next, because of differing resource use and waste production patterns. Similarly, not every unit of consumption—say, a ton of material—has the same environmental impact as the next, because some materials and uses of energy are more harmful than others. A ton of gravel is not as harmful as a pound of dioxin. But the total effect of population and consumption in the United States today is not sustainable. To become sustainable, we need to stabilize our numbers and to change the aspects of our consumption that threaten environmental harm.

Stabilizing the population without changing consumption and waste production patterns would not be enough; neither would action on consumption and waste without efforts to stabilize population. Each is necessary; neither is sufficient.

What Must Be Done

To move toward sustainability, the quality and composition of economic activity must change. Environmentally benign activities should continue and expand; environmentally harmful ones should be abandoned. All goods and services must be produced with more efficiency in energy and materials use, so that the least energy and materials are required to accomplish a given end-use. Waste must be considered a resource and be put to use so that industrial plants approach zero emissions and operate in a closed loop.

Products must be designed for durability, energy efficiency, ease of repair, and for recycling or composting. Technological innovations drive these kinds of changes with better and smarter ways of meeting the needs that were met inefficiently and wastefully in the past—new ways that are good for the environment, the economy, people, and their communities. Sustainability also requires a stable human population. If numbers keep growing it will take ever more change in the quality and composition of economic activity to accomplish a given end. Continued population growth forever raises the stakes for achieving sustainability.

To move toward sustainability in the future will require managing human numbers, resources, and wastes so that the total impact of activities in the United States is within the bounds of sustainability.

These are the reasons why population and consumption matter in the United States today, why it is necessary to address population and consumption together to create a sustainable United States, and why the Population and Consumption Task Force of the President's Council on Sustainable Development was created and undertook its work.

Scope of the Issues

Population and consumption in the United States are driven by complex social, economic, political, demographic, and cultural conditions. Those conditions in turn alter the impact of U.S. population and consumption on the environment, the economy, and society. Considering the entire picture at once is daunting and confusing.

Factors Contributing to Impacts

It is possible to start, however, with a simplification used by natural scientists to unpack and illustrate the aggregate environmental impact of human activities. Scientists Paul Ehrlich and John Holdren have popularized the following formula:

$$I = PAT, \text{ or Impact} = \text{Population} \\ \times \text{Affluence} \times \text{Technology.}$$

Using this formula, the physical, aggregate *Impact* of a country on the global environment can be described as the product of the numbers of people (*Population*), consumption of goods and services per capita (a measure of the scale of resource use, termed *Affluence* for brevity, and convenience), and *Technology* (a measure of the degree to which inefficient and environmentally unsafe methods are used to produce and consume goods and service).

Obviously, a high number in any one of the terms--population, affluence, or technology--produce a large impact. A small population can have a large impact if it consumes a great deal per capita or if it consumes modestly but produces goods with inefficient or dangerous technologies. Modest consumption per capita or efficient and safe technologies can lessen the impact of a large population, and a large population with high per capita consumption level inefficient and polluting technologies has the greatest impact of all.

Although U.S. technology is cleaner and more efficient than that of less developed countries such as China, it is generally less so when compared to technologies in Europe and Japan; U.S. population is large and growing; and U.S. per capita consumption levels are the highest earth. Thus, the environmental impact of the United States is great.

The I = PAT formula also helps explain the interaction of population, affluence, and technology in the effort to move toward sustainability. Continued population growth can cancel efforts to improve the efficiency and cleanliness of technologies and to stabilize per capita consumption levels. Similarly, continuing to rely on inefficient and polluting technologies can keep environmental impact high, even if population and per capita consumption are stable. And rising per capita consumption can cancel the results of improved technology and a stable population.

The precise effects depend on the numbers involved. The United States experiences a total population growth of 1.0 percent a year, growth that automatically cancels 1.0 percent of any improvement in either per capita consumption or technology. Over a decade's time, U.S. population growth would cancel a 10 percent gain in efficiency or productivity, without taking into account the compounding effect of growth. Similarly, absent technological change, continued population growth means that per capita consumption of natural resources would need to fall by half in 50 years' time just to keep environmental impact from worsening-again, without considering the compounding effect of continued growth. Also, population growth at today's rate would cancel the environmental benefit of a 1.0 percent improvement in energy

efficiency by increasing the total amount of energy used, even with consumption per capita unchanged.

A few examples illustrate the dynamic. Between 1980 and 1993, per capita energy consumption in the United States fell slightly, while total energy consumption rose by 10 percent. Population growth of 32 million people, or 14 percent, during the period drove total consumption up despite the decline in per capita use.

In recent decades, population growth has been the only force driving up total use of most resources in the United States. Important exceptions are paper and plastic, where per capita increases have also played a role. Between 1970 and 1989, the total increase in per capita paper use in the United States averaged about 1.0 percent on an annual basis. This rise in per capita consumption would overwhelm technological changes improving efficiency in paper use by 1. percent a year. It also multiplies the effect of population growth.

Limitations of the "PAT" Formula

The I = PAT formulation is a simplification and does not capture all the elements that affect human impact on the environment. It says nothing, for example, about the distribution of resources that lies behind total consumption.

Packed invisibly into the "affluence" factor in the United States today are the millions of people far from affluence, such as the poor, who need better nutrition and health care; the illiterate and functionally illiterate, who need additional education; and the unemployed and underemployed, who need jobs and job training-people who need to increase their consumption of goods and services. The statement, based on the formula that reducing the consumption factor would reduce environmental impact is not meant to imply that everyone in the population should reduce consumption equally, or even proportionally, and no such implication is intended in this report. The I = PAT formula also does not weigh the social, political, and cultural arrangements that give rise to a particular population, level of consumption, or technology. All these arrangements can mediate the impact of the three factors on the environment. *Elements, such as the extent of democracy and equality of access to resources and political power, can mean a great deal to the stability and durability of a society, to environmental impact, and thus to sustainability.*

Other formulas attempt to capture these elements. For example, the POET model adds to population, environment, and technology an element for human organization (O) in order

to capture this feature. The PISTOL model adds space (S), information-nation (I), and standard of living (L).

Even with its limitations, the I = PAT formulation shows that the driving forces of aggregate human impact on the environment are complex, interactive, and dynamic. It reveals the necessity of looking at all components simultaneously, lest failure to make changes in one cancel out efforts on others. Indeed, it is possible to consider that continued population growth and rising per capita consumption, where they occur, forever raise the stakes, so that technology must achieve ever greater improvements to reduce environmental impact.

"PAT" and Sustainability

It is impossible to know the precise population size, given a particular level of aggregate resource use and kind of technology, at which the United States would be sustainable. Nor is it possible to know with confidence the exact sustainable level of resource consumption and kind of technology, given the current and projected U.S. population. And neither population, consumption patterns, nor technology is infinitely malleable, given the starting places today.

Continuing current population and consumption patterns with today's technology is clearly not environmentally sustainable, however. The U.S. population today overuses resources or generates wastes that contaminate the natural resource base from which economic resources derive. Both overuse and contamination diminish nature's productive capacity and will, in time, diminish actual production.

Our activities also harm the ability of the Earth's natural systems to absorb waste and perform the other functions with which we have evolved and on which everything we do depends—the way that water, air, forests, and other "commons" generate the clear water, blue sky, healthy soil and vegetation, and biological diversity that are the foundation of life on earth.

More than 20 percent of U.S. cropland is seriously damaged from soil erosion. Underground water tables are dropping in many places. Less than half of America's original wetlands remain, and important U.S. fisheries have collapsed from overharvesting and habitat destruction. In the last two centuries, the country has lost 90 percent of its northwestern old-growth forests, 99 percent of its tallgrass prairie, and hundreds of documented species of native plants and animals alone.

The United States is the world's top producer of garbage and the leading generator of toxic and hazardous substances. And this nation, the world's third largest, is the only major industrialized country in the world experiencing population growth on a significant scale.

As the world's largest economy, the United States is the world's largest single consumer of natural resources and the greatest producer of wastes of all kinds. These are not the conditions on which to build a durable future or to provide an example for the rest of the world.

Thus, the PCSD Task Force on Population and Consumption believes that the two most important steps the United States must take toward sustainability—both equally essential—are: (1) working to stabilize U.S. population promptly, through universal access to voluntary reproductive health and family planning services and the empowerment of women; and (2) moving simultaneously, through design and technological innovation, to greater materials and energy efficiency in the production and use of goods and services and the creation and disposal of wastes.

Population and Reproductive Health

The U.S. population today grows by two million people a year from the excess of births over deaths ("natural increase"). This occurs despite an average family size of two children, slightly under the so-called replacement-level fertility that just replaces parents.[2]

Natural increase continues because the large baby-boom generation produces a large total number of babies, even though individual families are relatively small. The older generations producing most deaths are small compared with the parenting generation, and they are living longer than past generations. All this adds up to a wide gap between births and deaths and significant population growth.

Fortunately, it is possible to move toward population stabilization simply by meeting the reproductive health needs of Americans, and the Task Force recommends policies that will help achieve this. American women today have more children than they wish to: 57 percent of pregnancies are either mistimed or unwanted; among births, 30 percent are mistimed, and 10 percent are unwanted. Working to eliminate unintended pregnancies and births through the provision of contraceptive services, information, and related education, and work on the poverty and barriers to opportunity for women that contribute to unintended pregnancies, can move the country toward two mutually reinforcing goals: meeting women's reproductive health needs and progressing toward

population stabilization. The American public strongly supports enabling parents to have the number of children they want when they want them, as it supports comprehensive reproductive health care services that will prevent unwanted pregnancies and abortions.

Voluntarism Is Key

The Task Force's emphasis on preventing unintended pregnancies reflects the strongly-held and unchallenged conviction that voluntarism lies at the heart of all American family planning programs. This is true because family planning programs are both a medical enterprise, where the tradition and legal need of voluntary, informed consent is strong, and a social enterprise, where freedom and choice are essential. Voluntarism also must be the foundation for promoting population stabilization, and underlies our recommendations in this area.

Immigration and U.S. Population Growth

U.S. population also grows because of net immigration. Whereas natural increase supplies two-thirds of U.S. population growth annually, one-third comes from immigration.

As a matter of public debate, immigration is a sensitive and explosive issue, and both legal and illegal immigration must be addressed with great sensitivity and care in order to advance the debate. We acknowledge these impediments to easy and informal dialogue, and we urge that participants take appropriate care so that a reasoned discussion of immigration and the American future can begin.

We believe that reducing current immigration levels is a necessary part of working toward sustainability in the United States. The Task Force calls on the immigration component of

U.S. population growth to make a fair contribution to overall efforts to stabilize U.S. population as work progresses simultaneously to reduce fertility. **Any action on immigration must be undertaken with respect and concern for the civil and human rights of the individuals involved-**foreign-born U.S. citizens and legal residents, as well as new immigrants. The Task Force also believes strongly in working to ease conditions around the world that force people to leave home, with appropriate economic development and related policies and programs. All these things taken together, the Task Force believes, balance concerns for U.S. sustainability with reasonable concerns for the lives of people outside the United States.

Consumption is a Major Factor

It is impossible to move meaningfully toward sustainability in the United States with population policies alone. Resource use must also change if the total environmental impact of the United States is to be reduced. Population and consumption are inextricably linked; working on one without working on the other means that efforts on one will be eaten up or overwhelmed by the other-as if we were trying to walk up a down escalator.

Stabilization or reduction in population size is possible only on a time scale of several decades. Yet even if the U.S. population were stabilized tomorrow, degradation of the environment would continue because of the increasing amounts of materials consumed and the amounts and toxicity of the wastes produced. Fortunately, in contrast to the long time lag involved with population policies, appropriate incentives and other policy tools, including education, can promptly change the efficiency with which materials and energy are used, accomplish significant changes in resource use, and achieve real reductions in environmental impact.

DEFINITIONS OF CONSUMPTION

In everyday usage, "consumption" means the use of consumer goods by individuals in households. It doesn't include the raw materials that went into making those goods--their "ingredients" -- or the wastes and other byproducts generated in the course of making, using, and disposing of those goods.

In the context of sustainability, "consumption" means end-products, their ingredients and byproducts, and all wastes generated throughout the life of a product, from raw materials extraction through disposal. It also means resource use by all kinds of consumers-- industries, commercial firms, governments, nongovernmental organizations, and individuals. This is the definition intended when the term consumption is used in this report.

As used by economists, "consumption" means the use of goods and services by consumers to meet current needs, in contrast to savings and investment.

The extent to which energy and materials are used in the course of consumption, as defined by economists, depends on the resource intensiveness of the production and use of goods and services--how many resources are used to make a final product. Thus technically, to economists, the use of the term consumption in the context of sustainability is more properly expressed as the "resource intensiveness of consumption."

Recommendations May Overlap

Other Task Forces of the President's Council on Sustainable Development are ably addressing significant pieces of the consumption issue. Indeed, nearly all the Population and Consumption Task Force's recommendations on consumption overlap at least in part with those of other Task Forces. For example, the Eco-Efficiency Task Force has made recommendations related to extended product responsibility, more efficient and less wasteful products and manufacturing processes, and economic indicators that take the environment into account.

The Energy and Transportation Task Force has drafted recommendations related to the development of energy-efficient and renewable energy technologies and to other aspects of transportation. The Sustainable Communities Task Force is considering urban sprawl and environmentally sound community organization. The Natural Resources Task Force and Sustainable Agriculture Task Force are dealing with the sustainable use of natural systems--including forests, watersheds, soils, and agriculture--and with economic indicators that capture environmental health.

The Population and Consumption Task Force welcomes and endorses these and other recommendations and believes all are essential to the development of sustainable consumption patterns. We add our voice to supplement their work rather than to provide alternatives to it we welcome the validation that their recommendations provide to ours, which deal with macroeconomic policies for encouraging efficiency, providing public education, dealing with solid waste, and encouraging technological advance.

Approach of the Task Force

The Population and Consumption Task Force decided to approach the enormous range of issues on its agenda by focusing first on individual choice and responsibility, and then on the larger social, economic, and cultural conditions that shape and constrain those choices and responsibilities.

The Approach to Population

In the population arena, the Population and Consumption Task Force looked first at whether adults and adolescents have the information, services, and opportunities necessary to make

informed and responsible childbearing choices. The extent of unintended pregnancies and unwanted births suggested that the answer is no.

The Task Force then asked what services, information, and opportunities could assist all ages in making informed and responsible childbearing choices. We focused on family planning services and information and, for adolescents specifically, on broader programs for building self-esteem and responsibility in the fertility context.

The Task Force then considered the larger-scale social, economic, and cultural conditions that affect individual choices and asked which ones are most likely to create conditions that enable individuals to make informed and responsible choices.

We focused on poverty and the social conditions that constrain women, in keeping with the agenda framed at the International Conference on Population and Development (ICPD) held in Cairo in 1994, and described in greater detail in Chapter 1.

The Approach to Consumption

The Task Force also organized its treatment of consumption issues around individual choice and responsibility, on one hand, and the larger conditions that affect individual actions, on the other. The Task Force specifically considered the need to create large-scale economic conditions that make it easy for

educated consumers to exercise their choices responsibly, and the need to educate consumers about the environmental impacts of their actions.

The Task Force believes that if most people had readily available, easily understandable information, they would choose a less environmentally harmful product or service over a more harmful one. Yet it is often difficult and time consuming, and usually takes technical understanding that only a small percentage of consumers have, to decide which of several goods or services is the wiser environmental choice.

The Task Force has, therefore, focused on environmental labeling and certification, government procurement, and public education as ways to help people make wise consumption choices.

Educating Americans about the environmental effects of their purchases is an uphill battle when prices of goods and services send perverse signals by failing to reflect environmental costs. If environmentally harmful goods were to cost more than environmentally benign goods, prices would educate people automatically and powerfully. Thus, the Task Force also looked at macroeconomic conditions that affect consumer choices so strongly.

The Task Force has also examined three important features of waste management--packaging, municipal garbage fees, and household toxic materials--and the need to encourage technological change to promote sustainability.

Chapter 1: Population Issues

History of the U.S. Population Issue

The notion that America's best interests may not lie in continued population growth has been widely discussed only since the 1960s. Before then, population growth was generally viewed not only as necessary and inevitable but desirable.

In the 1960s, people began to examine critically the notion that all population growth is desirable. Several public interest groups were established and population issues joined environmental and social issues on the public agenda.

In 1969, President Nixon issued to Congress a "Message on Population." Referring to the expectation of the time that the U.S. population might exceed 300 million by the year 2000, he said:

This growth will produce serious challenges for our society. I believe that many of our present social problems may be related to the fact that we have had only fifty years in which to accommodate the second hundred million Americans. In fact, since 1945 alone some 90 million babies have been born in this country. We have thus had to accommodate in a very few decades an adjustment to population growth which was once spread over centuries. And now it appears that we will have to provide for a third hundred million Americans in a period of just 30 years.

The Creation of Title X

One result of Nixon's message was passage in 1970 of Title X of the Public Health Service Act, providing family planning services for low-income women and men. Another was the creation of the Commission on Population Growth and the American Future, chaired by John D. Rockefeller III, which released a multivolume study of U.S. population growth and its impacts in 1972.

The Rockefeller Commission's most widely cited recommendation reads:

Recognizing that our population cannot grow indefinitely, and appreciating the advantages of moving now toward the stabilization of population, the Commission recommends that the nation welcome and plan for a stabilized population.

When President Nixon transmitted his message to Congress in 1969, U.S. families averaged between two and three children—the total fertility rate was 2.5—so that parents more than replaced themselves, and generation numbers were growing ever larger. By the time the Commission released its report in 1972, the total fertility rate had fallen to two children, or replacement level. The following year, it fell below two children per family, where it stayed until 1989.

Confusion over Fertility and Zero Population Growth

Public concern for population growth in the United States waned sharply when news of the drop in fertility was confused with achievement of zero population growth. Yet below-replacement fertility rates do not translate into zero population growth until all age groups in a population are approximately the same size—even with zero migration.

In fact, the huge U.S. baby-boom generation entered childbearing age during the 1970s and 1980s. As described above, such a large generation produces an enormous total number of babies even though the average family has only two children. Thus, the number of births has exceeded the number of deaths in the United States throughout the period—and U.S. population has grown significantly even without taking immigration into account.

Formation of the Task Force

Between 1972 and the 1994-95 work of the Population and Consumption Task Force of the PCSD no sustained official conversation about U.S. population growth has taken place. Most citizens- and most government officials-assumed incorrectly that below-replacement fertility automatically means immediate zero population growth and that U.S. population is no longer growing.

In contrast, immigration has received considerable attention. Several national commissions have reviewed immigration issues, including illegal immigrants and refugees, and published reports and recommendations. The most recent effort, which was chaired by the late Barbara Jordan, is the U.S. Commission on Immigration Reform. Its work is still under way.

Rapid population growth elsewhere in the world has received regular attention, especially at three United Nations international meetings in 1974, 1984, and 1994. At the most recent meeting, a broader consensus emerged on a new approach to population concerns than has occurred at these meetings before.

The Cairo Consensus

The Plan of Action negotiated in September 1994 at the International Conference on Population and Development (ICPD) in Cairo is grounded in a comprehensive, woman-centered commitment to health, development, and empowerment. It recognizes the complex context in which decisions about childbearing are made.

Nations at the Cairo conference reached broad agreement that development (poverty alleviation, education, basic health care, and economic opportunity) and family planning each are important for reducing population growth rates-but that they work best when pursued together. Similarly, the consensus recognized that population growth is not the only driving force behind environmental concerns, and that consumption patterns also play an important role. Finally, it was widely agreed that family planning should be provided as part of broader primary and reproductive health initiatives, and that population policy should encompass economic opportunity for women and the elimination of legal and social barriers to gender equality.

The United States actively participated in the Cairo process, provided important leadership, and is part of the broad consensus that now exists worldwide for this approach to stabilizing world population.

Demographic Trends

The United States is today the only major industrialized country in the world experiencing population growth on a significant scale. The U.S. population grows at 0.7 percent annually when immigration is not taken into account, compared to an average annual growth rate (also without counting immigration) of not more than 0.2 percent in all of Europe. The U.S. population grows at approximately 1.0 percent when immigration is taken into account.

Annual growth figures of 0.7 and 1.0 percent may seem small, but they are not. Persistent 1.0 percent growth translates into a doubling time--the time it takes a population to double in size--of 70 years. This is an enormous increase when the population that is doubling is the United States, the third largest country in the world. Also, given the numeric size of the country, even apparently small percentage increases produce large increases in numbers.

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In 1994, the United States added nearly 2.0 million people to the population from the excess of births over deaths and, it is estimated, at least 1.0 million people from net migration into the country. This scale of growth adds another Connecticut in population each year, and another California each decade. Only a handful of countries, all of them developing, contribute more to their populations annually.

Today's annual immigration to the United States is high by historical standards, matching levels achieved during the peak years of 1901-1910. And fertility has risen in recent years. In 1989, the average number of children born per woman in the United States exceeded 2.0 for the first time in 17 years, after remaining between 1.7 and 1.8 for 15 years. After reaching 2.1 children per woman on average for a year or two, the rate is now again 2.0. This means that current U.S. fertility matches birth rates in less wealthy countries such as Ireland and Malta, rather than the birth rates of European and Asian economic peers.

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Census Bureau Projections

The U.S. Census Bureau projects that if current mortality, fertility, and immigration patterns persist, U.S. population will reach 350 million people by the year 2030 and nearly 400 million people by 2050, continuing to grow indefinitely. (This is the "medium projection.")

If fertility and immigration fall slightly, U.S. population will still increase until about 2030, when it will reach about 290 million people. In another decade, a slow decline in numbers would begin. (This is the "low projection.")

The opposite assumption-involving rises in fertility and immigration -would produce 500 million Americans by the year 2050, with continued growth inevitable and no stabilization in sight. (This is the "high projection.")

Continued population growth in the United States, particularly on the scale envisioned by the medium and high projections, has enormous implications. Coupled with the technologies and resource consumption patterns that underlie the U.S. standard of living, population growth in America produces an environmental impact unparalleled by any other country at this time.

Continued population growth also has the potential to overwhelm efficiency and productivity gains, negating technology-based efforts to reduce U.S. environmental impact. Population growth also challenges industry's best efforts to provide new, higher quality jobs for all Americans and to improve real wages for American workers-which have been stagnant for 22 years. It similarly adds to the nation's needs to reduce poverty, improve education, and provide health care for all Americans. In short, the United States is already severely challenged by the need to provide better opportunities for millions of disadvantaged citizens, and continued population growth will exacerbate those challenges.

The Implications of Slow Growth

Economic theories about the relationship between population growth and economic prosperity vary across the full spectrum of possible opinions-and conclusions depend strongly on the assumptions. A series of conferences and studies of the economic effects of low fertility, however, conducted during the late 1970s and early 1980s in both Europe and the United

States, concluded that even slowly shrinking populations have little negative economic impact.

Demographer Geoffrey McNicoll, summarizing the consensus, writes that "the effects of low fertility on labor supply, technological change, and investment and consumption appear relatively slight."

The Rockefeller Commission examined several aspects of the relationship between population and prosperity in its 1972 report, comparing the effect of an American population with a two-child family average with that of a three-child family average. Essentially, the Commission analyzed the difference between a growing and a stable U.S. population. "The nation has nothing to fear from a gradual approach to population stabilization," the report said. "From an economic point of view, a reduction in the rate of population growth would bring important benefits." The report also cited the testimony of the chair of the Atlantic-Richfield board of trustees, who testified at a hearing convened by the Commission:

There is a habit of thinking in some segments of the business community that population increase is something essential to the maintenance of vigorous demand and economic growth, just as there is an instinctive reaction against any new cost factors being added to the processes of production and distribution. But our economy has already, and in many ways, shown its tremendous adaptability to new social demands and necessities. I have not the slightest doubt that it can meet this new challenge.

The Commission report goes on to state, "In short, we find no convincing economic argument for continued national population growth."

Many analysts express concern that countries with low fertility will eventually have trouble financing public old-age pensions as the ratio of workers to elderly people falls. It is possible however, that rising costs of supporting the elderly may be offset by declining costs of supporting children. The precise calculation for each country depends on the exact age structure of the population, the social security system, and immigration patterns. In any case, population policy is a crude tool for making social security policy, and it makes little sense to

endure high levels of unwanted fertility and environmental degradation from continued population growth in the hope of helping a program with many other problems.

For decades, Americans have not had a desire for an ever-larger population. This is suggested by polls over the years. In 1974, 87 percent of respondents to a Roper poll said they did not wish the country had more people. A 1971 poll by the U.S. Commission on Population Growth and the American Future found that 22 percent felt U.S. population should be smaller than it was then, which was close to 200 million. As long ago as 1947, when U.S. population was 140 million, Gallup found that 55 percent of Americans believed the country would be "worse off" with more people.

Findings and Policy Recommendations

Important findings presented in the roundtables, combined with the expertise of Task Force members, shaped the Task Force's policy recommendations on population matters. Principal findings on fertility, immigration, and population distribution are summarized below. Before each section, the relevant policy recommendations are stated. For the full policy recommendation, including specific actions, see Chapter 4.

FERTILITY

POLICY RECOMMENDATION 1

Information and services to prevent unintended pregnancies Governments at all levels should increase and improve educational efforts and public outreach related to contraceptive methods and reproductive health, and expand access to and availability of the services individuals need to freely and responsibly decide the number and spacing of their children.

Fertility rate

Since 1989, the U.S. fertility rate has been 2.0, the highest fertility experienced in the United States since 1972 and exceeding current fertility rates among European and Asian economic peers of the United States. Americans achieve this fertility rate with high levels of unintended pregnancies and births and high levels of induced abortion.

Pregnancies

In 1992, 6.6 million women became pregnant in the United

States. Of these pregnancies, 57 percent were unintended—either the pregnancy occurred before the mother was ready (it was 94 mistimed") or the woman did not wish to have the pregnancy at all (it was "unwanted").

Unintended pregnancies can have disturbing consequences. They are associated with higher rates of low birthweight and infant mortality than are planned pregnancies. It is estimated that eliminating unintended pregnancies would reduce U.S. infant mortality by 10 percent and the incidence of low birthweight babies by 12 percent. Also, half of all unintended pregnancies in the United States that do not end in spontaneous miscarriage end in abortion. If all pregnancies were planned, demand for abortion would be scant indeed.

Women of all ages and income levels experience unintended pregnancies, but teens, women over 40, and poor women do so more often than others. Four in five adolescent pregnancies are unintended, and for women over 40 more than three-quarters of pregnancies are unintended. Women with family incomes below the poverty level also report three-quarters of their pregnancies as unintended.

Births

Of the nearly four million U.S. births annually, three in 10 are mistimed and one in 10 is unwanted. The incidence of unintended births has risen in the past decade, after falling between the 1960s and early 1980s.

Unintended births can have significant economic consequences for families. For example, 39 percent of new entrants onto the welfare rolls in any given year are the result of a first birth to an unmarried woman. More than half the teens who give birth receive welfare within five years—although not all of these are unintended births. While women of all ages and incomes experience unintended births, mistimed births are highest among young women, and unwanted births are highest among older women. Poor women have the highest percentage of both.

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If all U.S. births were wanted, their number would fall by 10 percent-to 3.6 million a year. Population growth from the excess of births over deaths would fall to 1.6 million.

Delaying currently mistimed births, through better access to contraceptive services, education, and economic opportunities, would also reduce total births-significantly so. Demographers have not made this calculation for the United States, but estimates for other populations have found that even slight delays reduce fertility a great deal.

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Contraceptive Services

Unintended pregnancies--and the unintended births that follow--occur because contraceptives are not used at all, because of less-than-effective use of available contraceptive methods, and because progress is lacking on new contraceptives.

Contraceptive failures are not entirely failures of technology. Contraceptives fail more often among U.S. women who are single, younger, and poor. And Americans experience higher contraceptive failure rates than their European counterparts. Variations such as these suggest that human behavior contributes to contraceptive failure.

Of the estimated 62 million women of reproductive age (15-44) in the United States in 1990, an estimated 55 million were sexually experienced. Of these, 25 million were pregnant, had just given birth, were attempting to become pregnant, were protected from pregnancy by contraceptive sterilization--either of themselves or their partners--or were sterile for other reasons. The rest-some 30 million American women-were estimated to be technically at risk of an unintended pregnancy. It is estimated from surveys that approximately four or five million of these women did not use contraception, and just over half of all unintended pregnancies (53 percent) occurred to them. The remaining unintended pregnancies occurred to the 25 million women who used a contraceptive method other than sterilization, but for whom the method failed.

The risk of unintended pregnancy is exaggerated for 15 million women who need subsidized family planning and reproductive health care. The poor are overrepresented in the

ranks of these women. An estimated 56 percent of low-income women and 69 percent of sexually active teenagers in need of family planning services do not receive medically supervised contraceptive care.

Title X

The principal program providing comprehensive public family planning services to low-income women is Title X of the Public Health Service Act. Title X monies fund contraceptive supplies, information on contraceptive methods, counseling, cancer screening, screening for HIV/AIDS and other sexually transmitted diseases, infertility services, other features of reproductive health care, and information, education, and research activities that support service provision.

Some 4,000 clinics and other agencies nationwide will receive \$193.4 million in fiscal year 1995 and provide services to more than four million clients. More than 60 percent of Title X clients are under 25 years old, 30 percent are adolescent, and 85 percent are low income. Although the numbers seem large, Title X reaches fewer than half of those eligible for the services it provides. In particular, men, teens, substance abusers, and the homeless are populations that under-use Title X services.

Though they are not able to provide universal access to services for poor women-in part because funding for Title X fell by more than 70 percent in real dollars between 1980 and 1992-Title X is estimated to prevent an average of 1.2 million unintended pregnancies-and about half that number of abortions-a year. It does this at a cost of about \$200 per woman for comprehensive family planning services. In comparison, an ordinary, nonsurgical birth without complications cost \$6,400 in 1992.

Family planning is dramatically cost-effective. For every dollar spent on publicly funded family planning services of any kind, \$4.40 is saved that the federal government would otherwise be obliged by law to spend on medical care, welfare benefits, and other social services.

In addition to Title X, three other federal programs fund contraceptive services and supplies: the Maternal and Child Health Block Grant, Medicaid, and the Social Services Block Grant (Titles V, XIX, and XX of the Social Security Act, respectively). Funds are targeted specifically for family planning only in Title X; block grants can be used for many different purposes.

Medicaid

Medicaid is the largest public funder of family planning services, but because eligibility is tied to welfare eligibility,

fewer than half of poor women are covered by Medicaid. The federal government generally funds prenatal care and delivery services for women eligible for Medicaid, as well as the full range of contraceptive methods for all eligible women, but does not fund abortion except under restricted circumstances.[3]

In 1986, the federal government expanded Medicaid coverage to pregnant women and infants with incomes 133 percent of the poverty level, regardless of whether they meet other requirements for welfare. But coverage under this extension does not include family planning services until after childbirth, and then only for 60 days. Thus, Medicaid is not an effective source of services for preventing first pregnancies among these women.

Private Insurance

Almost two-thirds of women of reproductive age in the United States do not rely on publicly provided family planning because they have private-sector, employment-related insurance. But private insurance does not uniformly offer good coverage for family planning services. Up to 85 percent of insurance policies and health maintenance organizations cover sterilization and abortion, but fewer than half of the typical plans cover the five major reversible contraceptive methods— IUDs, diaphragms, Norplant, Depo-Provera, and oral contraceptives. Only 15 percent of plans cover all five reversible methods.

Thus, an important strategy for reducing the number of unintended pregnancies and births in the United States is to expand access, particularly for poor women, to contraception and related reproductive health services. Contraception is cost-effective, assists women in having the number of children they want when they want them, prevents abortions, and works toward the goal of having every child born in the United States be a wanted child.

Related Strategies

Other strategies also make sense for reducing unintended pregnancies and births: expanding the range of contraceptives available; broadening the participation of men in contraceptive and childbearing decisions; enlisting the media to convey messages about reproductive responsibility; and attempting to foster mature discussion and education related to sex, sexuality, and contraceptive issues.

Both private and public support for contraceptive research has declined sharply in the last 25 years. In 1970, 13 major drug companies were involved in the development of new contraceptives worldwide, nine in the United States. Today, four are involved and only one is based in the United States.

Support of research by the National Institutes of Health and the U.S. Agency for International Development, the two principal federal sources of funds for contraceptive research, has waned significantly. Analysts identify political factors and the withdrawal of federal support during the 1980s, as well as standards of legal liability for harm from contraceptives, as leading causes of the decline.

Emergency Contraception

Not all opportunities for new contraception require new research. Emergency post-coital contraception, which uses already packaged oral contraceptives in a different combination and intensity from ordinary use, is available now and is used in emergency rooms for rape victims, in universities, and in some family planning clinics.

Of the more than 50 brands of oral contraceptives currently approved in the United States, six are effective for emergency post-coital use. These are not labeled as approved by the Food and Drug Administration for such use, however, and physicians and other medical personnel either do not know about the legality of this use or are not at ease with it. Furthermore, pharmaceutical companies are not permitted to market drugs for uses that are not labeled. Yet, it is estimated that wider use of emergency contraception could reduce unintended pregnancies by 1.7 million and abortions by 800,000 annually.

The Role of Men

Though a male participates in every pregnancy that occurs, he often plays a far from equal role in doing what's needed to safeguard reproductive health, in making sound family planning and reproductive health choices, and in using contraception. This is especially true of young men.

Twenty-five years of experience with Title X and other subsidized family planning programs shows that few men use these services without special outreach, counseling, education, and other efforts to make them feel at ease.

Special programs are also required to reach young men, before they become sexually active, to build the skills and strategies required for sexual health and responsibility. ***Reducing unintended pregnancies in the United States will require the empowerment and participation of both men and women;*** special programs to improve men's participation are an integral part of achieving this goal.

Contraceptive Failure

Inquiry into why Americans experience higher rates of contraceptive failure and unintended pregnancy than

Europeans has found, among other things, that Americans are distinctly of two minds about sex and sexuality.

First, Americans are reluctant to discuss these issues as either parents or children and are sometimes ambivalent about having them taught by professional educators. Only 10 percent of American students receive comprehensive sexuality education, for example, although 73 percent of U.S. parents support sexuality education in the schools. It appears that many would rather deny the need for family planning and reproductive health services, particularly for young people, and allow the punishing consequences, than address the need for prevention forthrightly.

Second, media images in advertising, television, and movies are laden with sex and especially sex without consequences. It is perhaps not surprising that conversations and knowledge about reproduction and contraception—both required for effective contraception and fully planned pregnancies—are rare, when the media provides few models for this behavior.

Financial Incentives

Many observers of population and fertility dynamics in the United States think immediately of financial incentives as ways to encourage the use of contraception, delayed childbearing, or smaller families. Tax deductions for two children, but no more, and linking welfare payments to family size, are proposals that surface from time to time.

Several factors suggest that reliance on such financial incentives is not appropriate, with limited exception, in a wealthy country with as much unintended fertility as this one. People already want fewer children; the difficulty is matching outcomes with intentions. Broader access to family planning services and more education about sexuality and contraception seem more appropriate than financial incentives.

It is undeniable that financial incentives related to fertility and family planning have a bad reputation. In poor countries, incentives tend to be offered in isolation from broader reproductive health services. Even small payments (such as clean clothing or travel costs to a clinic) carry the risk of being so large in a poor individual's eyes that they override individual judgment, becoming so attractive that they destroy meaningful choice. In short, they coerce.

Developing country experience might seem irrelevant to the United States except for another factor. Programs to promote childbearing in wealthy European countries, where the costs of raising a child reach to several hundreds of thousands of dollars, have found that a financial incentive has to be quite large to be effective. Such incentives not only cost a great

deal, but, more importantly, they also run the risk of amounting to coercion of the poor in a wealthy country.

What About Tax Breaks?

One of the most common suggestions from activists interested in financial incentives is limiting the federal tax deduction for dependents to two children only. It is unlikely that this would affect childbearing by acting as an authentic financial incentive, in part because of the extent of unintended fertility. But such an action could have symbolic value; the federal government would be stating an official, rhetorical preference for small families by adopting such a provision.

The Task Force has not reached consensus on whether limiting tax deductions at the federal level to two children would be a useful symbol, but in general believes that financial incentives at the federal level are not advisable.

Fighting Poverty

People in poverty are disadvantaged in childbearing at a number of levels: they have less access to contraceptives; they use them less effectively; they are more likely to have an unintended pregnancy; and they are more likely to give birth if they have a pregnancy. If more generous and authentic economic opportunity for the poor can be called a financial incentive for small families, it is reasonable to discuss financial incentives in those terms.

When asked in one of the Task Force's roundtables to name an effective financial incentive for deferring early teen pregnancy, Margaret Pruitt Clark of Advocates for Youth replied, "A Job".

A scholarship to college could also be a meaningful incentive for some Margaret Pruitt teens to delay childbearing. This approach has been used successfully by the "I Have A Dream" foundation and in the Children's Aid Society program in New York. Some adolescent fertility programs have succeeded with small payments to teens for staying "unpregnant." Denver had a program for some years called "a dollar a day," in which teens reported to the program site each day to collect a dollar. The human contact and the sense that someone was paying attention to them was probably as important as the dollar, but experience suggests that there is room for considering carefully prescribed financial incentives in the context of teen fertility.

Any such incentives should not be administered through the federal welfare system, however. For that system to encourage

fertility behavior of any kind is inappropriate. The current system of welfare and federal family planning and health services in fact does encourage childbearing, but not in the sense that welfare critics of the day suggest. It does so, not by encouraging women to have children to gain welfare coverage, but by failing to fund the full range of reproductive health services, while paying for pregnancy- and birth-related services.

The constellation of federal welfare and family planning services should not inadvertently operate as an incentive for or against childbearing. Federal services should neither coerce poor women into childbearing, punish women for childbearing, nor punish the children born by denying them welfare benefits.

POLICY RECOMMENDATION 2

Adolescent Pregnancy Prevention

Education and services for adolescents should be increased through various school-based, community--oriented, peer-based, and adult mentoring programs.

Adolescent Fertility

In general, everything said in the previous pages about unintended fertility applies to adolescent fertility, because more than 80 percent of teen pregnancies are unintended. But adolescent fertility is also a special case requiring programs designed specifically for young people.

The costs of adolescent pregnancy in the United States are incalculable: in impaired health of the teen mothers and their infants; in the stunted lives of the families created; and in lost educational, economic, and social opportunities. Yet every

year, more than one million teens become pregnant, a number that represents 11 percent of all teenaged women and 20 percent of sexually active teenaged women. Half a million of the four million births in the United States annually occur to teenaged mothers. Birth rates among teens appear to be rising. Also, the pregnancy rate among U.S. teens is at least twice as high as in Canada, England and Wales, France, and Sweden, and more than nine times as high as in the Netherlands. This is so despite similar levels of sexual activity.

Causes of Teen Pregnancy

U.S. teens become pregnant for a complex set of reasons, and programs to prevent teen pregnancy must take all of them into account. Among the causes most often identified are inadequate health care, lack of access to family planning, lack of knowledge about sexuality, poverty, poor schools, sexual abuse, parental neglect, and lack of hope for the future.

While both higher-income and lower-income teenage girls become pregnant, poverty is an important predictor of adolescent pregnancy. Only slight differences exist in levels of sexual activity among adolescents from lower- and higher-income families; yet young women from poorer circumstances are less likely to use contraceptives, more likely to become pregnant even if they do use a method, more likely to give birth if they become pregnant, and less likely to marry if they give birth.

The younger a girl is when she first engages in sexual activity, the more likely it is that the activity was pressured, if not coerced, either by a family member or a significantly older male. Nearly 70 percent of children born to teenaged girls are fathered by men 20 years of age or older. Usually the younger the mother, the greater the gap between her age and that of the father: one study has found that girls 11 to 12 years old were impregnated by men on average 10 years older.

TEENS TEACHING TEENS

Approximately 30 percent of America's 15-year-olds have had sexual intercourse at least once. At age 18, the percentages are 56 for girls and 73 for boys. Effective teen pregnancy prevention programs should encourage teens to abstain from sexual activity, equip them to behave responsibly, and provide appropriate services. Such programs can be school-based: they should educate young people in reproductive health, contraception, and sexuality; they should involve both males and females; and they should be built on successes demonstrated around the country. At the same time, the elements of successful teenage pregnancy prevention programs need to be better understood. As important as promotion of abstinence is to preventing teen pregnancy, it cannot be the only strategy.

The key to one of the most successful pregnancy prevention programs in the United States is "Teens Teaching Teens." Started in 1985 at the Atlanta public schools and the Grady Health System, the program helped hundreds of Georgia teenagers avoid unwanted pregnancies.

Eighty-three percent of all teenagers giving birth come from families who live below the poverty line, the Council was told during a Task Force roundtable discussion. Yet the Atlanta program "manages to reach even the hardest of hard-to-reach youth," according to Marie Mitchell, program manager for teen services at the Grady Health System Center. A Ford Foundation study confirms her view. It found that students from low income families who participate in the Atlanta program are less likely to be sexually active than those who do not participate. By the senior year of high school, although participants' abstinence rates drop, their use of birth control practices is significantly higher than among those students that did not participate in the program.

Each summer, some 60 to 70 juniors and seniors from the Atlanta public schools train to become student leaders in the Grady Health System program. Then, for five sessions during eighth-grade health class, the older teens encourage the younger ones to postpone sex. Mitchell explained, "It's so successful because it's a teenage-led series. Peer support is created for the notion that you don't need to be sexually involved. Teens provide models to other teens showing that it is something you can do."

While the program's purpose is to reach younger students, the student teachers, who must be former participants in the program, also learn from their experience. "Not only does it help them manage their own sexuality, it also helps them develop more confidence, leadership skills, and public speaking experience," Mitchell said.

Programs for Teens

It is widely agreed that the best strategy for preventing teen pregnancy is always-and always has been-to urge adolescents to postpone sexual activity: to say "No." Programs must then train teenagers in the negotiating skills required to say no. But programs must also build reasons for saying no--individual self-esteem, alternatives to sexual activity and childbearing, and hope for the future.

As important as the promotion of abstinence is to preventing teen pregnancy, it cannot be the only strategy. Approximately one-third of American 15-year-olds have had sexual intercourse at least once. At age 18, the percentages are 56 for girls and 73 for boys. Effective teen pregnancy prevention programs, then, must acknowledge the reality of sexual activity among teens and equip young people to behave responsibly.

Such programs can be school- or community-based. They should educate young people in reproductive health, contraception, and sexuality; they should involve both males and females; and they should be built on the successes observed around the country.

Successful programs include: the Meharry Medical College "I Have A Future" program in Nashville; the Harriet Tubman Express adolescent pregnancy prevention program in Chattanooga; the New York Children's Aid Society pregnancy prevention program; and the Grady Memorial Hospital "Human Sexuality, Postponing Sexual Involvement" program in Atlanta. At the same time, we also need to better understand the elements of successful teenage pregnancy prevention programs.

POLICY RECOMMENDATION 3

*Improve the Conditions
Affecting Individual
Decisions*

The public and private sectors should work in partnership to reduce poverty and provide greater economic, social, and political opportunities for all Americans, particularly women.

Women, Poverty, and Opportunity

It has already been said that poverty is an important thread running through the tapestry of unintended pregnancies and births in the United States, both for adult and teenaged women. Unintended pregnancy becomes yet another negative consequence of poverty. Women should more than their share of the burden of U.S. poverty-almost two-thirds of all poor adults are women, and more than half of all poor families are

headed by a single mother. And poor women shoulder more than their share of the burden of unintended pregnancies because they have less access to contraceptive services and fewer resources to use in achieving their desired family. These programs are all logical responses to the need to reduce unintended pregnancies: programs that improve access to reproductive health care for women; that work to keep girls, pregnant or not, in school (one-fifth of people with eight or fewer years of formal education are employed more than two-thirds of high school graduates are); and that work to expand economic opportunities for women.

NEW ECONOMICS FOR WOMEN

Casa Loma is an apartment complex located in one of the poorest sections of downtown Los Angeles. It is also the site of the cornerstone project of New Economics for Women (NEW), a nonprofit development corporation fully owned and operated by women dedicated to improving the lives of poor single parents and their families.

When Anna Rodriguez, a single parent of four boys aged two to 14, arrived at Casa Loma, she was on welfare and sewed at home to supplement her income. Weary of being dependent, Rodriguez, with support from the Casa Loma project, first obtained a minimum-wage job as a seamstress in a nearby shop. Then she heard about a new garment factory opening in the San Fernando Valley, 30 miles away. Despite the distance, she went to pick up an application, but was told it was too late: the deadline had passed. The Casa Loma director made a telephone call on her behalf. The following Monday, Rodriguez reported to work as an \$8.50-an-hour seamstress. Just two weeks later, she was promoted to second designer at \$20 per hour.

"Casa Loma has been an incredibly successful public-private partnership because we have facilitated and strengthened opportunities for women to empower themselves," says Beatriz Olvera Stotzer, NEW president and founder. "Anna is a perfect example of empowerment. She was afraid of leaving her children at home for fear she would not be a good mother and was ashamed of being on welfare. We provided the environment and assistance for her to empower herself."

The Casa Loma project, which relies on private donations as well as public funds, combines housing with an aggressive agenda of on-site educational, social, and business programs. The programs focus on matters that deeply affect impoverished families: infant and child care in a safe environment, after-school activities for latchkey kids; training for adults and children in areas ranging from adult literacy to word processing and mathematics; and life skill courses in budgeting, finance, job placement assistance, and micro-enterprise development. Parenting magazine gave NEW and the Casa Loma project its 1994 Parenting Achievement Award for making the world a better place for children. The U.S. Department of Housing and Urban Development considers Casa Loma a national housing model for the 21st century.

Beyond poverty, a variety of other conditions can affect childbearing decisions—most notably hope for the future, a sense of self-worth, and the expectation of a job and career. Even in a country as advanced as the United States, significant room remains for improving educational, social, economic, and political opportunities for all Americans, and particularly for women and minorities.

Empowering Women

Creating conditions that empower women is especially important in the context of fertility. Improving high school completion rates for adolescents at risk of pregnancy; encouraging high school completion even for those young women who bear children; further progress toward ensuring equal opportunities for women in the workforce; and providing women with equal pay for equal work—these all create conditions that enable women to avoid unintended pregnancies, as well as to care for the families they have. The same is true of eliminating institutionalized discrimination against women and expanding their participation in public policy and public office.

IMMIGRATION

The United States has been called "a nation of immigrants." It is obvious, but true, that only the 2.2 million Native Americans living in the United States today are not immigrants or their descendants. The United States has a strong tradition both of fueling population and economic growth with immigration and of acting as a haven for oppressed and persecuted peoples from all over the world.

POLICY RECOMMENDATION 4

<i>Immigration</i>	Develop comprehensive and responsible immigration and foreign policies that reduce illegal immigration and mitigate the factors that encourage immigration. Increase research on linkages between demographic change, including immigration factors, and sustainable development.
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Immigration in U.S. History

Large-scale immigration to the United States has occurred in four waves, each, except the last, ended by war and followed by a period of reduced immigration. The movement of predominantly British and western European people to the New World to settle what became the United States constituted the first immigration wave, ending with the Revolutionary War. The second wave began in 1820, was

dominated by Irish and German migrants, and came to an end with the Civil War.

During the third wave, which began in 1880 and ended with World War 1, southern and eastern Europeans migrated to the Midwest, and Chinese, Japanese, and other Asians migrated to the West, joining the western and northern Europeans. The fourth wave of large-scale immigration began in 1965 and is still under way: Latin Americans and Asians outnumber Europeans in this most recent migration stream.

Immigration Policy

In earlier decades, U.S. immigration policy and law were set to develop vast open spaces and to favor some nations' immigrants over others. More recently, the principles of reunifying immigrant families, whatever their national origin, and adding needed skills to the workforce have guided immigration policy. The two most recent immigration laws are the Immigration Reform and Control Act (IRCA) of 1986 and the Immigration Act of 1990.

The 1986 law, attempting to change the conditions that draw illegal migrants to the United States, addressed illegal or undocumented immigration by creating sanctions against employers who knowingly hire them. The law granted legal resident status to certain illegal immigrants who had been living in the country for some time and also included antidiscrimination measures.

The 1990 law changed the composition of—and raised the numerical ceiling on—legal immigrants, placing a greater emphasis on work-related migration than previous laws had done. It also established a program to diversify the sources of legal immigration. Both laws have worked to increase numbers of immigrants; IRCA with its amnesty program, in the short term, and the 1990 law with its numerical ceiling, in the long term.

Current Immigration

During fiscal 1994, the Immigration and Naturalization Service (INS), acting under these two laws, admitted 830,000 legal immigrants to the United States. The INS estimates that about 300,000 illegal immigrants also entered the country, intending to remain on a long-term or permanent basis. Seventy percent of legal immigrants settle in six states: California, Texas, Florida, Illinois, New York, and New Jersey. Among illegal immigrants, 85 percent settle in these six states. Thus, the impacts of immigration, both legal and illegal, are concentrated on a few localities and regions.

Congress established the U.S. Commission on Immigration Reform, and charged it with exploring a number of issues

POPULATION DISTRIBUTION

POLICY RECOMMENDATION 5

Population Distribution

The President and Congress should authorize and appoint a national commission to develop a national strategy to address changes in national population distribution with negative impacts on sustainable development, while respecting individuals' freedom of choice in where to live.

Historical Trends

Population in the United States is unevenly distributed and always has been. The concentration on the eastern seaboard has been a familiar feature of U.S. population distribution since the original 13 colonies. The ten most densely populated states in 1987 occupied a line from Massachusetts in the north to Florida in the south, skipping only the southern states from Virginia to Georgia.

Additions to the U.S. population are also unevenly distributed. Between 1980 and 1990, the West grew by more than 22 percent; the South by 13 percent; the Northeast by 3.4 percent; and the Midwest by just 1.4 percent. More than half the country's total population growth took place in California, Florida, and Texas.

An additional trend is deconcentration, or "exurbanization," the spread of settlement beyond cities and suburbs into formerly rural areas. A recent analysis has found that "exurban" counties were the fastest-growing component of the American demographic scene and accounted for 30 percent of U.S. population growth between 1960 and 1985.

Between 1970 and 1990, population along the southeastern Atlantic seaboard grew by 74 percent. In all, more than 40 percent of the nation's 263 million people live in coastal areas. Population densities exceed 192 people per square kilometer in 20 percent of coastal counties. Densities in the urban cores of some of these areas exceed 3,800 people per square kilometer. Government studies indicate that a 15 percent increase in coastal population over the next two decades is likely, with growth concentrated in California, Florida, and Texas.

Local Impact

The impacts of domestic migration and rapid growth are felt most concretely at the local level. All over the country, from

related to immigration, including the effect of immigration on natural resource use, the environment, and U.S. demographic conditions. The executive director of the Commission, Susan Martin, testified before the Population and Consumption Task Force that not enough is known to allow valid, detailed conclusions about the effects of immigration on job displacement and creation; on working conditions, wages, and income levels of resident U.S. workers; and on the parts of the U.S. population that are already disadvantaged. The environmental impacts of immigration are not fully understood, either. Thus, it is not possible today for immigration policy to be guided in detail by fine-grained understanding of economic and environmental impacts. The Commission is working to change this limitation, however.

Illegal Immigration

While the Task Force's work was under way, the Commission on Immigration Reform was examining certain aspects of illegal immigration. It was particularly interested in addressing the causes of illegal immigration in sending countries. Some of the issues in Mexico—one source of illegal immigration—include: identification of specific communities in Mexico with high levels of emigration; design of programs to affect the conditions causing migration in those communities; and creation of economic opportunities for the women left behind when men and older boys depart.

The Population and Consumption Task Force endorses the Commission on Immigration Reform's work in general, and agrees specifically with the need for better information and research findings; the need to reduce illegal immigration but to do so with sensitivity to the human and civil rights of those affected; and the need to create conditions in sending countries that provide meaningful economic opportunity and development for people who live there.

The deliberations of the Task Force concluded before the Commission issued its findings on legal immigration in the summer of 1995. While that work was underway, the Task Force urged the Commission to consider larger demographic conditions—specifically the need to move toward population stabilization—in developing its recommendations.

small towns in New England and the West, to cities such as Los Angeles and Miami, localities are struggling to manage rapid growth so they can enjoy the economic prosperity that often comes with growth while preserving the character of their communities that they value so highly. Many areas that aggressively sought growth in the past are finding that they cannot sustain it either economically, environmentally, or socially.

Uneven population distribution exacerbates all these effects of rapid local growth. The uneven distribution and movement of people also has important national implications. The destruction of coastal areas, the massing of population in areas that would suffer from rising sea levels and severe storms due to climate change, the loss of prime farmland, and concentrated stress on scarce water resources are all issues of interest to the national government.

While unevenly distributed economic activity is at the root of uneven population distribution- both as a cause and an effect- other factors are also at play. These include perceptions about quality of life in various locales and government policies whose operation and effects are not well understood. Further, the narrow range of policy tools available to the multiple governments affected- federal, tribal, state, county, municipal- are largely untried, and a broader range of tools remains unexplored.

At the same time, the right to move anywhere is a constitutionally protected right for Americans, and derives from some of the most strongly held beliefs in American culture. Indeed, the freedom of mobility is nothing less than the basis on which the country was founded and built, and it needs to be protected.

We are clearly at an early stage in our understanding of uneven population growth and of intense population impacts on the local level. We are similarly at an early stage in the development of policy tools for dealing effectively with these dimensions of the population issue in the United States.

CONCLUSIONS ON POPULATION ISSUES

The Population and Consumption Task Force's findings have led it to a number of conclusions. To enable individuals to make responsible fertility choices, it seems particularly important to focus on the following goals:

- Elimination of unintended pregnancies and births by means of expanded access to comprehensive family planning services, including information and education, particularly for the poor, teens, men, and other underserved populations;
- A broadened range of contraceptive options, including emergency contraception;
- Carefully framed programs aimed specifically at teens and designed to postpone sexual activity and childbearing; and
- Use of the media and advertising to promote sexual responsibility.

The two most important external conditions affecting fertility decisions appear to be poverty and the specific features of women's low status that inhibit access to reproductive health care and meaningful economic opportunity.

With regard to immigration, the Task Force recognizes the comprehensive work being done by the U.S. Commission on Immigration Reform and has identified aspects of the Commission's work that it supports and areas where more needs to be done.

The Task Force finds the following facts important with regard to immigration:

- Immigration into the United States is as high as it has ever been and contributes a third of annual U.S. population growth;
- Better research and information on immigration are required, because it is not possible to fine-tune policy based on current knowledge of immigration's economic, social, or environmental impact; and
- Efforts to improve conditions in sending countries are more humane and likely to succeed in the long term than efforts to punish immigrants for coming to the United States or to intensify border enforcement.

Finally, with regard to the uneven U.S. population distribution, the Task Force concludes that a good deal of research and fact-finding are needed in order to understand the implications for sustainability and to develop the policy tools that can deal effectively with population distribution concerns.

Chapter 2: Consumption

History and Scope of the Consumption Issue

Unlike traditional environmental issues—even population growth—consumption of materials and energy is not customarily considered a problem; indeed, it is welcomed in nearly all quarters as a good thing.

Agenda 21, in contrast, identifies "the unsustainable pattern of production and consumption, particularly in industrialized countries," as "the major cause of the continued deterioration of the global environment." Facts support this assertion: approximately 20 percent of the world's population in the late 1980s lived in industrialized countries. These countries consumed 85 percent of the aluminum and synthetic chemicals used in the world; 80 percent of paper, iron, and steel; 75 percent of timber and energy; 60 percent of meat, fertilizer, and cement; half the world's fish and grain; and 40 percent of the fresh water.

Varying by commodity, this scale of consumption ranges from three to 19 times the consumption levels of developing countries. Industrialized countries also generate most of the world's hazardous chemical wastes, 96 percent of radioactive wastes, and nearly 90 percent of all ozone-depleting chlorofluorocarbons.

THE U.S. ROLE IN WORLD CONSUMPTION

The United States plays a singular role in the consumption of natural resources, even among industrialized countries. As the world's largest economy, the United States is the largest single consumer of natural resources, including fossil fuels, and is the greatest producer of wastes of all kinds.

Raw materials use in the United States multiplied 17 times between 1900 and 1989, during which the U.S. population multiplied three times. To yield the 4.5 billion tons of materials actually used in the United States annually (see box for details regarding the components of this total), about 10 billion tons of crude materials are handled. About half of that becomes waste, such as mining wastes, before any saleable products are made.

Another billion tons of waste are generated in manufacturing and materials processing. About two billion tons of materials such as pesticides and fuels are dissipated into the

Americans produce the most municipal waste per capita of any country on earth

environment during use.

After consumers use a final product, it joins the 200 million tons of postconsumer waste produced in the United States annually. Americans produce the most municipal waste per capita of any country on earth. The United States is also the leading producer of greenhouse gas emissions (contributing 19 percent of total world emissions in 1991) and is probably the world's largest producer of toxic wastes.

U.S. Natural Resource 1989 (In Millions of Metric Tons)

1,800	:	construction materials
1,700	:	energy fuel
317	:	food (meat and grains)
317	:	industrial minerals
157	:	forestry products
109	:	metals
107	:	nonrenewable organic materials (asphalt, chemicals)
7	:	natural fiber

Source: World Resources Institute, 1994

U.S. RESOURCE USE

Not surprisingly, US. natural resource use per capita is high compared with average world consumption. In 1990, Americans used nearly seven times the world average in plastic and petroleum feedstocks per capita; over six times the synthetic fibers and aluminum; nearly five times the industrial salt (used to salt roads, for example); four or more times the potash, industrial sand and gravel, and copper; around three times the nitrogen, iron, and steel; about twice the bauxite, phosphate, and iron ore; and one and a half times the cement.

Except for petroleum, bauxite, and potash, 70 percent or more of the mineral and metal commodities consumed in the United States is also produced here. Thus, the environmental-impacts of mining, processing, and transport take place domestically as well.

When people think of resource consumption in the United States, they often think that per capita consumption is rising. This is true only for plastic and paper. Total resource consumption is still on the increase, however, illustrating the power of population growth alone to increase environmental stress from resource use.

Interestingly, the composition of materials used in the US. economy is changing, as lightweight but high-volume materials, such as paper and plastic, increasingly substitute for dense, heavy materials, such as metals. During the 1980s, the United States used a greater volume of plastic than of all metals combined. This has important implications for solid waste disposal as the volume of wastes increases.

As the world becomes increasingly aware of the environmental impact of pattern and scale in natural resource production and consumption, it will look to the United States, with its large role in that problem, for leadership. It also makes sense for the United States to address the sustainability of U.S. production and consumption out of sheer self-interest in domestic environmental quality.

Further, while the data is not comprehensive, studies indicate that consumption is not buying the high quality of life desired by Americans. In the last 20 years, personal consumption of goods and services has risen by an estimated 45 percent. But an Index of Social Health-which subtracts from the positive features of American life such things as child abuse, teen suicide, and the gap between rich and poor-has dropped by more than half.

DECOUPLING PROSPERITY AND RESOURCE USE

To address the enormous issue of consumption of natural resources, economists, environmentalists, and others often call for decoupling materials and energy use from economic prosperity-in addition to other noneconomic environmental policies. This means reducing the amount of materials and energy needed to make and do all the things that Americans use, whether it is industrial machinery, roads, computers, houses, cars, household appliances, transportation, or heat. It means getting more out of each unit of material and energy: making and doing everything more efficiently, or raising resource productivity. Analysts of natural resource consumption agree that one overriding economic condition is the most powerful force encouraging inefficient use of natural resources. Throughout the entire life-cycle of natural resources, the resources themselves are nearly free of cost in traditional economic terms. Any harm done to the environment costs nothing on anyone's balance sheet except

when environmental laws impose a partial cost. Thus, existing prices of natural resources generally do not reflect true environmental costs.

Neither industries, retail firms, governments, nor individual consumers, therefore, have an incentive to use natural resources frugally. They are artificially cheap, and gross national product and other measurements of economic health do not capture environmental harm.

In the absence of "internalizing" environmental costs, Americans pay for environmental damage after it occurs, which is generally inefficient. Practical experience reinforces the adage that the cost of prevention is far less than the cost of the cure.

It is also widely agreed that a single strategy would, at less cost than command-and-control regulation, encourage the efficient use of natural resources, reduce waste and environmental harm of all kinds, and promote the development of technologies to improve efficiency and provide alternatives to existing practices. That strategy is to let the price of natural resources rise to reflect "the ecological truth."

ECONOMIC INSTRUMENTS

The tools for achieving a price increase are twofold: imposing charges and reducing subsidies.

Market-based economic instruments such as taxes, charges, fees, deposit-return charges, or tradable-permit schemes, may be imposed on effluent, emissions, and environmentally damaging activities or products. Under this strategy, environmental "bads," such as water and air pollution, sulfur-containing materials, or toxic chemicals, could be taxed, while purchase of potentially harmful materials, such as lead-acid batteries and automobile tires, might include a deposit that is redeemed when the products are returned safely for disposal.

The counterpart to imposing charges or fees is to remove subsidies that keep the price of environmentally harmful activities and products artificially low. Such subsidies include federal sales of national forest timber and Bureau of Reclamation-managed water at below-market prices.

Environmental fees, charges, and other economic instruments are often proposed as part of broader tax reform proposals aimed at shifting taxes from income and savings to "consumption" in its traditional economic sense-the use of goods and services to meet current wants. A broad "tax shift," as it is usually called, has the benefit of encouraging savings and investment. (The U.S. savings rate is currently at 3.6

percent of gross domestic product, very low in comparison with that of its trading partners.)

Savings and investment are the principal sources of funds for financing the machinery, buildings, and other capital investments that drive economic activities. Savings and investment also drive technological developments, such as ways to raise resource productivity and develop alternatives to materials and uses that harm the environment. Indeed, as sustainable development depends heavily on technological innovation, it depends heavily on savings and investment.

Environmental taxes imposed as part of a comprehensive tax shift could be revenue neutral, replacing taxes on income, payroll, and savings on a dollar-for-dollar basis. Environmental taxes introduced piecemeal could also be made revenue neutral by substituting for selected existing taxes, again dollar-for-dollar.

FINDINGS AND POLICY RECOMMENDATIONS

As with population issues, the Task Force recommendations on consumption drew from material presented at the Task Force's roundtables, as well as from the expertise of Task Force members, their liaisons, and non-Council Task Force members. As in the population chapter, relevant policy recommendations of the Task Force are listed before each section below.

USING ECONOMIC POLICY INSTRUMENTS

POLICY RECOMMENDATION 1

Shifting Taxes The federal government should reorient fiscal policy to shift the tax burden from labor and investment toward consumption, particularly consumption of natural resources, virgin materials, and goods and services that pose significant environmental risks. In this process, the federal government should seek replacement revenue measures that encourage maximum economic, energy, and materials use efficiency. Finally, in order to alleviate concerns about

regressivity, and, in fact, to promote a more progressive system of taxation, the federal government should offset consumption taxes at the lower end of the economic scale with corresponding reductions in payroll taxes.

POLICY RECOMMENDATION 2

Reducing Inefficient and Environmentally Harmful Subsidies Inefficient and environmentally harmful government subsidies, particularly those related to natural resource extraction and use, should be eliminated.

The Price Factor

Without a doubt, prices are powerfully capable of changing the ways a resource is used. As price goes up, use of a resource generally goes down, though the precise extent varies.

The American experience with energy during the 1970s and early 1980s is often offered as evidence of the way price-hikes reduce per capita use and promote efficiency and technological innovation. After years of paralleling economic activity, the rate of total energy use stabilized during the 1970s and early 1980s, even as GDP grew. Similarly, per capita use of all energy fell during that time, and average fuel economy (miles per gallon of gasoline) rose nearly 60 percent. (Total energy use in the transportation sector grew during this period, illustrating the impact of a growing population and increased consumption in another form-vehicle-miles traveled per person.)

Existing Provisions

Federal market-based environmental policy instruments already exist in the United States, though they were usually adopted to raise revenue rather than to achieve environmental ends. The federal tax code currently allows tax credits for the production of ethanol and other renewable fuels, imposes excise taxes on gas-guzzling cars and chemicals that deplete the ozone layer, taxes crude oil and imported petroleum products to finance the Oil Spill Liability Trust Fund and Superfund, and allows charitable deductions against income or estate taxes for donations of land or conservation easements.

Perhaps the best-known economic instrument in federal environmental policy is the tradable permit scheme for sulfur emissions developed under the Clean Air Act Amendments of 1990.

State and local jurisdictions also impose a number of fees and related charges that affect the environment. Numerous states levy severance taxes on petroleum and other mineral resource extraction, have deposit-refund schemes for beverage bottles, and impose packaging taxes. Many municipalities impose user fees for local solid waste disposal and offer recycling incentives. The precise forms and degree of these taxes vary greatly.

Damaging Policies

At the same time, both federal and state tax codes encourage a number of environmentally damaging activities and discourage beneficial ones by lowering production costs and distorting the true price of resource-related activity. At the federal level, for example, farmers can deduct from their taxable income part of the value of groundwater withdrawn for irrigation beyond annual recharge. Employers can provide

free-parking to employees as a tax-free fringe benefit, and businesses engaged principally in natural resource development or processing may avoid the corporate tax. Owners of interests in fuel and nonfuel minerals can take "percentage depletion" deductions against taxable income from the mining enterprise, deductions that may ultimately exceed the taxpayer's total capital investment.

The percentage depletion allowance has enormous reach. The Office of Management and Budget has estimated that the federal government loses more than \$1 billion annually to this deduction, which partially pays for production of some of the country's most toxic minerals, among them lead, mercury, and asbestos.

Federal law also encourages environmentally destructive activities with programmatic subsidies outside the tax code. Below-cost timber sales and road building, below-market grazing fees, the treatment of hard-rock mining under the 1872 Mining Law, below-market charges for irrigation water, below-market charges for federal power, agricultural subsidies, subsidies for highway construction, and federally underwritten insurance are among the programs that distort the

cost of natural resources. All of these subsidies shift part of the true cost of doing resource-related business from the resource developer or user to the taxpayer.

The introduction of new environmental fees or taxes and the elimination of existing subsidies that harm the environment are two sides of the same policy coin. Developing new taxes without eliminating subsidies is, again, like working to reduce natural resource consumption without stabilizing population-akin to walking up a down escalator.

Benefits of a Tax Shift

Of all 1991 federal tax receipts, 42 percent came from payroll taxes, 41 percent from personal income taxes, and 9 percent from corporate income taxes. (Corporate income taxes ultimately tax investments and capital gains, because the costs are borne by stockholders.) Nearly all taxes work to discourage the activities being taxed and encourage alternatives. Similarly, taxes on payroll make workers more expensive to employers, therefore inducing employers to find alternatives such as layoffs, heavier work loads on a smaller workforce, automation, or moving operations overseas. Taxes on income from investments lower after-tax returns, encouraging people to seek tax shelters or to invest less. Thus, taxes on income, payroll, and corporate income have economic costs in the form of lost income and investment.

World Resources Institute (WRI) analysts looked at the effects of a tax shift that would tax resources and pollution instead of income and investment. They found that every dollar shifted could gain the economy-in the form of additional work and investment and in environmental damages averted-\$0.45 to \$0.80 beyond the revenues replaced.

Without the disincentive from taxes on work and investment, more people would work and make investments, thus adding to income and investment. With the disincentive applied to pollution and resource use, pollution and environmental harm would be discouraged. The WRI study calculates benefits in the aggregate. Individuals and firms in some businesses would experience losses, as with any change in tax policy. The long-term effect, however, is positive.

Thus, environmental taxes are very likely to meet the requirement of all taxes that they be "economically rational," or raise revenue at the least overall cost to the economy.

Meeting the Standards

Environmental taxes must also meet standards of equity, administrative feasibility, and stability of the revenue stream required of any tax. These concerns are real. A system of environmental taxes would require a change in administration

and enforcement, as well as coordination among now separate agencies dealing with natural resources, the environment, and taxes. The new taxes would, however, resemble existing excise and sales taxes, and both federal and state tax authorities have considerable experience with those. Some criticize environmental taxes on the grounds that stability of revenue cannot be guaranteed. But careful framing—including gradual increases in tax rates, periodic adjustments, and changes in the targets of taxes—can counter these concerns.

Equity

Similar treatment of taxpayers in similar situations and taxation according to ability to pay are of particular concern to the Task Force. Provisions of any tax shift can compensate for regressivity through a number of measures: rebates to individuals and businesses disproportionately affected by a tax; income and payroll tax credits or deductions; and investment of revenues in worker training or other appropriate compensatory programs, particularly for the poor who do not pay taxes. The sustained public conversation on the tax shift issue that the Task Force envisions will allow the full airing of concerns over the possible uneven burden of such a shift on specific populations; for example, tribal governments may be especially dependent on payroll taxes, and provisions of a tax shift can be crafted to alleviate disproportionate impacts.

In the course of the debate that would necessarily swirl around any proposed tax shift, it is crucial that empirical analyses make the distributional effects clear, in order to avoid misinformation about "winners" and "losers." It is also important in the calculation of benefits and burdens to use as a baseline or benchmark for comparison other tools for implementing environmental policy, rather than an imaginary "no environmental policy," which would artificially increase the apparent burden of the tax shift policy. At the same time, valid analysis of "losers"—workers in particular resource industries, for example—will allow precise tailoring of the tax shift to compensate for short-term local effects.

The Population and Consumption Task Force recognizes that a tax shift represents a significant change in many quarters, requiring consumer and taxpayer education and administrative realignment. But no other single policy step could so effectively and at so low a cost move the country toward more efficient—and eventually sustainable—resource use.

The Task Force's goal in recommending a tax shift and the elimination of environmentally harmful subsidies is not to put forward a fully worked out, take-it-or-leave-it proposal—either within the President's Council on Sustainable Development or in the broader policymaking arena. Since such a proposal is

the most powerful option available for moving significantly toward sustainable resource use in the United States, we are calling for thoughtful analysis and political discussion to work out the details and make such a policy a political possibility.

Public Involvement

We note that for a tax shift to become real, more fully developed rationales, public participation, and the support of the business community are required. We also note, with optimism, that the polluter-pays principle receives broad public acceptance as a fair and efficient approach to environmental policy, and market-based instruments often receive support from both sides of the political aisle.

Finally, we urge that today's tax reform debate be opened to consideration of a tax shift for implementing environmental policy. It makes sense to us, and we think it could make sense to many Americans, to be able to reduce one's tax bill as an individual or a corporation by saving resources or developing a new technology for increasing materials and energy efficiency, rather than by working and earning less—as economists say that taxes on income and investment make us do—or by taking advantage of tax loopholes, which are the only options available today.

EDUCATING CONSUMERS

If unsustainable goods and services cost more than sustainable ones, it would provide an instantaneous and powerful environmental education to consumers of all kinds, from households to large industries and governments. It is the Task Force's belief that the marketplace should soon reflect environmental costs and that prices should be moving the United States effectively toward sustainability.

Environmental taxes, charges, fees, and other economic instruments, however, whether part of a comprehensive tax shift or not, represent a dramatic change from the status quo and will no doubt take time. To move the country toward more efficient use of resources in the meantime; to enlist the considerable power of individual consumers, most of them eager to do environmental good; to enable consumers to make wise choices in the marketplace, and to build popular support for difficult political changes in the future, it is important to educate consumers and make available the full range of information required for good environmental citizenship.

Individual Americans are eager to make a difference to the environment with their own actions. In a poll released by ICR Research of New York in April 1995, 85 percent of respondents said they "were interested in doing more in their

daily lives to help the environment." And most agree that sustainability requires making changes.

Nearly 90 percent of those surveyed in a national poll commissioned by the Merck Family Fund and conducted by the Harwood Group agreed that "protecting the environment will require most of us to make major changes in the way we live." Nearly half said, "if we all reduced the amount of stuff we consume," it would make a big difference to helping the environment. Another 40 percent said that it would make some difference.

Education's Effects

Education can make a dramatic difference. In its experience teaching 300,000 people money management and financial independence, the New Road Map Foundation has found that, on average, people reduce their spending by 20 percent simply by attending to and tracking what they spend-without making any effort to cut down or eliminate purchases.

The program Global Action Plan for the Earth, which enlists households in resource saving, has found after five years of experience that households participating in their program reduce what they send to the landfill by 42 percent, cut water use by 26 percent, push carbon dioxide emissions down by 16 percent, and cut transportation fuel use by 15 percent. On average, participating households saved over \$400 in the course of the program.

The Population and Consumption Task Force focused on several aspects of consumer education. We first considered labeling products so that buyers can know the full environmental impact of a product throughout its entire life-cycle. So-called "green labeling" or "eco-labeling" is both a powerful force for wise consumption practices and desired by consumers frustrated by existing product claims.

Next, the Task Force considered "greening" government procurement-harnessing the more than \$400 billion the federal government spends purchasing goods from the private sector. Our recommendation builds on existing efforts under President Clinton's 1993 Executive Order calling for the federal government to buy environmentally preferable paper products and to give preference generally to "green" products.

The Task Force's recommendations also deal with six aspects of public education: formal education; media messages; advertising; education for fiscal responsibility; community education; and the development of a stewardship ethic.

POLICY RECOMMENDATION 3

Environmental Labeling and Certification

A public-private partnership should be established to develop criteria based on life-cycle analysis for labeling certain goods and services environmentally superior. An appropriate third-party, nongovernmental entity working with public and private sector experts should certify these products as a voluntary incentive program. After a necessary development phase, the third-party entity will be self-financed.

Eco-Labeling

Perhaps the greatest leverage individuals can have on the environment is through their hundreds of billions of dollars of annual purchasing power. According to a poll by the National Consumer's League released in April 1995, 80 percent of consumers say they think of environmental considerations when shopping for groceries and household products.

Yet, it is very difficult for an individual consumer to "buy green." An examination of hundreds of supermarket products over the past five years revealed recently that although more companies are using labels designating products "recyclable" or "biodegradable," the terms are used more to attract consumers than to inform accurately.

Terms such as "environmentally friendly" are used a third more often in 1995 than they were in 1992, according to a study by researchers at the University of Utah, Oregon State University, and the University of Illinois. And yet the precise meaning of these terms is far from clear. Norman Dean of Green Seal has found examples of telephones labeled "foam-free," when ordinary telephones use no foam; of light bulbs labeled as "using 10 percent less energy" when they also produce 10 percent less light than the comparison light bulb. All of this contributes to enormous consumer confusion, if not cynicism.

Even without confusing or deceptive claims by manufacturers, it is difficult and time consuming for an individual to make an informed choice. The complexity of weighing all the environmental issues involved in whether to choose cloth or disposable diapers is a good example. Whereas disposable diapers have a large impact in materials use and on landfill space-constituting roughly four percent of the municipal solid

waste stream-delivering and washing cloth diapers have environmental impacts in the form of detergents, water use, and air pollution.

Life-Cycle Analysis

A proper analysis should consider environmental impacts from the entire life-cycle of a commodity: whether the paper used to make disposable diapers was recycled or came from virgin materials, and, if from virgin materials, whether from a forest managed sustainably; whether cloth diapers were made from cotton grown with heavy pesticide use, or in an area where water is scarce; and whether raw materials growers or processors and manufacturers have fair hiring practices. Variations in local conditions-landfill space constraints are more important in some places, while water scarcities dominate in others-also matter. It is difficult for experts to determine the right choice, never mind a harried parent hurrying through a grocery store with no time to spare for rumination.

It is widely agreed that solving these problems requires holding manufacturers and advertisers to standards of honesty and fairness. This is discussed below in the section on Public Education. Another requirement is to develop life-cycle analyses by which to judge the environmental performance of appropriate products and label them accordingly-usually by stating whether a product meets a particular standard of acceptability. Such a label would parallel the popular nutritional labels now on food in grocery stores.

Twenty-one countries have "green labeling" or "eco-labeling programs," including Germany's "Blue Angel," Canada's "Environmental Choice," and Japan's "EcoMark." The European Union and China are both developing programs. In the United States, a fledgling private program exists under the group Green Seal.

Elements of an Eco-Labeling Program

Eco-labeling involves two steps. Based on life-cycle analysis, the first step involves establishing product criteria and setting standards that products must meet to be deemed environmentally acceptable or superior. Using the diaper example, analysts would choose criteria such as percent of virgin material, percent of secondary material, methods of production of virgin material, and compostability-to name just a few.

Then, analysts set the standard within each criterion that a product must meet to win approval. For the diapers, these might be no more than 40 percent virgin material and complete return to natural materials within 10 years, under certain specified composting conditions.

For the second step, experts--often independent entities such as the International Standards Organization, the International Society for the Testing of Materials, or Underwriters Laboratory--test and certify actual products. At this stage, continuing the diaper example, analysts would evaluate Pampers, Huggies, Luvs, and other brands of both disposable and cloth diapers to see which meet the standards and merit an environmental seal of approval.

The group of experts that certifies and awards the seal of approval for products should be an independent, or "third party" entity--neither private-sector manufacturers nor the government--capable of fostering an effective program.

A good program also has certain other characteristics: it involves all key interests (businesses, consumer and environmental groups, and governments, for example); it is open, public, and involves peer review; its certification and assessment processes are transparent; its data are independently verifiable; it is accompanied by a public education program; its standards and criteria are updated as science and technology change; and the cost of obtaining the seal of approval does not keep small- and medium-sized companies from participating.

Environmental labeling programs provide consumers with an immediately available, objective, and accurate evaluation of a product's environmental impact. They also provide an incentive to manufacturers to meet the standards-to make products with environmental impact deemed technically acceptable by an unbiased, third-party entity.

To the Task Force, these programs are powerful strategies for educating the consuming public. In addition, they allow U.S. manufacturers to compete in a marketplace increasingly emphasizing clean products, as the labeling programs of the EU, Canada, Germany, Japan, and China attest.

POLICY RECOMMENDATION 4

Government Procurement A public-private partnership should be established to develop criteria based on life-cycle analysis for labeling certain goods and services environmentally superior. An appropriate third-party, nongovernmental entity working with public and private sector experts should certify these products as a voluntary incentive program. After a necessary development phase, the third-party entity will be self-financed.

Government Procurement

The federal government is the single largest consumer of goods, products, and services in the United States and spends an enormous sum every year buying goods from private-sector suppliers. It is the largest single consumer of paper in the world.

With this purchasing power, the federal government can have a significant impact on markets for-and on the commercial viability of-recycled and other environmentally superior goods. At the same time, the government can set an example for other U.S..consumers, both individual and institutional; it can strike a blow for sustainability; and it can move toward operating at the least possible cost to society, both in economic and environmental terms.

RCRA Requirements

The federal government already makes some effort to "buy green." Section 6002 of the 1976 Resource Conservation and Recovery Act (RCRA) calls for the federal government to buy recycled products. Under the law, the U.S. Environmental Protection Agency (EPA) designates procurement items and their recycled content, and agencies buying these items must match or exceed the recycled content of the EPA designations-within the constraints of price, competition, availability, and performance.

By 1993, the EPA had issued guidelines for only five products (cement, paper, lubricating oil, tires, and insulation), a poor showing, and the percentage of federal purchases of these commodities that were recycled was not impressive. (Although 80 percent of insulation purchased met the guidelines, less than 50 percent of paper, 33 percent of cement, five percent of tires, and one percent of oil did.)

Since 1993, President Clinton has significantly strengthened the government's green procurement efforts with a series of six Executive Orders. They deal with recycling and waste prevention, ozone-depleting substances, alternative-fueled vehicles, energy-efficient computers, pollution prevention, energy efficiency, and water conservation.

New EPA Guidelines

The EPA has now issued guidelines for 21 additional products, from engine coolants and plastic piping to carpeting and plastic trash bags. The federal government has also accelerated purchase of alternative-fueled vehicles and products without ozone-depleting chemicals.

Despite these efforts, green procurement by the federal government remains a small part of the total. The process is complex and time-consuming, and the exceptions in Section 6002 are numerous. To flex the muscle of its considerable purchasing power in favor of sustainability, the government needs to accelerate, intensify, and broaden its existing efforts. In particular, it needs to modify the requirement that goods be purchased at the lowest price.

EDUCATION

POLICY RECOMMENDATION 1

Public Education and the Development of a Stewardship Ethic Educate all sectors of society in numerous ways about consumer practices and choices that will lead to sustainable consumption patterns and lifestyles and about living in accord with a stewardship ethic.

Education

Direct and indirect, formal and informal educational programs for consumers are appropriate strategies for creating the awareness required to move toward sustainable levels of consumption. The Population and Consumption Task Force examined six kinds of public education: formal education, media messages, advertising, educating for financial literacy, community education, and development of a stewardship ethic.

Formal Education

The Population and Consumption Task Force refers the reader

to the report of the Public Linkage, Dialogue and Education Task Force of the PCSD, which examines the issue of incorporating sustainability issues into formal and informal education and makes detailed recommendations on this score. We support that Task Force's work and add our voice to the call for broad environmental education in our formal educational system. We are particularly interested in educating consumers to evaluate advertisers' claims so that they can distinguish emotional manipulation from objective information and are able to make prudent, considered choices.

Mass Media

Mass media powerfully drives consumption patterns in the United States and is an equally powerful force for changing consumer behavior. Family planning programs in some developing countries have found that incorporating story lines in television shows can promote responsible sexual behavior. Story lines about the benefits of postponing sexual activity and using birth control--and the harm that can follow not doing these things--can be a powerful force encouraging viewers to think about responsible sexual behavior.

We certainly know that stories showing wealth become models of a desirable lifestyle to many viewers. The media could instead be an influential source of education about sustainable ways of living.

Advertising

In an average American life, an entire year is spent watching television commercials. By the time they graduate from high school, typical American teenagers have been exposed to 360,000 advertisements. Thousands of consumer messages a day tell Americans to buy things. Advertisements are often the only source of information a consumer has about a product, and as discussed in the section above on eco-labeling, complex information is required for a consumer to make an informed decision about the environmental impact of a product.

In 1992, the Federal Trade Commission (FTC) undertook to hold advertisers and manufacturers to a standard of honesty and fairness, issuing "Guides for the Use of Environmental Marketing Claims." These guides describe various terms such as "biodegradable compostable," "recyclable," and "ozone safe." Marketers are asked to avoid certain claims likely to be misleading and to qualify other claims to avoid deception - the guides are not legally enforceable, but provide guidance only.

The FTC is currently gathering public comment on whether to modify the guides. Observers note that it would aid consumer education to strengthen the FTC's efforts, in particular by standardizing definitions. An internal code of ethics,

developed and adopted by advertisers themselves, would also improve advertising's ability to educate consumers.

Financial Literacy

We also call for formal and informal education, adult education, and other avenues of public education to teach individual fiscal responsibility so that individuals know how to live within their means and steward personal resources. A citizenry that values savings and knows how to save money understands sustainability at a personal level.

As a matter of economic definition, whatever is saved is not used for consumption. Yet savings in the United States are abysmally low and falling, while current consumption is high and often financed with rising levels of debt.

The average 50-year-old American has saved \$2,300 for retirement. About half of all grocery and hardware store purchases are made on impulse. In 1990, 83 percent of disposable income was spent on personal debt payments. Consumer debt increased 140 percent in the 1980s; in 1993, 4.2 percent of disposable personal income was allotted to savings, compared to 8.6 percent in 1973.

A higher savings rate would contribute not only to individual financial soundness, it would also buttress the national need to increase savings for financing economic prosperity and technological change. And it would empower individuals to live within their means-sustainably.

Work Patterns

Another way of moderating high-consumption lifestyles in the United States would also aid in job creation, reduce employee stress, and allow Americans to turn to nonmaterial sources of satisfaction-modifying work schedules for greater flexibility.

Working Americans today typically spend 163 more hours on the job annually than they did in 1969, contributing to a pervasive sense of being rushed and overworked. Nearly 70 percent of Americans would like to "slow down and live a more relaxed life." Seventy percent of Americans earning over \$30,000 a year say in response to questioning that they would give up a day's pay each week for a day of free time; nearly half of Americans earning less than \$20,000 would make the same trade. A third of American workers would forego raises and promotions to spend more time with their families.

Greater flexibility in work schedules would allow workers to take wage increases in the form of time rather than money--a trade-off a large percentage of Americans would like to make, and one that would also contribute to a more sustainable way of life.

Community-Based Education

Education programs based in communities are capable of making the message of sustainability particularly relevant to individuals at the local level. Landfill closings, difficulties over siting new ones, water shortages, congested highways, and fiscal constraints on new construction have already sparked programs to educate individuals about recycling, composting, water and energy conservation, ride-sharing, and other strategies for sustainable ways of living.

The local results are readily apparent once programs are in place. Further efforts are an appropriate focus of public education for sustainability.

Stewardship Ethic

Concern for the environment and the growing gap between the rich and the poor at home and abroad are leading many Americans to give new and serious attention to humanity's moral responsibility to care for the planet, its people, and the generations that will follow. Ninety percent of Americans polled by the Merck Family Fund agreed that "an underlying cause of environmental problems is that we focus too much on getting what we want now and not enough on future generations."

AMERICANS AND RELIGION

Religious communities have for centuries examined what is today called sustainability, terming it stewardship. Stewardship derives from the perception that creation is a gift from God that includes the responsibility to care for it. Also, certain American intellectual traditions, not part of a formal religion, have examined the same territory in determining the nature of the "good life." These traditions include civic republicanism, the thinking of Ralph Waldo Emerson, and John Dewey's progressivism. Most Americans associate themselves with a religious community. Recent polls reveal that more than 90 percent express a religious preference, two-thirds are members of a church or synagogue, 40 percent of adults attend services in any given week, and more than half say that religion is "very important in their lives." The

Religious communities have nurtured the concept of stewardship over the centuries and have much to share with those who are struggling to arrive at models for sustainable living today.

vast majority of America's religious communities embrace an understanding of the stewardship tradition. A North American Coalition on Religion and Ecology (NACRE) poll of 30 Christian denominations found that 93 percent support the notion of stewardship of the Earth. Eastern and Native American religious traditions are rich with respect for the Earth.

Various U.S. ecumenical and interfaith organizations have had an interest in environmental concerns for some decades. The National Council of Churches established an Environmental Stewardship Action Team in 1969. During the 1970s and 1980s, congregations all over the country concerned themselves with grassroots issues such as energy efficiency and recycling, while theologians examining the doctrine of creation and the concept of stewardship created a large scholarly literature.

The World Council of Churches worked throughout the 1980s on a program entitled, "Justice, Peace, and the Integrity of Creation." NACRE participated strongly in Earth Day 1990 activities. The National Religious Partnership for the Environment was launched in 1993 at the White House, bringing together major Catholic, Jewish, and Protestant institutions. Faith communities were a major presence at both the 1992 Earth Summit in Rio de Janeiro and the 1994 International Conference on Population and Development.

Much reflection on the concept of stewardship centers around four interacting moral concerns. The first is a commitment to sustainability—the same kind of sustainability discussed in this Task Force report, or a belief that current practices resulting in deforestation, groundwater mining, pollution, and other assaults on the health of the natural world must be corrected. The Native American concern for the seventh future generation has become a widely embraced example of the commitment to sustainability.

The second moral concern is represented in a commitment to live in solidarity with the poor. Religious communities are making connections between social injustice and environmental degradation and are drawing attention to environmental justice and the need to fight poverty at home and abroad.

The third and related concern is a commitment to sufficiency. Religious communities emphasize that all people have a moral right to certain basic human needs, and that "the good life" is

discovered more in the sharing of wealth than in its accumulation.

Finally, many religious communities insist that all people must have the ability to participate in the decisions that affect their lives.

This rejuvenated reflection on the ancient stewardship tradition has given rise to a critical examination of materialism in American culture. A recent poll taken by Princeton University's Center for the Study of American Religion found that 74 percent of working Americans believe that materialism is a serious social problem in the United States. And yet, apparently without ambivalence, Americans live the most material-intensive lives of anyone in the world.

This contradiction is an indication of how difficult it is to live out an ethic of stewardship and achieve sustainability-to resolve the contradictions between moral beliefs and the messages and incentives sent by the larger society. Religious communities have nurtured the concept of stewardship over the centuries and have much to share with those who are struggling to arrive at models for sustainable living today.

Further elaboration of an explicit ethic of stewardship-care for all creation, for all time-would enrich understanding of sustainable ways of living, would provide grounds for choosing the most moral among the many alternative ways of living sustainably, and would inspire commitment to sustainable ways of life.

A NEW MATERIALS ECONOMY

POLICY RECOMMENDATION 6

Reduction, Reuse, and Recycling of Packaging Materials

The federal government should find ways to encourage U.S. manufacturers to ensure the appropriate reduction, recycling, reuse, and disposal-outside the traditional municipal waste stream-of all packaging they produce. Manufacturers, retailers, and distributors should work together to make packaging materials returnable to - manufacturers. A public-private partnership financed by manufacturers

should certify packaging for sustainability.

PACKAGING, GARBAGE, AND TOXICS

Environmental analysts have been focusing increasingly on the way raw materials are used:[4] the consequences of extracting raw materials from the earth or from ecosystems through careless or wasteful mining and harvesting; of processing raw materials into products inefficiently; of designing products to be used once, sometimes briefly, and then discarded; of the difficulty of repairing goods; of the challenge facing those who wish to recycle the essential materials of products for use in something else; of the environmental, social, and economic costs of municipal landfills, space for which is increasingly scarce while the long-term effects of toxicity are just coming to be known; and of the environmental, social, and economic costs of incineration.

A new way of dealing with materials is needed that reduces the total volume handled and cuts reliance on virgin resources. The economy must use both raw and secondary materials more efficiently; rely lightly on the extraction of raw materials and reuse and recycle materials already used once; and it must design products for durability, ease of repair, and ease of recycling. This approach not only uses creatively what has until now been considered waste; it also produces less waste in the first place.

The implementation of the first two policy recommendations of the Task Force (a tax shift and elimination of environmentally harmful subsidies) would move significantly in the direction of a new materials economy. In addition, important work undertaken by the Eco-Efficiency Task Force, which we support, broadly defines a system to encourage extended product responsibility. It would seek to ensure that designers, suppliers, manufacturers, distributors, users, and disposers all take responsibility for a product's environmental impact.

The Population and Consumption Task Force adds to these recommendations strategies for three selected materials issues. We do this to draw attention to some practical ideas that build on the Eco-Efficiency report, but also to demonstrate the importance of identifying strategies in which all Americans can participate. Furthermore, we believe that these policies give effect to two themes essential to encouraging more efficient consumption: responsibility (corporate and individual)and the use of market-based tools with with or apart from tax shifts and subsidy reduction.

The Population and Consumption Task Force's three recommendations in the materials area call for:

- streamlining of packaging materials;
- weight-based municipal garbage fees; and
- proper handling of household toxics.

We target these three for a combination of reasons. Packaging and garbage are well understood by the public, which is deeply concerned about them and can affect each directly. Both, in turn, affect the public daily, and working on them can keep people engaged in issues related to sustainability. Toxic materials are dangerous, concern the public deeply, and are more pervasive than most people know.

Packaging is an important component of the total municipal waste stream in the United States, and municipal waste is an important piece of the nation's total waste picture. Finally, consumer waste is critically important in shaping the marketplace, for consumers' demand for goods they can reuse, recycle, and repair will feed back to manufacturers.

These three issues-packaging, municipal garbage, and toxics in the waste stream-interact. Streamlining packaging would reduce household and commercial waste, thereby letting consumers avoid the highest garbage collection fees. The garbage-fee proposal, by supporting recycling, helps create a reliable supply of used materials. Finally, reducing packaging takes some toxic materials out of the waste stream. Details of these three proposals follow.

Streamlining Packaging in the United States

Packaging made up one-third of the municipal waste stream in the United States in 1990 and has grown rapidly in volume in the past several decades. Reflecting the fact that only paper and plastic use is rising in per capita and per GDP terms today, 53 percent of the municipal waste stream is paper or plastic. One-fourth is glass, also important to packaging.

Manufacturers, wisely responding to existing price signals, currently have no incentive to reduce packaging or design it for efficiency of production or ease of reuse and recycling. Essentially, the cycle of responsibility is broken once a consumer buys a product; then it is the consumer's job to dispose of it, not the manufacturer's. This is so even though many consumers actively wish for less packaging.

Making manufacturers responsible for recycling and disposal of the packaging they produce would "close the loop" and put incentives to design for efficiency, reuse, and recycling just where the authority to do it lies-with the manufacturers. Such

a program would rely on the initiative and ingenuity of manufacturers to design their own, and likely best, response to the need to reduce, reuse, and recycle packaging.

The German Program

Germany, which produces more than 23 million tons of household wastes annually, has four years of experience with placing responsibility on manufacturers for the packaging they produce. The United States can learn from the successful and unsuccessful features of Germany's program how best to frame policies for reducing packaging.

The 1991 German Ordinance for the Avoidance of Packaging Waste specifically calls for manufacturers to reuse packaging or pay for recycling it. The program divides packaging into transport use (pallets, crates, corrugated containers, and the like); secondary packaging (packaging that does not directly contain the product being sold, such as outer boxes and cellophane wrapping); and primary packaging (bags, boxes, tubs, tubes, and other containers that actually hold the product being sold). Different requirements are placed on each kind of packaging-the percent of all packaging that must be reused or recycled-and are phased in gradually.

Consumers are able to leave at stores any secondary packaging they do not want, after paying for the product it held. Retailers must pay for the removal and recycling of the discarded materials, which creates an incentive for them to press suppliers to reduce packaging. Retailers also must take back primary packaging after consumers use up the product; mandated deposits on certain containers (beverage bottles, paint cans, and detergents, for example) create an incentive for consumers to return them to retailers.

Distributors then return the packaging to manufacturers, who are required to reuse it or recycle it privately, outside the municipal waste stream. The law also allows manufacturers to pool resources to form a large collection and recycling system. In line with this option, German industry has established a program by which materials are certified for recyclability-given a "Green Dot"-which has produced numerous changes in packaging design.

Fees from manufacturers based on the weight of packaging they produce funded the certification and collection program in the first few years. But problems with markets for the large amount of plastics collected, and unanticipated collection costs, marred the German program's experience in its first two years. In response, the program shifted to a sliding fee scale based on the ease of recycling each material and is now more financially sound. As a result of the fee structure, one-third of plastic's share of the market shifted to more easily recycled

paperboard and glass. In fact, the fee now constitutes two-thirds of the price of plastic packaging in Germany.

The European Union Plan

The European Union recently adopted a packaging directive that must be incorporated in national laws by June 30, 1996. It calls for 50 to 65 percent of packaging to be "recovered" within five years of passage of the national laws (recovery includes recycling, composting, and incineration) and establishes percentages of packaging waste and material that must be recycled. Standards based on life-cycle analysis will be prepared for determining packaging acceptability with regard to heavy metals content, recycled content, and recycling and composting methods.

POLICY RECOMMENDATION 7

Volume-Based Garbage Fees State and local governments should adopt volume-based household waste collection systems and curbside recycling programs, with special provisions to avoid undue burdens on those with low incomes. The federal government will establish guidelines and models needed to initiate these programs.

Garbage Fees

Between 1960 and 1988, the volume of U.S. municipal solid waste more than doubled, while population multiplied 1.4 times. Today the average American produces 4.5 pounds of trash a day, by far the highest per capita production of municipal waste in the world. Americans could recycle or compost half this volume-yard waste, newspapers, corrugated cardboard, and beverage containers - Americans actually recycle or compost only 13 percent.

Municipal solid waste (residential and commercial waste, but not industrial, agricultural, or construction waste) makes up only three to four percent of the total U.S. waste stream, but it has an enormous impact on municipalities. Three-fourths of all municipal waste is landfilled, but space for, and political acceptability of, landfills grows ever scarcer. Household garbage is a familiar part of everyday life over which Americans have some control and through which they can gain environmental awareness.

Financing Garbage Collection

Many municipal garbage collection efforts are financed with flat fees or through property or other local taxes. This structure fails to alert consumers to the real costs of garbage and does not encourage them to reduce their wastes. Even where direct fees for trash collection exist, the fees may not rise with the volume of trash collected. These municipalities thus offer no financial incentive to the producers of household garbage to reduce the discardables they bring into their homes or businesses, to keep goods longer, or to recycle and compost.

A number of other municipalities, however, scale the charge for trash collection to the amount of waste generated-the more trash, the higher the fee. Some are able to finance recycling programs with the additional revenue.

World Resources Institute (WRI) analyzed the experience of 10 municipalities that introduced . volume-based collection fees between 1980 and 1989 and found that households readily accept such fee systems, that most cities reduced the amount of waste generated, that illegal dumping was rare, and that local governments increased revenue for financing recycling programs.

WRI analysts found that a municipality that raised the cost of collecting a 32-pound bag of garbage from \$0.00 to \$1.50 would see an 18 percent reduction in the volume of solid waste it had to landfill. If the town introduced a curbside recycling program simultaneously, volume fell by 30 percent. Net savings to the city (the avoided costs of handling waste minus additional costs to householders) reached 17 percent in areas where disposal costs were high (densely populated areas with scarce landfill space, where disposal costs exceeded \$50 per ton). Moderate-cost areas (\$20-\$49 per ton) realized savings of six percent.

Volume-based garbage fees show that when choosing of appropriate environmental policies, environmental fees (an economic instrument) can be superior to regulation (command-and-control) in certain circumstances. Regulating the amount of each type of waste that each household can produce is unimaginable. Yet scaling the charge for garbage collection to the volume produced is an appropriate, powerful, and efficient approach.

The Population and Consumption Task Force recognizes that decisions about municipal solid waste collection are best made at the local level, and we are in no way recommending a federalized garbage collection system. However, we believe that the federal government can usefully enter into partnership with local communities and serve them by sharing experiences

and lessons learned in a growing number of communities experimenting with volume-based garbage fees.

POLICY RECOMMENDATION 1

Disposal of Household Toxics State and local governments should adopt programs to curb the flow of toxic materials into municipal waste streams, focusing on incentives for recycling, deposit or buyback systems, procurement mandates, and finding substitutes for the most troublesome materials. This policy aims to minimize the contamination of waste that goes to landfills and incinerators, and of sewage, from the dumping of products, including the following: batteries containing lead and mercury; paints and solvents; motor oil; electrical appliances; and tires.

Household Toxics

The average American household throws away 15 pounds of hazardous waste annually (one percent of the household waste stream), including paints, solvents, motor oil, electrical appliances, tires, and batteries.

Batteries alone contain concentrated doses of heavy metals, such as lead, arsenic, zinc, cadmium, copper, and mercury. Each year, 180 million gallons of motor oil are improperly sent to landfills or poured down U.S. drains, an amount that equals 16 Exxon Valdez oil spills. These hazardous materials, by definition harmful to human health, can contaminate landfills, leach into groundwater, become toxic incinerator ash, vaporize into stack gases, or concentrate in sewage treatment plants. One-fifth of the toxic waste sites placed on the U.S. Environmental Protection Agency's priority list as national problems in 1989 are municipal landfills.

As with garbage in general, it makes sense to approach the control of household toxics with economic instruments. The most appropriate form appears to be a system similar to bottle deposit/return schemes, under which buyers would pay a

deposit on hazardous materials that manufacturers would redeem return. Manufacturers would then recycle or dispose of the hazardous materials properly.

TECHNOLOGY FOR SUSTAINABILITY

POLICY RECOMMENDATION 9

Efficient and Clean Technologies Civilian technology should be developed and promoted in partnership with the federal government to provide new ways to increase materials and energy efficiency and prevent pollution in the first place.

The Population and Consumption Task Force throughout its work and throughout this report has emphasized greater efficiency in the production of goods and services, in order to reduce the total environmental impact of human activities. The goal is to reduce the total amount of materials and energy used in producing what Americans consume. Achieving that efficiency depends to an enormous degree on technological innovations.

Analysts agree that three strategies are especially powerful for encouraging research, development and commercialization of technologies required for a transition to sustainability. All are included in Task Force proposals.

- Prices should reflect true environmental costs, so that clean and efficient technologies face other technologies on a level playing field.
- Government procurement of environmentally superior goods and services should increase in order to stimulate demand and create markets for environmental technologies.
- Eco-labeling should become widespread in order to create markets for environmental technologies.

Thus, proposals elaborated elsewhere—the tax shift, subsidy elimination, government procurement, and eco-labeling—would also assist the development of environmental technologies.

Further encouragement for the development of environmental technologies might include funding of research, public-private partnerships for technology transfer, and research and development tax credits for industries. A complete examination of the full range of action required to stimulate

the development and commercial availability of clean and efficient technologies lies beyond the scope of this Task Force's work, but we urge all parties interested in sustainability to address themselves to this critical issue.

CONCLUSIONS ON CONSUMPTION

Analysts have attempted to estimate the amount by which the absolute use of energy and materials would need to fall in the industrialized world for the world's environment to be sustained. For example, Germany's Ernst Ulrich von Weizsacker, President of the Wuppertal Institute, cites the estimate that the world's material flows should be halved, and that the industrialized countries should make a 90 percent reduction.

The Population and Consumption Task Force has not reached such quantitative conclusions. Enough is known about resource use in the United States and its environmental impact, however, to conclude that greater efficiency in the use

of all resources is warranted, as a first step toward sustainable production and consumption of resources.

This conclusion calls for four steps to be taken now:

- A thorough and open debate on environmental fees and charges, as part of a fundamental tax shift from savings to consumption;
- Education programs to enable individual consumers to make wise choices regarding the purchase of products and the stewardship of their financial resources;
- A move to address materials issues of particular importance—packaging, household garbage, and household toxics; and
- Support for development of the technologies required to move the United States to sustainability.

Chapter 3: Conclusions

The transition to sustainability for the United States is a fundamental, enormous change—but one that is required to avoid destroying the economic, environmental, and social bases of American lives and maintain a high quality of life. A complete treatment of the policies required to initiate such a transition would have as many features as our lives have, and this treatment by the Population and Consumption Task Force is necessarily incomplete. But the Task Force believes that action in the two crucial areas of population and consumption will move the United States significantly along the road to sustainability.

Population has for many years been a sensitive subject, if not altogether taboo. But the Task Force finds that a common-sense approach can strike a significant blow for population stabilization, without exhorting people to do something they do not wish to do.

Americans already want fewer children than they have. By meeting the needs of all Americans, regardless of income, and by providing them the high-quality family planning and reproductive health services they already want, fertility will fall and the United States will be closer to a stable population than it is today.

If adolescents get the education and services they need, a decline can be expected in the life-stunting childbearing that too many teens now experience too early in their lives. Ameliorating the conditions that give rise to poverty and powerlessness—particularly for women, adults, and adolescents—also works powerfully to enable parents to choose the number and spacing of their children.

All these strategies work together to enable Americans to have the number of children they want and contribute to population stabilization. At the same time, the Task Force asks the immigration component of U.S. population growth to bear a fair share of the burden of stabilizing U.S. population.

The Task Force has, in general, looked to the ongoing work of the U.S. Commission on Immigration Reform, which has been studying immigration issues longer and more completely than the Task Force, in order to avoid duplication of effort. We join with the Commission in the view that it is possible to moderate illegal immigration levels, particularly with development, trade, and foreign policies that help to reverse the worldwide poverty, oppression, and environ- mental

degradation that force people from their homes and call for such policies.

The Task Force also recommends an examination of the causes and impacts of uneven population distribution and of local growth in the United States.

Moving to sustainability in the United States also requires that Americans moderate the effect of consumption of resources and production of wastes on the environment.

The Task Force believes that greater efficiency in all aspects of economic life is the first step. A powerful strategy for encouraging efficiency in extraction, production, transport, consumption, disposal, and all other aspects of resource use, is to "get the prices right"—to rework economic incentives so that the environmental costs of resource use and waste production are captured in the price of goods and services. Restructuring taxes, using other economic instruments, and eliminating environmentally harmful subsidies are some of the policies available for "getting the prices right."

Two related strategies are the adoption of "green" procurement policies by governments, particularly the federal government, and laws that would place responsibility on manufacturers and retailers for recycling, reusing, and composting packaging. Both would operate to send signals to manufacturers that green products are preferred and would assist in the creation of markets for recycled goods.

Individual actions are also capable of mitigating the environmental impact of resource use and waste production. Educational programs of many kinds, from formal education through special education for fiscal responsibility, community education, and education for understanding of a stewardship ethic, can enable individuals to understand the implications of their consumption choices and to adopt strategies for living more sustainably.

Labeling consumer goods to explain environmental impact, as nutritional labels now explain the dietary effect of food products, is another powerful technique for enabling individuals to make a difference to the environment. Strategies related to solid waste management and disposal of household toxics, both relying on economic instruments, would enable individuals to do the right thing with their daily trash.

A final recommendation would encourage development of the environmental technologies necessary to achieve the efficiencies that sustainable U.S. consumption and production require.

The Population and Consumption Task Force had on its agenda nothing short of "everything under the sun." We have attempted to focus on a constellation of recommendations that, if followed, would make significant strides toward sustainability and a better quality of life in the United States.

The Task Force sought to strike a balance between individual and government actions, between action at the federal and

local levels, between providing individuals information for making sustainable decisions and creating conditions that make those decisions good sense, and between actions that affect our numbers and actions that affect our resource use and waste production. This was done in an effort to create a better balance between population and consumption on the one hand, and the environment, economy, and society on which the country depends, on the other.

The Population and Consumption Task Force urges readers of this report to join in the challenging task of striking this new balance and of creating a sustainable way of life in the United States.

CHAPTER 4

Goals and Policy Recommendations

Each Task Force of the President's Council on Sustainable Development was asked to prepare a set of goals and policy recommendations to submit to the Council. These recommendations were the foundation upon which the Council developed its more general goals and policies for its report to the President. The discussion below reflects the seven goals and fourteen policy recommendations that the Population and Consumption Task Force developed both for its report, and for consideration by the entire Council.

GOALS

The Population and Consumption Task Force developed the following goals, which in turn shaped the specific policy recommendations designed to implement the goals.

- GOAL 1** Stabilize U.S. population as early as possible in the next century as part of similar worldwide efforts, by providing universal access to a broad range of information, services, and opportunities so that individuals may plan responsibly and voluntarily the number and spacing of their children. These include: high-quality family planning and other basic and reproductive health services; equitable educational, economic, social, and political opportunities, particularly for women; reduction of infant mortality; and the increase of male responsibility for family planning and childrearing. This goal also entails targeted actions to eradicate poverty. While fertility is the largest contributor to U.S. population growth, responsible immigration policies that respect American traditions of fairness, freedom, and asylum will also contribute to voluntary population stabilization in the United States.
- GOAL 2** Reduce the amount of primary materials (including energy) used in the U.S. economy by constantly and significantly improving the efficiency of materials use in extraction, production, and manufacturing, while simultaneously reducing the environmental risks associated with consumption of materials and the generation of wastes.
- GOAL 3** Reduce the amount of primary materials (including energy) used in the U.S. economy by constantly and significantly improving the efficiency of materials use in extraction, production, and manufacturing, while simultaneously reducing the environmental risks associated with consumption of materials and the generation of wastes.
- GOAL 4** Achieve patterns of consumption, savings, and investment that will contribute to long-term economic prosperity, environmental protection, and greater social equity.
- GOAL 5** Provide consumers with the information, services, and opportunities they need to make informed choices in their selection and use of goods and services, base understanding of the environmental, economic, and social implications of their choices.

- GOAL 6** Every American will contribute to sustainable development by understanding and upholding ethical principles that recognize each individual's ability and responsibility to conserve resources while pursuing individual and societal goals. Public awareness of the relationship between consumption and quality of life will be widespread, acknowledging that while it is important that all Americans be able to meet their needs, more is not always better. It should be understood that this is especially true those at the upper end of the distribution of goods and services, and that non-mate factors, particularly quality of life, are essential determinants of individual and national progress.
- GOAL 7** Cleaner, more efficient technologies necessary to reduce material throughputs achieve sustainable development will be commercially available, competitively priced, and accessible to all Americans.

POLICY RECOMMENDATIONS

The Population and Consumption Task Force recommends that the following policies be adopted to move the United States toward sustainability.

POLICY RECOMMENDATION 1

Information and Services to Prevent Unintended Pregnancies

Governments at all levels should increase and improve educational efforts and public outreach related to contraceptive methods and reproductive health, and expand access to-and availability of-the services individuals need to freely and responsibly decide the number and spacing of their children.

ACTION 1: Title X of the Public Health Service Act. Congress should fund Title X sufficiently so that funded programs may enhance information, education, and outreach capabilities, particularly for populations not currently reached, such as men and rural residents. Similarly, sufficient funding is needed to ensure that all women and men, regardless of income, have physical and financial access to the full range of contraceptive options and related reproductive health care services.

ACTION 2: Medicaid Reform. Congress should reform Medicaid requirements to ensure that recipients, like all Americans, have access to the full range of safe, voluntary reproductive health care in a confidential manner. In addition, Medicaid reform should allow women who qualify as a result of pregnancy to receive family planning benefits for up to five years after birth, in contrast to the current 60-day limit.

ACTION 3: Private Health Insurance Coverage of Family Planning. The federal government should urge private health insurance companies to cover all family planning methods (surgical and nonsurgical) and related reproductive health care services.

ACTION 4: Contraceptive Research. Congress should fund, both in federal medical research laboratories and in private-public partnerships and other innovative arrangements, increased research in basic and applied reproduction- health sciences, including research into alternative birth control technologies, to expand the range of medically safe contraceptives available to women and men. Particular attention should be given to woman- controlled barrier methods, methods that protect against sexually transmitted diseases (STDs), post-ovulatory methods, and improved male methods.

ACTION 5: New Contraceptive Technologies. The federal government should develop procedures to ensure expedited approval of all medically sound methods of contraception, such as appropriate contraceptives for emergency post-coital use. Organizations and educational institutions responsible for training physicians, nurses, and reproductive health providers should also educate these individuals in the use of new contraceptive technologies, including oral contraceptives and other methods for emergency contraception.

ACTION 6: Men's Participation. The U.S. Department of Health and Human Services should set aside 20 percent, or as much as is deemed appropriate, of Title X Service Delivery Improvement Grant funds for research efforts that will enhance the provision of contraceptives and family planning information and services for men in settings they will use. In addition, the federal government should encourage- age and fund research and demonstration projects that study how best to provide contraceptives and family planning services for women and men.

ACTION 7: Professional Education and Curriculum. The American Medical Association (AMA) and American Association of Medical Colleges (AAMC) should be encouraged to increase their educational programs for medical students at the undergraduate and graduate levels to enhance the training of future health care providers in terms of knowledge, skills, and attitudes for reproductive health, family planning, and all contraceptive methods.

ACTION 8: Public Education Messages. The federal government should fund public education efforts, including the development and marketing of public service announcements (PSAs), to create awareness and provide information on sexual responsibility. These PSAs will be developed for a broad audience-adults as well as adolescents-and should therefore cover topics including abstinence, contraceptives, unintended pregnancy and STDS, the importance of responsible sexual behavior, and the responsibilities of parenthood.

ACTION 9: Entertainment and Advertising. The U.S. Department of Health and Human Services should establish a cooperative working group with representatives of all branches of the entertainment and advertising industry to discuss opportunities and strategies for introducing appropriate messages and story lines about responsible sexual behavior.

POLICY RECOMMENDATION 2

Adolescent Pregnancy Prevention

Education and services for adolescents should be increased through various school-based, community-oriented, peer-based, and adult mentoring programs.

ACTION 1: Parental Involvement. Programs should be initiated to encourage parents to fulfill their role as the primary provider of values and information that promote responsible sexual behavior by young people.

ACTION 2: Community-Based Programs. The federal government should continue to fund community-oriented, peer-based, and adult-mentoring programs for young people at the highest risk of pregnancy and STD and HIV infection, and to fund research into the programs that are most effective in preventing adolescent pregnancy.

ACTION 3: Educational Programs. All educational curricula and programs, including vocational education, should benefit both boys and girls, and health education should emphasize the role and responsibility of males in family planning. The federal government should augment funding for local school districts to develop comprehensive, age-appropriate sexuality education that stresses abstinence, and age-appropriate, medically accurate information- nation about family planning.

ACTION 4: Service Availability. The federal government should sufficiently fund programs that provide family plan- services to adolescents, including Title X.

ACTION 5: Educational Environment. Educational providers should be encouraged to improve the educational environment of adolescents through innovative partnerships focusing on improving gender relations and on eliminating violence, sexual harassment, and drugs in schools. In addition, efforts should be undertaken to develop creative programs where teens can continue their education during and after pregnancy.

POLICY RECOMMENDATION 3

Improve the Conditions Affecting Individual Decisions

The public and private sectors should work in partnership to reduce poverty and provide greater economic, social, and political opportunities for all Americans, particularly women.

ACTION 1: Poverty Reduction. All levels of government; philanthropic, charitable, and other nongovernmental organizations; and individuals should intensify efforts and work together to reduce poverty in the United States. Family assistance, compensatory education programs, job training, health care, and should work in partnership to microlending for enterprise development, among other strategies, should be part of on-going poverty reduction efforts.

ACTION 2: Eliminate Discrimination in Public Policy. Evidence indicates that, with access to information, services, education, and equitable economic opportunities, women voluntarily have smaller families. Therefore, coercion (for example, forced contraception) or punitive measures (such as conditioning financial resources like AMC on a particular family size) should not be used to influence women's childbearing and contraceptive decisions.

ACTION 3: Increase Opportunities for Women. The public and private sectors should work in partnership to ensure that women are not penalized for childbearing decisions in terms of their jobs and professional advancement. This partnership should further progress toward ensuring equal pay for comparable work among women and men. Similarly, child care should be accessible, safe, and affordable enough to enable parents to maintain employment. Lending institutions should also ensure that women have opportunities equal to those of men.

POLICY RECOMMENDATION 4

Immigration

The United States should develop comprehensive and responsible immigration and foreign policies that reduce illegal immigration and mitigate the factors that encourage immigration. Research on linkages between demographic change, including immigration factors, and sustainable development should also increase.

ACTION 1: U.S. Commission on Immigration Reform. The U.S. Commission on Immigration Reform is encouraged to recognize the connections among immigration, population, and sustainable development in their work and in their policy recommendations.

ACTION 2: Improve Information Technology. The technology to collect data for empirical research on U.S. migration and the environment should be improved.

ACTION 3: Research. The federal government should fund research into the environmental and economic effects of migration to the United States-and of population growth in general-to inform immigration and other demographic policies.

ACTION 4: Illegal Immigration. The U.S. Commission on Immigration Reform is encouraged to pursue its work on illegal immigration with due attention to the human rights and general welfare of those affected.

ACTION 5: Legal Immigration. The U.S. Commission on Immigration Reform should put legal immigration into a larger demographic context, considering the effect of migration coupled with natural increase and the impact on sustainability of continued population growth.

ACTION 6: Foreign Policy. The Task Force endorses the U.S. Commission on Immigration Reform's recommendation that U.S. foreign policy and international economic policy give greater attention to the causes of migration to the United States, including the push factors in countries of origin. People leave their home countries for a variety of reasons, including lack of employment, low wages, and poor working conditions; political, social and religious- oppression; civil conflict; and other similar problems, and an effective strategy to prevent unlawful migration must address these factors.

ACTION 7: Development Assistance. The United States should adopt the United Nations' humanitarian aid target of 0.7 percent of GNP/GDP each year, targeting these funds at long-term job creation and income-generation activities. The focus should be on women who would otherwise rely on remittances, and on men in rural areas who would otherwise migrate to urban areas or other countries.

ACTION 8: Trade Policy. Active measures should be adopted to ensure that U.S. trade and investment policies result in a decrease, not an increase, in rural poverty and landlessness, since these are two factors that directly contribute to emigration.

POLICY RECOMMENDATION 5

Population Distribution

The President and Congress should authorize and appoint a national commission to develop a national strategy to address changes in national population distribution that have negative impacts on sustainable development, respecting individuals' freedom of choice in where to live.

Action: A National Commission. Comprised of federal, state, and local entities should be appointed to develop a comprehensive national strategy for mitigating the adverse impacts of settlement patterns within the United States. Topics of inquiry should include, but not be limited to:

- Transportation Policy
- Tax Policy
- Standardization of Environmental Compliance
- Development Policy
- Land Use Policy

POLICY RECOMMENDATION 6

Shifting Taxes

The federal government should reorient fiscal policy to shift the tax burden from labor and investment toward consumption, particularly consumption of natural resources, virgin materials, and goods and services that pose significant environmental risks. In this process, the federal government should seek replacement revenue measures that encourage maximum economic, energy, and materials use efficiency. Finally, in order to alleviate concerns about regressivity, and in fact to promote a more progressive system of taxation, the federal government should offset consumption taxes at the lower end of the economic scale with corresponding reductions in payroll taxes.

ACTION 1: Reducing Taxes on "Goods." Payroll, income, and corporate taxes should be reduced gradually.

ACTION 2: Imposing Taxes on "Bads." Simultaneously, taxes on consumptive activities that diminish overall economic welfare, especially activities that are disruptive of environmental quality and sustainable resource use over the long term, should be introduced in a revenue-neutral fashion.

ACTION 3: Progressivity. During the transition toward consumption taxes, the progressivity of the tax system should be enhanced by relaxing income and payroll taxes on individuals at the lower end of the income scale.

ACTION 4: Investment Incentives. Investment patterns that enhance prospects for sustainable development should be encouraged, particularly through incentives for businesses and investments with a long-range planning horizon (for example, 20 years or more).

POLICY RECOMMENDATION 7

Reducing Inefficient and Environmentally Harmful Subsidies

Inefficient and environmentally harmful government subsidies, particularly those related to natural resource extraction and use, should be eliminated.

ACTION 1: Listing Existing Subsidies. The U.S. Department of the Treasury should examine existing federal subsidy programs related, but not limited to, agricultural support programs, energy investment and production, irrigation, transportation, timbering, mining, public lands use, and federal insurance. The Treasury Department should develop and publish a list, accessible and understandable to the public, of existing federal subsidies and their beneficiaries.

ACTION 2: Phasing Out Harmful Subsidies. The President should propose phasing out subsidies with aggregate effects that distort economic efficiency and damage the environment, while preserving subsidies that promote overall social welfare. Specifically, consideration should be given to eliminating subsidies that cannot clearly be shown to benefit society so much that the net additional benefit is substantially greater than the cost of the subsidy.

POLICY RECOMMENDATION 8

Environmental Labeling and Certification

A public-private partnership should be established to develop criteria, based on lifecycle analysis, for assigning environmentally superior labels for goods and services. An appropriate third-party, non-governmental entity should be supported with federal funds to certify, as a voluntary incentive program, environmentally superior products. After a necessary development phase, the third-party entity will be self-financed.

ACTION 1: Public-Private Initiative. The U.S. Environmental Protection Agency should establish a collaborative initiative to define appropriate product categories and develop criteria and standards for them, based on life-cycle analysis and assessment. The initiative would involve government experts (particularly those at the National Institute for Standards and Technology), private industry representatives, third-party entities (for example, Underwriter Laboratories and Green Seal), and the public (including representatives of environmental and consumer organizations).

ACTION 2: Third-Party Certification. The federal government should support the development of a third-party certification program capable of certifying that products meet predetermined environmental standards and authorized to award a national seal of approval.

ACTION 3: Preventing Deceptive Claims. The Federal Trade Commission and other appropriate federal agencies should establish the necessary means to prevent deceptive environmental marketing claims and ensure the integrity of a national eco-labeling program.

POLICY RECOMMENDATION 9

Government Procurement

Government procurement procedures should be reformed to increase the use of environmentally preferable products whose full life-cycle costs are most economical. Consideration should be given to insuring that only certified environmentally preferable products within product

categories for which standards/criteria have been established (and whose lifecycle costs represent best value) will be available for purchase by the U.S. government. In addition, the federal government should join with the private sector in offering incentives, in the form of guaranteed purchase awards, to businesses that create new products exceeding the standards for environmental superiority.

ACTION 1: Guidelines. The U.S. Environmental Protection Agency should accelerate the process of developing guidelines for products that are or can be made with recycled goods, pursuant to Section 6002 of the Resource Conservation and Recovery Act (RCRA).

ACTION 2: Recycled Products. Each agency of the federal government should purchase, to the maximum extent practicable, recycled products in the 26 categories already established by the U.S. Environmental Protection Agency.

ACTION 3: Buy Only "Green." After the federal government has established criteria and standards for appropriate product categories, based on life-cycle analysis and assessment, and a third-party entity has certified environmentally superior products, the Federal Procurement Council should take the necessary steps to prohibit the sale of products that do not meet environmentally preferable standards.

POLICY RECOMMENDATION 10

Public Education and the Development of a Stewardship Ethic

Educate all sectors of society in numerous ways about consumer practices and choices that will lead to sustainable consumption patterns and lifestyles, and about living in accord with a stewardship ethic.

ACTION 1: Formal Education. The U.S. Department of Education should review curriculum requirements to incorporate elements that demonstrate how individual choices affect natural and community environments and other elements of sustainability.

ACTION 2: Mass Media. The media industry-through innovative partnerships with government, business, and the nonprofit sector-should be encouraged to incorporate sustainable lifestyle practices into storylines and advertisements.

ACTION 3: Advertising Responsibility. To ensure that consumers are receiving accurate information on which to make informed sustainable choices, the print and television advertising community should be encouraged to adopt an ethic that insures the accuracy claims regarding the environmental impact of products.

ACTION 4: Financial Literacy. Education departments and educators should reform their K-12 home economics and related curricula to place a greater emphasis on time and money management, in order to help Americans better understand the importance of saving and to give them the tools for sound financial management and for living within their means.

ACTION 5: Work Patterns. The U.S. Department of Labor, in cooperation with the U.S. Department of Commerce, should analyze working trends in the United States and recommend options for greater flexibility and reduced hours of work. The report should explore ways that

private industry could offer workers the option wage increases in the form of time, rather than money.

ACTION 6: Community-Based Education. Municipal governments, utility companies, local businesses, and community based citizen groups should expand efforts to develop information, financial incentives, educational materials, and programs to educate citizens at the community level in recycling, composting, water conservation, energy conservation, ride-sharing, and other aspects of sustainable ways of living.

ACTION 7: Stewardship Ethic. Religious and cultural organizations, consumer groups, environmental groups, and others should investigate the nature, role, and application of a stewardship ethic and highlight its importance in all their public education materials and programs. In conjunction with representatives of labor, business, academia, and philanthropy, these groups should be bold in sparking a new national discussion about the "good life," affirming the many aspects of our economy and culture that are already inherently satisfying while pointing to the need for greater balance in the pursuit of material and non-material needs.

POLICY RECOMMENDATION 11

Reduction, Reuse, and Recycling of Packaging Materials

The federal government should find ways to encourage U.S. manufacturers to ensure the appropriate recycling, reuse, and disposal-outside the traditional municipal waste stream-of all packaging they produce. Manufacturers, retailers, and distributors should work together to make packaging materials returnable to manufacturers. A public- private partnership financed by manufacturers should certify packaging for sustainability.

ACTION 1: Advisory Board. As part of a broader Extended Product Responsibility program, as outlined in the report of the Eco-Efficiency Task Force of the PCSD, a multistakeholder panel or advisory board should consider packaging in its identification of high-priority products and product waste streams for attention and action.

ACTION 2: Retail Return of Packaging. Policy options for Extended Product Responsibility in the area of packaging should include the collection by and return of packaging materials to manufacturers and the ability of consumers to return packaging to retail establishments.

ACTION 3: Packaging Certification. Policy options should also include public-private partnerships, financed by manufacturers, that certify manufacturers' packaging on the basis that it is designed for materials efficiency, reuse, recycling, and remanufacture. Once certified, a packaging design could receive a "stamp of approval" akin to eco-labeling that tells consumers the packaging is being handled sustainably. Manufacturers should finance this partnership through fees, graduated by material type to reflect the different levels of reuse, recycling, and remanufacturing possible among glass, paper, and plastics.

ACTION 4: Graduated Targets. Policy options should establish graduated targets for: (a) the proportion of all packaging of various kinds being recovered under the program; (b) the proportion of all packaging material of various kinds that is reused; and (c) the proportion recycled. These targets should be designed to track with the development of markets for each material, to avoid glutted markets and illegal dumping of materials.

POLICY RECOMMENDATION 12

Volume-Based Garbage Fees.

State and local governments should adopt volume-based household waste collection systems and curbside recycling programs, with special provisions to avoid undue burdens on those with low incomes. The federal government should establish guidelines and models needed to initiate these programs.

ACTION 1: Model Program Development. The U.S. Environmental Protection Agency should build on its experience and expertise in municipal solid waste management to develop a model program for states and localities in volume-based garbage collection fee systems that finance curbside recycling programs. Guidelines accompanying this model should include its cost-effectiveness compared with landfilling and incineration, based on costs in various representative localities, and it should address the political costs of interstate transport of waste. The fee structure of the model program should take into account the impact that a graduated fee for garbage collection would have on lower-income households and involve a rebate or threshold mechanism to cushion that impact. This model program should be available for states and localities to consider and adopt within two years.

ACTION 2: Incentives. An interagency working group led by the U.S. Environmental Protection Agency should explore possible federal incentives to states and localities for adopting the EPA's model program. Possibilities include grants or tying development of such programs to highway or other grants, or to permission to export trash out of state. The working group should submit a report to the EPA within two years of its creation.

ACTION 3: Legislation. The Executive Branch should, within one year of the submission of the working group to the EPA, develop and propose to Congress, legislation incorporates the best of the schemes explored by the interagency working group.

POLICY RECOMMENDATION 13

Disposal of Household Toxics

State and local governments should adopt programs to curb the flow of toxic materials into municipal waste streams, focusing on incentives for recycling, deposit or buyback systems, procurement mandates, and finding substitutes for the most troublesome materials. This policy aims to minimize the contamination of waste that goes to landfills and incinerators, and of sewage, from the dumping of products, including the following: batteries containing lead and mercury; paints and solvents; motor oil; electrical appliances; and tires.

ACTION 1: Model Program. The U.S. Environmental Protection Agency should develop a model program curbing household toxics for states and localities. The program should aim at establishing deposit/return programs for problem products including tires, used motor oil, lead and mercury batteries, and paint and solvent containers. Guidelines accompanying this model should underline the extent and sources of these hidden pollutants. The fee structures should take into account the cost of avoided pollution and the threshold level for motivating compliance. This

model program should be available for states and localities to consider and adopt within a year of the program's initiation.

ACTION 2: Deposit/Return Program. As with existing bottle bills, the deposit/return program would be implemented throughout the marketplace, with manufacturers providing incentives through prices and deposit/return systems and distributors acting as agents to redeem the used toxic products.

POLICY RECOMMENDATION 14

Efficient and Clean Technologies

Civilian technology should be developed and promoted in partnership with the federal government to provide new ways to increase materials and energy efficiency and prevent pollution in the first place.

ACTION 1: Research Funding. The federal research establishment should assess its commitment to applied environmental research to determine whether it is laying an adequate basis for commercial technology and for assessing the environmental and social impact of technological developments.

ACTION 2: Research and Development Tax Credits. The federal government should revise the federal tax code to allow preferential tax credits to industry for research and development activities targeted at environmentally sustainable technologies.

ACTION 3: Private-Public Research Consortia. The federal government should support partnerships that bring private firms, federal laboratories, and universities together to plan and carry out research aimed at the development of environmentally sustainable technologies.

ENDNOTES

[1] References are contained in the Bibliographic Essay Section of this Report.

[2] The "total fertility rate," or TFR, is the demographic measure that most vividly captures family size. It is the average number of children per woman. U.S. TFR in 1995 was 2.0.

[3] These circumstances are governed by the Hyde Amendment, first implemented in 1978. Between 1981 and 1993, a Medicaid-funded abortion was available only if a woman's life was in danger; since October 1993, the circumstances had been expanded to cover pregnancies resulting from rape or incest.

[4] The Population and Consumption Task Force has chosen to focus on certain materials issues and has not examined energy in detail. The Energy and Transportation Task Force of the PCSD has the mandate to study energy issues. Also, since the oil shocks of the 1970s, a great deal of work on energy has improved understanding of the numbers and concepts, fleshed out policy recommendations and their likely economic and social impacts, and even allowed experiments with various policy instruments. In contrast, understanding of materials issues is perhaps 20 years behind the understanding of energy issues and is underrepresented in conversations about sustainable development. Thus, the Task Force has looked with some emphasis on materials issues in the course of its deliberations.

Bibliographic Essay

This report relies on numerous primary and secondary published sources, testimony from Task Force roundtables, and personal communications with independent experts and government officials for data and ideas. These sources are described in the following bibliographic essay, which is organized and labeled by section of the report. (Transcripts of the three roundtables have been published by, and are available from, American Reporters. Their telephone is 800-929-0130).

INTRODUCTION

CONTEXT OF THE REPORT

The text of Agenda 21 is available in *Agenda 21: Program of action for Sustainable Development, Rio Declaration on Environment and Development* (New York: United Nation undated). The history of the President's Council on Sustainable Development (PCSD), including the establishment of Task Forces, can be found in the newsletter, *Sustainable Developments*, December 1994, published by the PCSD. U.S. population and average family size in 1995 is from Population Reference Bureau, *World Population Data Sheet 1995*. Numbers of births and deaths are available from the U.S. Census Bureau and are published in the Population Reference Bureau's monthly, *Population Today*, in a section entitled, "Population Update." The most recent issue at the time this report was written was June 1995, and the precise figures for the 12 months ending in October 1994 were: 3.996 million births and 2.296 million deaths (p. 6). Immigration figures are from the testimony of Susan Martin, Director, U.S. Commission on Immigration Reform, October 27, 1994 Task Force roundtable. They may also be found in Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin*, September 1994, p.4.

SCOPE OF THE ISSUES

The I = PAT formulation is described by Paul Ehrlich and Anne Ehrlich in *Population Explosion* (New York: Simon and Schuster, 1990), pp. 58-59. Per capita and total energy consumption figures for 1980 and 1993 are from U.S. Department of Commerce, *Statistical Abstract of the United States 1994* (Washington, D.C.: U.S. Government Printing Office, 1994), pp. 584-85. Total and per capita resource use, including paper and plastic, between 1970 and 1989 is taken from "Natural Resource Consumption," *World Resources 1994-1995* (New York: Oxford University Press, 1994), p. 15, in consultation with one of the authors, Alan Hammond. discussion of the POET and PISTOL models, see K.D. Bailey, "From POET to PISTOL: Reflections on the Ecological Complex," *Sociological Inquiry*, Vol. 60, 1990, pp.386-94.

The points on cropland erosion, groundwater, and fisheries are drawn from the Population and Consumption Scoping Task Force, Preliminary Report (in memorandum form) dated 1 April 1994, p.6, which in turn drew on National Research Council, *Alternative Agriculture* (Washington, D.C., 1989) and World Resources Institute, *World Resources 1994-1995* (New York: Oxford University Press, 1994). Figures on wetlands, old-growth forests, tallgrass prairie, and species are from New Road Map Foundation, *All-Consuming Passion: Waking Up from the American Dream* (Seattle, Washington, 1993), which in turn drew on World Resources Institute, *The 1993 Information Please Environmental Almanac* (New York: Houghton Mifflin, 1993). That the United States is the top producer of garbage, the leading generator of toxic and hazardous substances, the world's largest economy, the world's largest single consumer of natural resources, and the greatest producer of wastes of all kinds is drawn from the Population and Consumption Scoping Task Force, *Preliminary Report* (in memorandum form) dated 1 April 1994.

The natural increase figure derived from total births and total deaths is from Population Reference Bureau (PRB), "Population Update," *Population Today*, June 1995, p. 6. Average family size is from PRB *World Population Data Sheet 1995*. Extent of unintended pregnancies and births from testimony of Jacqueline Forrest, Research and

Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force roundtable. Data on unintended pregnancies is also available in Jacqueline Forrest, "Epidemiology of Unintended Pregnancy and Contraceptive Use," *American Journal of Obstetrics and Gynecology*, May 1994, pp. 1485-89, and Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994).

The escalator image is borrowed from Paul Harrison, *The Third Revolution: Environment, Population, and a Sustainable World* (London: I.B. Tauris & Co., 1992). The necessity to work on both population and consumption in the United States to reduce environmental impacts, because of time scales and the limitations of demographic change, is based on Judith Jacobsen, "Population, Consumption, and Environmental Degradation: Problems and Solutions," *Colorado Journal of International Environmental Law and Policy*, Summer 1995.

POPULATION

HISTORY OF THE ISSUES IN THE UNITED STATES

Richard Nixon's "Message on Population," the creation of Title X, and the Rockefeller Commission are taken from Paul Demeny, "Pronatalist Policies in Low-Fertility Countries: Patterns, Performance, and Prospects," *Below-Replacement Fertility in Industrial Societies: Causes, Consequences, Policies: A Supplement to VoL 12 of Population and Development Review*, 1986, pp. 335-58. U.S. average family size (total fertility rate) in 1969 is taken from Susan Weber, ed., *USA by Numbers: A Statistical Portrait of the United States* (Washington, D.C.: Zero Population Growth, 1988), p. 59. Total fertility rate 1972-1989 is from U.S. Department of Commerce, *Statistical Abstract of the United States 1994* (Washington, D.C.: U.S. Government Printing Office, 1994), p. 78. The document negotiated in Cairo is published by the United Nations and is entitled *International Conference on Population and Development, Programme of Action*, A/CONF 171/13, 18 October 1994.

DEMOGRAPHIC TRENDS

That the United States is the only major industrialized country in the world experiencing population growth on a significant scale; that the United States is the third largest country in the world; U.S. and European natural increase rates; and annual population contributions larger than that of the United States are all drawn from Population Reference Bureau, *World Population Data Sheet 1995*. Absolute natural increase is drawn from Population Reference Bureau, "Population Update," *Population Today*, June 1995, p. 6. Net migration is from testimony of Susan Martin, Director, U.S. Commission on Immigration Reform, 27 October 1994 Task Force roundtable. Connecticut and California populations are derived from Susan Weber, ed., *USA by Numbers: A Statistical Portrait of the United States* (Washington, D.C.: Zero Population Growth, 1988), pp. 16-17.

Historical immigration levels are from Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin*, September 1994, p. 23. Historical fertility is from U.S. Bureau of the Census, *Statistical Abstract of the United States 1994* (Washington, D.C.: U.S. Government Printing Office, 1994), p. 78. Total fertility in Ireland, Iceland, Malta, and the United States in 1995 is from Population Reference Bureau, *World Population Data Sheet 1995*.

U.S. Census Bureau Projections are drawn from testimony of Jennifer Day, Demographer and Statistician, U.S. Bureau of the Census, 27 October, 1994 Task Force roundtable.

Economic consequences of slow population growth are drawn from Geoffrey McNicoll, "Economic Growth with Below-Replacement Fertility," *Below-Replacement Fertility in Industrial Societies: Causes, Consequences, Policies: A Supplement to VoL 12 of Population and Development Review*, 1986, pp. 217-38.

Quotations from the Rockefeller Commission Report are taken from National Audubon Society, *Population and the American Future Twenty Years Later: Revisiting the Rockefeller Commission Report* (Boulder, Colorado: Human Population and Resource Use Department, 1994), pp. 27 and 31.

Arguments regarding aging of populations with low fertility are drawn from Carolyn Weaver, "Social Security in Aging Societies," and "Comment: Thomas Gale Moore," *Below-Replacement Fertility in Industrial Societies: Causes, Consequences, Policies: A Supplement to Vol. 12 of Population and Development Review*, 1986, pp. 273-94 and 295.

Data on polls is from Maryla Webb and Judith Jacobsen, *Carrying Capacity: An Introduction* (Washington, D.C.: Carrying Capacity, Inc., 1982), pp. 61-62..

FINDINGS AND POLICY RECOMMENDATIONS

Fertility

Fertility Rate. Historical fertility figures are from U.S. Bureau of the Census, *Statistical Abstract of the United States 1994* (Washington, D.C.: U.S. Government Printing Office, 1994), p. 78. Current fertility is from Population Reference Bureau, *World Population Data Sheet 1995*. Number of pregnancies in 1992 and percentage of pregnancies unintended are from Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994). Definitions of "mistimed" and "unwanted" are from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force roundtable.

Low birthweight and infant mortality figures are drawn from National Family Planning and Reproductive Health Association, "Facts About the National Family Planning Program," (Washington, D.C, undated). Unintended pregnancies that end in abortion is from Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994).

Pregnancies. Incidence of unintended pregnancies by income and age is from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 roundtable. Percentage of teen pregnancies unintended is from Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994). Unintended pregnancies among women over 40 are from personal communication with Felicia Stewart, M.D., Deputy Assistant Secretary for Population Affairs, U.S. Department of Health and Human Services, 14 June 1995. Percentage of unintended pregnancies among women in poverty is from Patricia Donovan, *The Politics of Blame: Family Planning, Abortion, and the Poor* (New York, 1995), p. 20.

Births. Number of births in U.S. is from Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994) and Population Reference Bureau, "Population Update," *Population Today*, June 1995, p. 6. Percentage of births that are mistimed and unwanted and recent trends are from testimony by Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force roundtable. New welfare recipients figure is from Patricia Donovan, *The Politics of Blame: Family Planning, Abortion, and the Poor* (New York, 1995), p. 9. Teens and welfare figure is from National Family Planning and Reproductive Health Association, "Facts About the National Family Planning Program," (Washington, D.C., undated).

Incidence of unintended births by age and income is from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force Roundtable.

The demographic impact of eliminating unwanted births is a calculation by the Task Force. Qualitative demographic impact of delaying mistimed births is from personal communication with Stanley Henshaw, Alan Guttmacher Institute, New York, 6 June 1995.

Contraceptive Services. Contraceptive failure by age, income, and marital status and comparison between U.S. and European failure rates is from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force Roundtable.

The paragraph on the number of sexually active, contracepting, and at risk American women of reproductive age is derived from a number of sources. Total American women of reproductive age, the number sexually experienced, the number not at risk of unintended pregnancy (including the number of women that rely on sterilization), and the number at risk, are drawn from Stanley Henshaw and Jacqueline Forrest, *Women at Risk of Unintended Pregnancy, 1990 Estimates: The Need for Family Planning Services, Each State and County* (New York: The Alan Guttmacher Institute, 1993) and L.S. Peterson, "Contraceptive Use in the United States: 1982-1990," *Advance Data from Vital and Health Statistics*, No. 260 (Washington, D.C.: National Center for Health Statistics, 1995), in consultation with Barbara Cohen, Office of Population, U.S. Department of Health and Human Services. The four to five million figure (women who are at risk of an unintended pregnancy yet do not use contraception) is derived from the figure of women at risk of unintended pregnancy *not including those who rely on contraceptive sterilization* (30.5 million), women relying on contraceptive sterilization (14.6 million), and a figure presented in testimony by Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, at the 27 October 1994 Task Force roundtable: that 90 percent of all women at risk of an unintended pregnancy (including women who rely on contraceptive sterilization—a definition different from the one used in the text) rely on contraception of some kind. The 90 percent figure is also found in the Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994), p. 1. The percentage of unintended pregnancies that occur to women who do, and do not, use contraception is from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force Roundtable.

The number of women in need of subsidized family planning and reproductive health care is from personal communication with Felicia Stewart, M.D., Deputy Assistant Secretary for Population Affairs, U.S. Department of Health and Human Services, 14 June 1995. Percentages of low-income women and sexually active teenagers who do not receive medically-supervised contraceptive care is from testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable.

Title X. Information on Title X-services it provides; number of clinics receiving support; total funding in 1995; profile of clients; percent of eligible people served; pregnancies and abortions avoided; and costs compared with childbirth—is from National Family Planning and Reproductive Health Association, "Facts About the National Family Planning Program" (Washington, D.C., undated). Cost-effectiveness of publicly-funded family planning is from Patricia Donovan, *The Politics of Blame: Family Planning, Abortion, and the Poor* (New York: The Alan Guttmacher Institute, 1995), p. 5. Information on other public sources of funding for family planning services from Rachel Gold and Daniel Daley, "Public Funding of Contraceptive, Sterilization, and Abortion Services, Fiscal Year 1990," *Family Planning Perspectives*, September/October 1991, pp. 204- 11. Medicaid coverage of abortions is from Patricia Donovan, *The Politics of Blame: Family Planning, Abortion, and the Poor* (New York: The Alan Guttmacher Institute, 1995), p. 34.

Medicaid. Expansion of Medicaid coverage is from testimony of Judith Desamo, Executive Director, National Family Planning and Reproductive Health Association, 3 March 1995 Task Force Roundtable, and Rachel Gold and Daniel Daley, "Public Funding of Contraceptive, Sterilization, and Abortion Services, Fiscal Year 1990," *Family Planning Perspectives*, September/October 1991, pp. 204-11.

Private Insurance. Information on private insurance coverage of family planning services is from testimony of Judith Desamo, Executive Director, National Family Planning and Reproductive Health Association, 3 March 1995 Task Force Roundtable.

Related Strategies. Data on contraceptive research is from Carl Djerassi, "The Bitter Pill," *Science*, 28 July, 1989, pp. 356-61 and testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable.

Emergency Contraception. Information on emergency contraception is from testimony of Judith Desamo, Executive Director, National Family Planning and Reproductive Health Association, 3 March 1995 Task Force Roundtable.

The Role of Men. Male participation issues is drawn from testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable.

Contraceptive Failure. Points about American attitudes toward sex, sexuality, and contraception are drawn from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force Roundtable, and testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable; numbers on sex education are from Hallerdin's testimony. Point on media is from testimony of Margaret Pruitt Clarke, President, Advocates for Youth, 3 March 1995 Task Force Roundtable.

Financial Incentives. Analysis of financial incentives is based in part on Judith Jacobsen, "Promoting Population Stabilization: Incentives for Small Families," *Worldwatch Paper 54* (Washington, D.C.: Worldwatch Institute, 1983).

Fighting Poverty. Information on economic opportunity for teens is from testimony of Margaret Pruitt Clarke, President, Advocates for Youth, 3 March 1995 Task Force Roundtable.

Adolescent Fertility. The entire section on adolescent fertility-including the causes of adolescent pregnancy, requirements of programs, age differences between pregnant teens and their sexual partners, and successful programs around the country-draws heavily on the testimony of Margaret Pruitt Clarke, President, Advocates for Youth, 3 March 1995 Task Force Roundtable. The section also relied on the following sources.

Data on teen pregnancy and childbearing are from the Alan Guttmacher Institute, "Women and Reproductive Health in the United States," *Facts in Brief* (New York, 1994). Incidence of teen pregnancy by income is drawn from testimony of Jacqueline Forrest, Research and Planning Division, Alan Guttmacher Institute, 27 October 1994 Task Force Roundtable. Age differences between pregnant teen girls and their partners are from testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable. Age at first sexual activity is from the Alan Guttmacher Institute, *Sex and America's Teenagers* (Washington, D.C., 1994), p. 20.

Women, Poverty, and Opportunity. Numbers on women in poverty are from Patricia Donovan, *The Politics of Blame: Family Planning, Abortion, and the Poor* (New York: The Alan Guttmacher Institute, 1995), p. 9. Figures on employment and education are from testimony of Jule Hallerdin, Director of Medical Affairs, Planned Parenthood Federation of America, 3 March 1995 Task Force Roundtable.

Immigration. Native American population is from personal communication with Public Information Office of the U.S. Bureau of the Census, 6 June 1995. "Four waves" of immigration is from testimony of Susan Martin, Director of U.S. Commission on Immigration Reform, 27 October 1994 Task Force Roundtable, and Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin*, September 1994, pp. 21-23.

Principles of immigration law in history are from U.S. Department of State, Bureau of Population, Refugees, and Migration, *U.S. National Report to the International Conference on Population and Development* (Washington, D.C., 1994), p. 30. Laws of 1986 and 1990 are from Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin*, September 1994, pp. 12-14. Immigration numbers for 1994 are from testimony of Susan Martin, Director of U.S. Commission on Immigration Reform, 27 October 1994 Task Force Roundtable, and Philip Martin and Elizabeth Midgley, "Immigration to the United States: Journey to an Uncertain Destination," *Population Bulletin*, September 1994, p. 4. Approach of the U.S. Commission on Immigration Reform and needed research is from testimony of Susan Martin, Director of U.S. Commission on

Immigration Reform, 27 October 1994 Task Force Roundtable; testimony of Ellen Percy Kraly, Department of Geography, Colgate University, 27 October 1994 Task Force Roundtable; and testimony of Michael Teitelbaum, Vice Chair, U.S. Commission on Immigration Reform, 3 March 1995 Task Force Roundtable.

Population Distribution. State population densities are from Susan Weber, ed., *USA by Numbers: A Statistical Portrait of the United States* (Washington, D.C.: Zero Population Growth, 1988), p. 24. All other data in this section from U.S. Department of State, Bureau of Population, Refugees, and Migration, *U.S. National Report to the International Conference on Population and Development* (Washington, D.C., 1994), p. 5, and Population and Consumption Scoping Task Force, *Preliminary Report* (in memorandum form) dated 1 April 1994, pp. 1-2. References to local growth are based on special issue of *High Country News*, "Grappling with Growth," 5 September 1994.

CONSUMPTION

HISTORY AND SCOPE OF THE CONSUMPTION ISSUE

The statement about unsustainable production and consumption can be found in *Agenda 21: Programme of action for Sustainable Development, Rio Declaration on Environment and Development* (New York: United Nations, undated), p. 31. Industrialized countries as percentage of world population is from Population Reference Bureau, *World Population Data Sheet 1995*. Data on industrialized country consumption and waste production is from Alan Durning, *How Much Is Enough? The Consumer Society and the Future of the Earth* (New York: W.W. Norton & Company, 1992), pp. 50-51.

The U.S. role in resource consumption and waste production is drawn from the Population and Consumption Scoping Task Force, *Preliminary Report* (in memorandum form) dated 1 April 1994. Raw materials use and population growth 1900-1989 is from John Young and Aaron Sachs, "The Next Efficiency Revolution: Creating a Sustainable Materials Economy," *Worldwatch Paper #121* (Washington, D.C.: Worldwatch Institute, 1994), p. 14.

That 4.5 billion tons of materials were used in 1989 is drawn from World Resources Institute, "Natural Resource Consumption," *World Resources 1994-1995* (New York: Oxford University Press, 1994), p. 15. Figures on crude materials handled; materials wasted and dissipated into the environment; and the amount of postconsumer waste is from testimony of Robert Repetto, World Resources Institute, 11 January 1995 Task Force Roundtable.

U.S. municipal waste as highest in the world is from Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992), p. 15. Greenhouse gas emissions drawn from World Resources Institute, "Natural Resource Consumption," *World Resources 1994-1995* (New York: Oxford University Press, 1994), pp. 17 and 201. Toxic waste is from the Population and Consumption Scoping Task Force, *Preliminary Report* (in memorandum form) dated 1 April 1994.

Ratio of U.S. natural resource use per capita to world average in 1990 and per capita; percentage of mineral and metal commodities produced domestically; and total resource use, including of paper and plastic, are drawn from World Resources Institute, "Natural Resource Consumption," *World Resources 1994-1995* (New York: Oxford University Press, 1994), pp. 15-16.

Personal goods and services consumption rising by 45 percent and Index of Social Health is drawn from New Road Map Foundation, *All-Consuming Passion: Waking Up from the American Dream* (Seattle, Washington, 1993).

The section on de-coupling prosperity from resource use and increasing the prices of natural resources relied on World Resources Institute, "Natural Resource Consumption," *World Resources 1994-1995* (New York: Oxford University Press, 1994), pp. 23-24; Ernst Ulrich von Weizsacker, "How to Achieve Progress Towards Sustainability," *Symposium: Sustainable Consumption*, report of symposium held 19-20 January 1994, in Oslo, Norway, pp. 50-59; Sandra Postel and Christopher Flavin, "Reshaping the Global Economy," *State of the*

World (New York: W.W. Norton, 1991), pp. 170-188; and testimony of Robert Repetto, World Resources Institute, 11 January 1995 Task Force roundtable. The quotation that prices should tell "the ecological truth" is drawn from Ernst Ulrich von Weizsacker, "How to Achieve Progress Towards Sustainability," *Symposium: Sustainable Consumption*, report of symposium held 19-20 January 1994, in Oslo, Norway, p. 58.

The discussion of market-based economic instruments for environmental policy and of a "tax shift" relied on Joanne Freund Leshner, "Pursuing Ecological Tax Reform in the United States," (mimeographed report) January 1995; Organization for Economic Cooperation and Development, *Taxation and the Environment: Complementary Policies* (Paris, 1994); Organization for Economic Cooperation and Development, *Managing the Environment: The Role of Economic Instruments* (Paris, 1994); David Pearce, "Sustainable Consumption Through Economic Instruments," *Symposium: Sustainable Consumption*, report on a symposium held 19-20 January 1994, in Oslo, Norway, pp. 84-90; and Robert Stavins and Bradley Whitehead, "Dealing with Pollution: Market-Based Incentives for Environmental Protection," *Environment*, September 1992, pp. 7-11, and 29-41; Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992); and on testimony of Roger Dower, World Resources Institute, 3 March 1995 Task Force Roundtable.

The role of savings in the economy and in technological innovation and the U.S. savings rate is from testimony of Roger Dower, World Resources Institute, 3 March 1995 Task Force Roundtable.

FINDINGS AND POLICY RECOMMENDATIONS

Economic Policy Instruments

Total and per capita U.S. energy consumption during the 1970s and early 1980s is drawn from U.S. Bureau of the Census, *Statistical Abstract of the United States* 1994 (Washington, D.C.: U.S. Government Printing Office, 1994), pp. 584-85. Rise in average fuel economy, per capita energy consumption, and total energy use in the transportation sector are from Energy Information Administration, U.S. Department of Energy, *Energy Use and Carbon Emissions: Some International Comparisons* (Washington, D.C., 1994), pp. 37, 39, and 40.

Existing provisions are drawn from Joanne Freund Leshner, "Pursuing Ecological Tax Reform in the United States," (mimeographed report) January 1995; Organization for Economic Cooperation and Development, *Taxation and the Environment: Complementary Policies* (Paris, 1994); Organization for Economic Cooperation and Development, *Managing the Environment: The Role of Economic Instruments* (Paris, 1994); and Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992).

Composition of federal tax receipts in 1991 and benefits of a tax shift is drawn from Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992), pp. 3-12; and testimony of Roger Dower, World Resources Institute, 3 March 1995 Task Force Roundtable. <p>Rationality, equity, and other requirements of a tax, and need for empirical analyses and proper choice of baseline is based on Joanne Freund Leshner, "Pursuing Ecological Tax Reform in the United States," (mimeographed report) January 1995. Point about tribal dependence on payroll taxes is drawn from comment of Theodore Strong, Executive Director, Columbia River Inter-Tribal Fish Commission and Member of President's Council on Sustainable Development and of the Population and Consumption Task Force at 27 April 1995 PCSD meeting in San Francisco, California.</p>

Educating Consumers

ICR Poll reported in *Greenwire* in late April 1995. Merck Family Fund poll results are from personal communication with Betsy Taylor, Executive Director of Merck Family Fund, 19 June 1995.

Twenty percent reduction in expenditures is reported in testimony by Vicki Robin, New Road Map Foundation, 11 January 1995 Task Force roundtable and in Joe Dominguez and Vicki Robin, *Your Money or Your Life: Transforming Your Relationship With money and achieving Financial Independence* (New York: Penguin Books, 1992), p. 154. Global Action Plan for the Earth program results reported in testimony by David Gershon, President, Global Action Plan, 11 January 1995 Task Force Roundtable. The program itself is described in David Gershon and Robert Gilman, *Household Ecoteam Workbook: A Six-Month Program to Bring Your Household into Environmental Balance* (Woodstock, New York: Global Action Plan for the Earth, 1992).

Total government procurement figure is drawn from U.S. Bureau of the Census, *Statistical Abstract of the United States 1994* (Washington, D.C.: U.S. Government Printing Office, 1994).

Eco-Labeling

Percentage of consumers that think of environmental impact when shopping is from a poll commissioned by the National Consumers League, conducted by New Jersey-based Bruskin/Goldring Research, and reported in *Greenwire* in late April 1995. Confusing labels and terms on consumer goods is from testimony of Norman Dean, President, Green Seal, 3 March 1995 Task Force Roundtable. Increased use of terms such as "environmentally friendly" is from study by researchers at the University Utah, Oregon State University, and the University of Illinois, and reported in *Greenwire* in late April 1995.

Disposable diapers as percentage of total municipal solid waste stream is from Daniel Chiras, *Lessons from Nature: Learning to Live Sustainably on the Earth* (Washington Press, 1992), p. 202. , D.C.: island

Features of an eco-labeling scheme are drawn from personal communications with David Harwood, Office of the Under-Secretary of State for Global Affairs, U.S. Department of State, May and June 1995, and testimony of Norman Dean, President, Green Seal, 3 March 1995 Task Force roundtable. The Resource Recovery and Conservation Act can be found at 42 U.S.C. 6962.

Government Procurement

Scale of federal purchases is from personal communications with David Harwood, Office of the Under-Secretary of State for Global Affairs, U.S. Department of State, May and June 1995. Figure on federal paper purchases is from John Young and Aaron Sachs, "The Next Efficiency Revolution: Creating a Sustainable Materials Economy," *Worldwatch Paper #121* (Washington, D.C.: Worldwatch Institute, 1994), p. 37. All other points in this section are drawn from U.S. Environmental Protection Agency, "Comprehensive Guidelines for Procurement of Products Containing Recovered Materials and Issuance of a Draft Recovered Materials Advisory Notice; Proposed Rule and Notice," *Federal Register*, 20 April 1994, p. 18851-914.

Public Education

Amount of time the average American spends watching television commercials is from New Road Map Foundation, "All-Consuming Passion: Waking Up from the American Dream" (Seattle, Washington, 1993). Ads seen by the time of graduation from high school is from Alan Durning, *How Much Is Enough? The Consumer Society and the Future of the Earth* (New York: W.W. Norton & Company, 1992), p. 128.

Information on FFC standards for advertisers is from personal communications with David Harwood, Office of the Under-Secretary of State for Global Affairs, U.S. Department of State, May and June 1995.

Data on savings, debt, impulse purchases, increase in hours spent working, desires to slow down, willingness to trade wages for more free time from New Road Map Foundation, "All-Consuming Passion: Waking Up from the American Dream" (Seattle, Washington, 1993).

The section on stewardship was greatly improved by the input of James Martin-Schramm of Luther College and a non-PCSD member of the Population and Consumption Task Force. Merck Family Fund poll is from personal

communication with Betsy Taylor, Executive Director, Merck Family Fund, 19 June 1995. All other data from Benedicta Musembi and David Anderson, "Religious Communities and Population Concerns," prepared by the Population Reference Bureau, April 1994: on Americans and religion, p. 2; NACRE poll of Christian denominations on stewardship, p. 5; history of U.S. religious organization involvement with environmental issues, p. 3-5; moral concerns of sustainability, solidarity, and sufficiency, pp. 10-17. Point about participation from James Martin-Schramm, Luther College. Poll results about materialism are from personal communication, Daniel Devlin-Foltz, Pew Global Stewardship Initiative, 10 May 1995.

Packaging, Garbage, and Toxics

Environmental consequences of materials use and dimensions of a new materials economy is based on John Young and Aaron Sachs, "The Next Efficiency Revolution: Creating a Sustainable Materials Economy," Worldwatch Paper #121 (Washington, D.C.: Worldwatch Institute, 1994), and Jennifer Seymour Whitaker, *Salvaging the Land of Plenty: Garbage and the American Dream* (New York: William Morrow and Co., Inc., 1994).

Streamlining Packaging in the United States

Packaging as a percentage of the waste stream, and paper, plastic, and glass as a percentage of the waste stream, is from Jennifer Seymour Whitaker, *Salvaging the Land of Plenty: Garbage and the American Dream* (New York: William Morrow and Co., Inc., 1994), pp. 103-04. Information on the German program is from Megan Ryan, "Packaging a Revolution," *World Watch*, September/October 1993, pp. 28-34; Megan Ryan, "Update: Packaging a Revolution," *World Watch*, July/August 1994, p. 9; and Jennifer Seymour Whitaker, *Salvaging the Land of Plenty: Garbage and the American Dream* (New York: William Morrow and Co., Inc., 1994), pp. 200-2 and 230. Recent European Union directive is from personal communications with David Harwood, Office of the Under-Secretary of State for Global Affairs, U.S. Department of State, May and June 1995.

Garbage Fees

Growth in volume of municipal solid waste between 1960 and 1988, daily per capita U.S. trash production, potential for recycling and composting, and actual recycling are from Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992), p. 15. U.S. population in 1960 is from Susan Weber, ed., *USA by Numbers: A Statistical Portrait of the United States* (Washington, D.C.: Zero Population Growth, 1988), p. 5; 1988 figure is from Population Reference Bureau, *World Population Data Sheet 1988*.

Definition of municipal solid waste and proportion of all municipal solid waste that is landfill is from Robert Repetto, Roger Dower, Robin Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy* (Washington, D.C.: World Resources Institute, 1992), pp. 15 and 34. Municipal solid waste as a percentage of the entire waste stream is from Jennifer Seymour Whitaker, *Salvaging the Land of Plenty: Garbage and the American Dream*, (New York: William Morrow and Co., Inc., 1994), p. 107.

Traditional and innovative financing of municipal garbage collection and World Resources Institute study of scaled garbage collection fees are from Robert Repetto, Roger Dower, Rob Jenkins, and Jacqueline Geoghegan, *Green Fees: How a Tax Shift Can Work for the Environment and the Economy*. (Washington, D.C.: World Resources Institute, 1992), pp. 16-29.

Household Toxics

Average toxic discards and percent of household waste stream it represents; hazardous contents of batteries; and amount of motor oil improperly discarded are from personal communication Jennifer Whitaker, Council on Foreign Relations, 25 March 1995. Size of *Exxon Valdez* oil spill and toxicity of municipal landfills are from Jennifer Seymour Whitaker, *Salvaging the Land of Plenty: Garbage and the American Dream* (New York: William Morrow and Co., Inc., 1994), pp. 122 and 121, respectively.

Technology for Sustainability

All material in the technology section is drawn from George Heaton, Robert Repetto, and Rodney

Sobin, *Transforming Technology: An Agenda for Environmentally Sustainable Growth in the 21st Century* (Washington, D.C.: World Resources Institute, 1991).

CONCLUSIONS

Wuppertal Institute estimate of reduction in material flows required for sustainability Ernst Ulrich von Weizsacker, "How to Achieve Progress Towards Sustainability," *Symposium: Sustainable Consumption*, report of symposium held 19-20 January 1994, in Oslo, Norway, p.52.

Appendices

Appendix A

Administrative History of the Task Force

The President's Council on Sustainable Development created the Population and Consumption Task Force (PCTF) at its July 1994 meeting in Chicago, approximately one year after the other Task Forces began their work. In addition to Council members and their liaisons (see Appendix B), a number of non-Council members joined the Task Force to expand the field of expertise upon which the Task Force could draw. These non-Council members are listed in Appendix C.

In order to gather relevant data quickly, the Task Force called on Judith Jacobsen of Boulder, Colorado, to conceptualize and organize three roundtable discussions, involving both expert presentations and public comment, on: (1) population issues; (2) consumption issues; and (3) policy recommendations in both areas. These roundtables were supported by a grant from the John D. and Catherine T. MacArthur Foundation, given to the Walter Orr Roberts Institute of Boulder, Colorado, which provided all necessary administrative and logistical support.

The Task Force convened these roundtables in Washington, D.C., on October 27, 1994; in Chattanooga, Tennessee, on January 11, 1995; and in New York, New York on March 3, 1995. Speakers, their affiliations, and their topics are listed in Appendix D.

These roundtables and other extensive research and analysis formed the basis for the goals and policy recommendations developed by the Task Force. Full statements of the goals, policy recommendations and action items are included in Chapter 4.

APPENDIX B

PCSD MEMBERS OF THE TASK FORCE AND THEIR LIMSONS

John H. Adams, Executive Director, Natural Resources Defense Council (NRDC)
Liaisons: Frances Beineke, NRDC
Jackqueline Hamilton, NRDC

D. James Baker, Under-Secretary for Oceans and Atmosphere, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce
Liaison: Roan Conrad, U.S. Department of Commerce

Richard Barth, CEO of CIBA-Geigy Corporation
Liaison: John Mincy, CIBA-Geigy Corporation

Ron H. Brown, Secretary of U.S. Department of Commerce
Liaison: John Bullard, U.S. Department of Commerce

Dianne Dillon-Ridgley, National Co-Chair, Citizen's Network for Sustainable Development
Liaison: Brian Dixon, Zero Population Growth

Fred D. Krupp, Executive Director, Environmental Defense Fund (EDF)
Liaisons: Marsha Aronoff, EDF
Gita Misra, EDF

Michelle A. Perrault
Liaison: Michael McCloskey

Theodore Strong, Executive Director, Columbia River Inter-Tribal Fish Commission
Liaison: John Platt, Columbia River Inter-Tribal Fish Commission

Timothy E. Wirth, Under-Secretary for Global Affairs, U.S. State Department
Liaison: David Harwood, U.S. State Department

APPENDIX C

NON-PCSD TASK FORCE MEMBERS

Margaret Pruitt Clark, Advocates for Youth

Clifford Cobb, Redefining Progress

David Crocker, University of Maryland

George Gerbner, University of Pennsylvania

David Gershon, Global Action Plan for the Earth

Neva Goodwin, Tufts University

Wade Greene, Rockefeller Financial Services

Jeanne Haws, AVSC International

Judith Jacobsen, University of Denver

Vicki Robin, New Road Map Foundation

Jeffrey Rogers, City Attorney, Portland, Oregon

James Martin-Schramm, Luther College

Felicia Stewart, U.S. Department of Health and
Human Services

Betsy Taylor, Merck Family Fund

APPENDIX D

ROUNDTABLE SPEAKERS AND TOPICS

First Roundtable Jennifer Day, U.S. Census Bureau: recent projections of U.S. population growth

Jacqueline Forrest, Alan Guttmacher Institute: U.S. fertility trends, unintended pregnancy, and unwanted fertility in the United States

Susan Martin, U.S. Commission on Immigration Reform: history and current issues in legal and illegal immigration into the United States

Ellen Kraly, Colgate University: state of research on the environmental impacts of immigration

Second Roundtable Robeit Repefto, World Resources Institute: patterns and scale of materials and energy use in the United States

Robert Wiffiams, Princeton University: technologies for energy efficiency

Candace Skarlatos, Bank of America: voluntary corporate environmental efforts at the Bank of America

David Gershon, Global Action Plan: household-based efforts to achieve sustainable consumption in the United States

Vicid Robin, New Road Map Foundation: individual actions for sustainability

Third Roundtable Judith Desarno, National Family Planning and Reproductive Health Association: policies for reducing unintended pregnancies in the United States

Margaret Pruitt Clark, Advocates for Youth: policies for reducing adolescent pregnancies in the United States

Jule Hallerdin, Planned Parenthood Federation of America: women's reproductive health and unintended fertility

Michael Teitelbaum, U.S. Commission on Immigration Reform: policies being considered by the Commission on Immigration Reform

Roger Dower, World Resources Institute: macro-scale economic policies for improving efficiency of production and use of materials and energy

Norman Dean, Green Seal: policies for encouraging eco-labeling