

ISSUES OF THE DAY

100 Commentaries on Climate, Energy,
the Environment, Transportation,
and Public Health Policy



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PART 7

Environment and Development

This final section touches on some challenging policy problems in developing countries where the institutions for dealing with the adverse side effects of industrialization and population growth are often poorly developed. There are important lessons to be learned – often about what not to do – from how other countries handle problems that defy easy answers. For example, the Washington, DC, metropolitan area regularly earns the third place in having the worst traffic in the nation, and numerous solutions have been implemented, to varying degrees of success, such as expanding the subway system. Mexico City, which is far larger, adopted what looked like a straightforward approach, the “Today Don’t Drive” program. But that essentially failed because it didn’t address human behavior, specifically the willingness of households to quickly adapt to new government regulations.

Too often, our understanding about other countries or certain phenomenon is based on scarce information or long-held assumptions that have come to be regarded as fact. Several commentaries in this section look at the numbers behind the myths and evaluate possible policy tools. Famines today, for example, are rarely caused by plagues of locusts or totalitarian regimes, like those associated with Stalin and Mao. But the definitions have changed: at present, mass hunger is a far greater challenge to the global community than famine. The “population bomb” once feared a few decades ago basically has been defused, thanks to family planning programs and economic and social progress achieved in many developing nations. But population growth won’t be stable for a while, and prospective population increases will continue to power large international migration streams, mainly from the poor areas of Africa, Latin America, and South Asia to the developed nations.

Finally, other commentaries introduce readers to broader development problems such as housing “poverty,” green cities, and the need for safe drinking water. Throughout the book, you’ll find similar entries, particularly in the Managing Natural Resources, Transportation and Urban Policy, and Public Health Policy sections.

94. DRIVING RESTRICTIONS AND AIR QUALITY IN MEXICO CITY

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Sound economic analysis that sorts out which environmental policies work and which do not is especially important for developing countries where large urban populations are frequently exposed to acute pollution. One environmentally motivated policy that does not seem to be working well, at least for Mexico City, is restricting the number of days people can drive their vehicles.

Whereas U.S. cities have seen dramatic improvements in air quality over the last three decades, Mexico City has been considerably less successful. Levels of major air pollutants in Mexico City routinely exceed the maximum exposure limits established by the World Health Organization (WHO). For example, WHO has warned that eight-hour average ozone levels exceeding 100 micrograms per cubic meter threaten human health, causing respiratory infections, chronic respiratory illness, and aggravation of existing cardiovascular disease. Evidence from monitoring stations in Mexico City indicates that during the period 1986–2005, this guideline was exceeded 92 percent of the time. Extrapolations from U.S. studies suggest that these pollution levels lead to thousands of premature deaths a year in Mexico City.

Nearly 20 years ago, record levels of ozone and other airborne pollutants led the Mexico City government to introduce a program, Hoy No Circula (HNC), which bans most drivers from using their vehicles one weekday per week, based on the last digit of the vehicle's license plate. (For example, vehicles with a license plate ending in 5 or 6 may not be used on Monday.) The restrictions are in place between 5 a.m. and 10 p.m. and affect the vast majority of residential and commercial vehicles, although taxis are excluded. When imposed in 1989, the restrictions applied to 2.3 million vehicles, or 460,000 vehicles per day.

The policy seemed reasonable at the start. After all, vehicle emissions are overwhelmingly the primary source of air pollution in Mexico City. According to a recent emissions inventory, vehicles are responsible for 81 percent of the nitrogen oxides and 46 percent of the volatile organic compounds in the Mexico City atmosphere. However, when hourly air pollution records from monitoring stations were examined, they showed no evidence that the program has improved air quality. While weekend and late-night air pollution increased relative to weekdays, consistent with drivers shifting to hours when the program is not in effect, weekday pollution levels did not change at all.

The primary cause of the program's failure turns out to be human adaptation. While the hope was that drivers would shift to low-emissions forms of transportation, such as the subway or the public or private bus systems, no one got out of their cars. Instead, the evidence indicates that HNC has led to an increase in the total number of vehicles in circulation. What is the easiest way to circumvent the Hoy No Circula program? Buy a second car. A driver with two vehicles can drive every day of the week as long as the last digits of the license plates don't match. Plus, the data shows that most of the new cars are, in fact, used and imported from other parts of the country, and thus tend to be high-emitting.

An additional explanation is the increased use of taxis. There are over 100,000 taxis in Mexico City, or approximately one taxi for every 100 residents. In comparison, New York City has approximately one taxi for every 600 residents, and Beijing has one taxi for every 175 residents. Mexico City's unusually large stock of taxis was well positioned to absorb any increase in demand from HNC. Moreover, from 1986 to

2005, taxis in Mexico City were among the highest-emitting vehicles in circulation; most were Volkswagen Beetles, a vehicle that has not been sold in the United States since 1977.

But given HNC's basic failure to alter driver behavior, Mexico City's highly congested streets are as clogged as ever. Yet the inconvenience of the driving restrictions still imposes costs on vehicle owners; a rough calculation suggests these costs amount to over \$300 million per year, or \$130 per vehicle owner.

Questions about the effectiveness of this program are relevant to current environmental policy in Mexico City. Air quality remains a severe problem in Mexico City, with ozone levels exceeding WHO standards 79 percent of the time in 2005. Despite the contrary evidence, HNC was actually expanded July 2008 to include Saturday driving restrictions. Some see HNC as the central component of Mexico City's strategy for addressing air pollution, while others would like to replace it with other forms of pollution control. Either way, reliable estimates of the effect of HNC on air pollution are necessary for evaluating these alternatives.

Carrying out such analysis would have implications for air quality and transportation policies throughout the urban developing world. According to the World Bank, the 10 cities with the highest average levels of airborne particulates are all in the developing world. Trends in population and vehicle growth in these urban areas threaten to exacerbate these problems. Between 2000 and 2030, the number of people living in cities in less-developed countries is forecast to increase by 1.96 billion. This represents 97 percent of the projected global population increase during this period.

Driving restrictions are one of the tools available to policymakers as they confront this growing problem. Indeed, since HNC was implemented, similar programs have been started, such as Pico y Placa in Bogota, Restricción Vehicular in Santiago, Rodízio in São Paulo, and restrictions in Beijing in preparation for the 2008 Olympics. In total, over 50 million people live in cities with driving restrictions based on license plates.

Evidence, at least from Mexico City's experience, suggests that these policies to restrict driving are misguided. More effective environmental policies are probably those that have worked best in the United States, namely progressively tighter emissions standards for mobile and stationary sources, as well as better enforcement through, for example, stricter requirements for regular vehicle emissions inspections.

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95. DECIPHERING THE DEMAND FOR SAFE DRINKING WATER IN LOW-INCOME COUNTRIES

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Contaminated water is one of the most serious health challenges facing many developing countries. Although a variety of interventions are possible for improving water quality, designing effective policy requires careful study of their health benefits and the willingness of households to adopt them. One such study has been conducted in rural Kenya.

We take water for granted when it flows from our kitchen faucets, but for millions in less-developed countries, safe drinking water remains a matter of life and death. Diarrheal diseases kill around two million children every year, and contaminated water is often to blame. In rural areas where pipe infrastructure is too expensive or too hard to maintain, water collection from sources like wells, streams, or springs can take hours each day, a burden that falls primarily on women and young children. And despite the hours of walking time, the sources they must use are often unsafe.

With so many people relying on the same water sources to collect water for drinking and cooking, wash dishes and clothes, and provide for livestock, it's hard to keep those sources clean. Fecal contamination from surface rainwater runoff makes matters worse. The UN Millennium Development Goal of reducing the under-five child mortality rate by two-thirds can be achieved only if diarrhea-related mortality can be drastically reduced. To do so, expanding access to safe water will be key.

Fortunately, a wide variety of relatively inexpensive technologies for water quality improvement are now at our disposal. Age-old tools like ceramic filters have been improved by modern scientists, and brand-new options—including Procter & Gamble's PUR sachets, which make water visibly clear in addition to disinfecting it—have been added to the arsenal. Solar disinfection requires nothing but empty plastic bottles and the natural UV rays available on a sunny day; but in the high-tech facilities operated by the company WaterHealth International in India and Ghana, UV radiation purifies 20,000 liters of water daily.

The task at hand is to figure out which of these technologies are most useful on the ground in poor countries, recognizing that it is individual women who will ultimately decide whether a particular product is desirable and meets their needs. To that end, we are carrying out the Kenya Rural Water Project, a series of rigorous evaluations that study user responses to water quality improvements in rural western Kenya. Drinking water quality is a major public health issue, with, according to our surveys, nearly 20 percent of young children suffering from diarrhea each week. We focus on the two most commonly used methods for improving drinking water quality in this area: spring protection and treatment with chlorine, both of which are simple and well-established approaches.

In this part of rural Kenya, 90 percent of households have ready access to a naturally occurring local spring. Spring protection entails sealing off the spring's water source and encasing it in concrete so that water flows out from a pipe and directly into a collection bucket—rather than seeping from the ground, where it is vulnerable to contamination from surface runoff. Construction costs are usually around \$1,000 but the entire community benefits and protection can last for many years with minimal maintenance. Commercially available dilute chlorine, packaged for retail sale to individual households, is also cheap by Western standards—a month's supply costs about 30 cents per family. As a point-of-use technology, however, each household has

to regularly choose whether or not the hassle and expense of using chlorine are worthwhile.

By comparing households that were randomly assigned to have their springs protected or to be given free chlorine (or both)—similarly to the way that drug trials are designed in medical research—we were able to confirm that both approaches are effective. Before the study began, only 14 percent of the surveyed households had drinking water that met EPA safety standards. Spring protection boosted the proportion to almost 20 percent, and distributing free chlorine raised it to above 50 percent. The average drop in fecal contamination (as measured by the presence of *E. coli* bacteria in the water) was even sharper. As a result, both spring protection and chlorine led to statistically significant reductions in child diarrhea—about one-third fewer diarrhea cases among children in households given free chlorine, with somewhat smaller gains for the protected-spring households. In epidemiological terms, these are substantial gains.

We also calculated how much households value these improvements, using what is called a willingness-to-pay analysis. This yielded some surprising and discouraging news. A randomly chosen subset of our rural Kenyan households was given coupons to buy the chlorine at a 50 percent discount after their free supply ran out, but very few were willing to pay even a modest price (roughly 15 cents per month) for a product that resulted in large positive benefits for their children's health. Using the extra travel costs incurred—basically, the time spent walking to the water source—as a measure of how people would value spring protection, we similarly found that most households were willing to pay only slightly more “with their feet” for cleaner water. Some preliminary calculations indicate that most households were willing to pay only between 50 cents and \$5 for an annual supply of cleaner water, either from chlorine or access to a protected spring.

The low valuation of clean water is consistent with the fact that both of these technologies have been locally available for many years, and yet few natural springs get protected and very few households choose to purchase chlorine.

A lack of practical health knowledge might help explain the discrepancy between the large, observed health effects and low valuation by households of cleaner water. In baseline sur-

veys, one-third of households did not consider contaminated water as a cause of child diarrhea. It might also be difficult for mothers to discern the benefits of clean water in practice. Over the course of a year, the health benefits from giving away free chlorine translated into about 7 weeks of diarrhea rather than 10 weeks for children whose households lack access to cleaner water. While this is an important medical effect, it might be hard for mothers to detect, especially if children are still sick for a variety of other reasons, such as malaria, malnutrition, and respiratory infections.

Our findings call into question the current model for promoting water quality improvements, which relies on cost-sharing with consumers and promotes retail distribution of treatment technologies as a strategy for sustainability. The subsidies needed to make the retail model work may be so high as to render that approach infeasible. Centralized treatment strategies may be an attractive alternative, and we are exploring this idea in the next phase of the Kenya Rural Water Project. Looking ahead, the challenge for both scientists and policymakers interested in the next generation of safe water technologies will be to identify products and distribution channels that work for people at the local level, and ensure that people will actually use the products.

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96. ENVIRONMENTAL POLICY INNOVATIONS IN DEVELOPING COUNTRIES

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Traditional forms of environmental regulation, such as technology mandates, have not worked particularly well in developing countries because the institutions and political will needed to enforce them have been lacking. Successful policy experiments in industrialized countries have inspired some innovative strategies for developing countries.

After decades of rapid urbanization, population growth, and industrialization, developing countries are now home to many of the world's most severe environmental and natural resource problems. Increasingly, they are crafting regulatory policies to address these problems, relying principally on conventional command-and-control (CAC) approaches: legal mandates requiring firms and farms to take certain actions (such as treating wastewater) and prohibiting them from taking others (like clearing forests). Although some developing countries have made enormous progress, the overall track record is mixed at best. The reasons are well known. Written regulations are often riddled with gaps and inconsistencies. Environmental regulatory agencies lack funding and trained personnel. Public infrastructure needed to control pollution has yet to be built. Difficult-to-monitor small and informal firms abound. And perhaps most important, the political will to enforce regulations is often limited.

Given this conundrum—grave environmental and natural resource problems matched with ineffectual policies—developing countries are increasingly experimenting with innovative regulatory strategies. The hope is that these “leapfrog” policies will sidestep the institutional and political constraints that have undermined CAC.

The popularity of different policy innovations has waxed and waned over the years. These phases reflect a bandwagon effect: an innovative policy is successfully piloted, often in an industrialized country; this experience stirs attention in international policy and academic circles; bilateral and multilateral aid organizations provide funds for new applications; and so forth. In what follows, I'll provide a brief, admittedly impressionistic sketch of the emerging empirical evidence on these experiments. The bottom line is that the overall track record is at least as uneven as that of CAC.

Influenced by the successful debut of the U.S. sulfur dioxide trading program, environmental policy innovation in developing countries 10 to 15 years ago emphasized economic incentive instruments like tradable permits and emissions fees, policies that provide financial incentives for improved environmental performance without dictating whether or how agents make these improvements. The usual argument for applying such policies is that, in theory, they are more cost-effective than CAC, a critical consideration in poor countries.

Several efforts to set up permit programs for air pollution in developing countries died on the vine. The most advanced applications have been in Chile and a handful of Chinese cities, none of which have been particularly successful. Improved air quality in Santiago has been largely due to the construction of new pipelines supplying cheap, clean-burning natural gas. In China, virtually all permit trades have been administratively mandated. Although successful in some regions, Colombia's nationwide liquid effluent discharge fee program—arguably the mostly highly touted emissions fee program in a developing country—has been marred by limited implementation in other regions and widespread noncompliance in key economic sectors.

As calls for using economic incentive instruments in developing countries have waned, attention has shifted to other policy innovations, including public disclosure

programs like the U.S. Toxic Release Inventory (TRI), that collect, verify, and disseminate information about facility-level environmental performance in order to heighten pressure for pollution control. A decade after the TRI was established, Indonesia launched its Program for Pollution Control, Evaluation and Rating (PROPER) for major sources of water pollution. Research suggests that the program has spurred significant emissions reductions. Subsequently, multilateral lenders backed efforts to replicate the program in China, India, the Philippines, and Vietnam. Although rigorous evaluations of the impact of these programs have yet to appear, two have not outlasted initial infusions of funding and technical assistance. However, preliminary evaluations of the Green Ratings Project, an independently financed and designed public disclosure program in India, echo those of PROPER.

Voluntary regulation is another innovative environmental strategy now receiving considerable attention. The term refers to programs and policies in which polluters voluntarily commit to environmental performance goals either unilaterally, in the context of an agreement with regulators, or within a program administered by regulators or a third party. Like their counterparts in industrialized countries, developing country policymakers are rapidly putting voluntary programs in place. But evaluations of these programs typically fail to find significant environmental impacts. For example, the Colombian Environment Ministry's 2006 evaluation of 47 voluntary agreements in a wide variety of economic sectors concluded that in only 10 cases did industry keep the bulk of its commitments, most of which were procedural, not substantive. In Mexico, an evaluation of four consecutive agreements with the tanning sector over 13 years showed that the agreements had virtually no substantive impact aside from creating the (less and less credible) appearance of forward progress. The record is not uniformly negative, however. Studies show that voluntary agreements in Chile and a national voluntary audit program in Mexico have spurred significant improvements.

In my view, the principal lesson from these policy experiments is that the critical assumption implicit in many environmental policy leapfrog efforts in developing countries—that innovative policies will somehow sidestep the institutional and political constraints that have undermined CAC—has generally turned out to be mistaken. Typically, the same constraints that have bedeviled CAC policies have undercut second- and third-generation policies. For example, tradable permit and emissions fees programs require a strong regulatory institution to reliably measure emissions and either enforce the facility-level caps implied by permit allocations or collect fees. So it is not at all surprising that these programs have foundered in countries and regions with weak regulators.

Perhaps a bit more surprising is that voluntary regulation has also often fallen flat. Upon reflection, however, research

on this instrument predicts this outcome. It suggests that a variety of incentives drive compliance with voluntary commitments, including a background threat of mandatory regulation and pressure applied by consumers, capital markets, nongovernmental organizations, and community groups. The problem in many developing countries is that these drivers are relatively anemic.

In several cases where leapfrog experiments have been effective—for example, voluntary agreements in Chile and emissions fees in some parts of Colombia—many of the institutional prerequisites for effective CAC regulation were already in place. Exceptions appear to be Indonesia's public disclosure program and, to a lesser extent, India's Green Ratings Project.

To sum up, the record of environmental policy innovation in developing countries clearly indicates that cutting-edge policies, by themselves, are not a panacea. With the possible exception of well-designed public disclosure programs, the success of environmental management initiatives generally has less to do with the particular type of policy used than the institutional context in which it is implemented, in the same way that a farm's productivity has less to do with the variety of seeds sown than ensuring the soil has sufficient moisture and nutrients.

The take-home message for policymakers is to be wary of indiscriminate applications of newly popular policy innovations (such as payments for ecosystem services) that promise to circumvent chronic institutional problems. The value of such policies largely depends on whether or not they contribute to, or divert attention from, the hard work of building the requisites of effective environmental management, including strong regulatory institutions, clear consistent written regulations, and the political will for diverting scarce resources to environmental protection.

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97. GREEN CITIES AND ECONOMIC DEVELOPMENT

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This commentary discusses findings from Green Cities: Urban Growth and the Environment, a recent book that reviews what economic analysis has to say about the environmental implications of urban development.

Understanding the relationship between economic development and urban environmental quality is no mere academic exercise. In 2000, 80 percent of the U.S. population lived in a metropolitan area, and worldwide the fraction of people living in cities is projected to rise from 30 percent in 1950 to 60 percent in 2030. Not only are the population numbers large, but the conflicts and conundrums are very real. Some rapidly growing cities, like Beijing, suffer from severe environmental degradation, but others are able to preserve or even enhance their environmental quality. Air quality improved steadily in Los Angeles between 1980 and today, despite an over 85 percent increase in automobile usage.

All cities face “tragedy of the commons” problems. No one individual driver, manufacturer, or institution has sufficient incentive to economize on pollution production. The sheer scale of cities means that when millions of economic actors each pursue their narrow self-interest, the city can turn brown. While population growth scales up this problem, adding millions more polluting producers and consumers to the small geographic area, income growth offers the possibility of both greening and browning the city.

INCOME GROWTH

The main contribution economists have made to sorting out the relationship between income growth and environmental quality is the environmental Kuznets curve (EKC), which models the relationship between economic development and pollution levels over time. By many indicators, environmental quality initially declines as poorer cities develop; for example, as people grow richer, they switch from bikes to cars and demand larger housing units with more energy-using appliances.

However, as growth continues, a turning point is eventually reached, and thereafter, environmental quality improves as incomes rise. Development triggers offsetting effects on pollution, most notably by shifting consumption and production in greener directions and by giving policymakers the mandate and the resources to implement regulation that reduces pollution. Take the case of Los Angeles. Under state law, car companies were required to produce vehicles with lower emissions per mile, which led to an overall decline in air pollution, even as rising affluence caused the total number of miles driven to increase.

But this is one highly conditioned example. If the EKC hypothesis is true, trends in per capita income underestimate overall changes in well-being in rich cities but overestimate such trends in poorer ones. Some World Bank economists have argued that the trade-offs between development and the environment improve over time, though data limitations make it very difficult to confirm this hypothesis. Their optimism is based on the claim that developing countries can adopt greener technologies previously developed in richer nations and learn from the regulatory mistakes of richer nations. If this is true, developing nations can expect to benefit in two ways. First, they are likely to reach the peak of the EKC earlier in their development than other nations have in the past. Second, they will suffer less environmental damage before reaching the turning point.

The stakes in this debate are high. Per capita GDP in 1998 (in purchasing parity dollars) was \$1,440 in sub-Saharan Africa, \$2,060 in India, and \$3,051 in China—nowhere near \$8,000 per capita, the figure currently suggested in the empirical literature for when the relationship between environmental quality and economic growth appears to peak and then turn down.

Perhaps the most important problem with the EKC is that it may have little relevance for pollution problems that are borne by others rather than just city residents. The obvious example here is global warming, where greenhouse gases released from one city potentially affect future generations around the globe.

POPULATION GROWTH

Urban population growth, as distinct from per capita income growth, poses additional challenges. By concentrating a large number of people and firms within a small geographic area, pollution levels rise. The greatest problems arise when population growth is unexpected, as in times of war and famine, and the government is not up to the job of responding by scaling up infrastructure. As poor migrants enter a city, they increase the demand for basic services, but typically are incapable of contributing financially to their supply. The resulting water pollution, contagion, and absence of trash removal all raise the risk of serious health epidemics.

Megacity urbanization also weakens the pressure for environmental improvement in a more subtle way. In developed nations, decentralized competition among cities creates an incentive for politicians to adopt green policies; if they do not, residents may “vote with their feet” by relocating to other cities with a better quality of life. While enormous metropolitan areas, such as Los Angeles and New York City, contain less than 5 percent of the U.S. population, elsewhere the percent-

ages are far more imbalanced: for example, in Argentina, 30 percent of the nation’s population lives in Buenos Aires, the largest city. When the urban population in a country is concentrated in one or two megacities, local governments are less concerned about losing population to other cities through lax environmental controls.

Of course, cities differ in their ability to absorb population growth without experiencing local environmental degradation. Some of the factors that affect the relationship between growth and sustainability are relatively immutable, such as climate and geography. But the quality of governmental institutions also plays a key role in determining whether a city will be able to successfully cope with population growth. Long-term planning requires resources and expertise. In the best of all possible worlds, urban planners would be able to forecast likely urban growth over the next 20 years, and, anticipating this growth, city leaders would take proactive steps to limit its environmental impact and finance necessary infrastructure upgrades.

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98. BUILDING BETTER HOUSING POLICIES FOR THE DEVELOPING WORLD'S POOR

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Urban housing in poor countries has seen a dramatic shift away from heavy reliance on state provision and toward a far more market-oriented approach. Nonetheless, unfettered markets do not solve all the problems, and carefully designed policy interventions may still be needed to make the housing market work better.

The photos are always heart-rending: children playing in open sewers, families crowded into filthy apartments, squatters sheltering in tin-and-cardboard tents. They reflect the challenge of rapid urbanization in much of the developing world. By some estimates, more than 50 percent of the world's poor people will live in urban areas by 2035. Little wonder that Target 11 of the UN's Millennium Development Goals is improving the lives of 100 million slum dwellers by 2020.

Once, slums were considered a temporary stage during demographic transition: rural poor people migrated to urban slums in search of work, achieved a better standard of living, and moved up to better housing environments. Today, however, many slum dwellers are no longer immigrants from the villages. Many of the 100,000 pavement dwellers in Mumbai, for instance, are second-generation, as are many of the residents of the *favelas* of Rio de Janeiro. Surveys in India and Brazil find that many slum dwellers are no longer participants in the traditional demographic transition to the middle class.

Though the majority of the world's poor people continue to live in rural areas, poverty is becoming more urban. Most poor people in Brazil, Mexico, and Russia already live in urban areas. In many of India's larger states, the poverty rate is now higher in cities than in rural areas. Urbanization no longer reliably correlates with economic growth and rising incomes, as it did during the urbanization processes in the advanced economies of today.

How to ensure that low-income people have decent housing has concerned policymakers for decades, but the approaches have changed—from intervening in the housing market to letting market mechanisms work on the poor's behalf.

CONTROL AND INTERVENTION

Under interventionist regimes of the past, governments set standards for housing and often undertook its actual construction. Not only was the housing expensive, but its supply was inelastic, and when demand surged, people were pushed into the unregulated informal sector, with its illegal squatting, substandard buildings, and dangerously high occupancy levels. Demolition of squatters' settlements only worsened people's situations.

Rent controls, which discourage private construction, and other public programs that restricted the housing market and building industry also had the effect of decreasing supply elasticity. Another constraint was land suitable for residential construction. Wherever the public sector owned and controlled large amounts of serviced land, as in many developing economies, this major input into housing production was less responsive to increases in demand. Consequently, higher demand was accompanied by rising prices, making it unaffordable for the poor.

MARKETS AND INCENTIVES

Over the past 20 years, housing policy in developing countries has become more mar-

ket oriented. Possibly the most important reason is the change in perspective on what constitutes effective governance. There are now twice as many democratic governments in the world as two decades ago, and they are overwhelmingly more decentralized. With the fall of the Soviet Union and the general adoption of market-oriented economic policy in China and India, the central planning approach to housing has largely been discarded.

Moreover, most developing economies now have sophisticated and diversified financial sectors. Formal financial institutions, of course, do not serve the very poor who are self-employed or work in the informal sector and cannot show proof of income—a condition for obtaining credit. In these settings, the real promise for assisting low-income families with housing finance is emerging through microfinance institutions, whose financial services let poor people improve their own housing conditions.

Many of the new housing policies adopted in response to the continuing migration to the cities enable, rather than control or displace, the private sector, thereby improving the affordability of housing in general.

After the Soviet Union fell, for example, reforms substituted private incentives for public control over housing production, ownership, design, and allocation. India has rewarded states that eliminate rent controls and urban land-market ownership restrictions. China, Chile, Colombia, Malaysia, and Mexico are letting consumers borrow or use public resources to find the housing they want. Housing vouchers, a market-oriented instrument, are the new form of subsidy. And slum dwellers themselves, who by force of circumstances have always been among the most market-oriented of all consumers because they have no other options, have established the Slum Dwellers International Federation to share experiences and approaches. Policymakers in developing areas are increasingly seeking their views on low-income shelter problems.

CAUTIONS AND CAVEATS

However, despite these improvements in the policy environment, not all the changes have been benevolent, as the recent financial crisis partially spurred by mortgage lending has signaled. Past financial crises have led to capital flight and massive mortgage defaults, as in Mexico in the mid-1990s. In some cases, as in Asia in the late 1990s, overheated real estate markets seem to have precipitated these collapses. In the former Soviet bloc, the government privatized individual apartment units, but the fabric of the buildings, such as roofs and elevators, remained unmanaged, and ambiguous owner-

ship rights to common areas continue to hamper property management.

Governments of developing countries therefore have learned to be cautious in applying sweeping solutions pressed on them by the advocates of free markets. An example is the assertion that clear title to land is the key to productive capitalism. However, in some cases the cost of establishing clear title may outweigh any benefit. And in cases involving squatters, granting amnesty for illegal occupation arguably undermines respect for property rights. Furthermore, many traditional societies have a continuum of degrees of tenure, and a formal title may not be the only viable system for differing cultural, economic, and political environments.

Researchers also warn against an unconditional attack on rent control. Although it is anathema to most economists, those studying housing markets for the poor have come to have more nuanced opinions.

Recent research there has shown that there is no capitalist panacea for improving the shelter conditions for the urban poor. Nevertheless, whereas many old-style interventions exacerbated the housing problems of poor people in developing countries, market-oriented policies by themselves, even without additional resources, can improve their situations. Increased community involvement allows the urban poor to shape their own solutions to the particular challenges of their immediate environments. Circumstances vary widely, and policy must be tailored to local conditions. But where intervention used to be the rule, policymakers are now more inclined to let the market make the decisions.

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99. THE FUTURE OF FAMINE

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How have famines evolved over the past several decades? Once the consequence of natural disasters and plagues, famines today and in the future are more likely to be the result of policy failures and wars.

In the developed world, famines no longer capture headlines like they used to. Billboard images of African infants with distended bellies are less ubiquitous, and the focus of international philanthropy has shifted from disaster relief to more structural issues, especially debt relief, economic development, and democratic accountability in developing countries. Totalitarian famines of the kind associated with Stalin, Mao, in developing countries and their latter-day imitators are on the wane. Even in Africa, the most vulnerable of the seven continents, the famines of the past decade or so have been small by historical standards.

Today, probably for the first time in history, only small pockets of the globe remain truly vulnerable to the threat of major famine. So is it almost time to declare famine “history”? No, if the continuing increase in the number of malnourished people is our guide; yes, perhaps, if we focus instead on their declining share of world population, and on the characteristics of famine in the recent past.

Famines are not easy to measure. Excess mortality is one obvious yardstick, but aside from being hard to calculate, it is as much a function of policy responses to famine, as of the conditions that caused the crisis. In the highly publicized cases of Malawi in 2002 and Niger in 2005, famine deaths were, thankfully, very few; perhaps these are best seen as averted famines. However, the meaning of the word “famine” has also evolved over the centuries. In the recent past, it has been used to refer to events and processes that would not qualify as famine in the apocalyptic, historical sense. Some scholars have argued for a broader definition that would embrace a range, extending from endemic malnutrition to excess mortality and its associated diseases. In support of this view, famine represents the upper end of the continuum whose average is hunger. Malnutrition, which 800 million to 900 million endure every day, might be seen as slow-burning famine. While the absolute numbers have risen, the proportion of malnourished people in the less-developed world has dropped from 29 percent in 1979–1981 to 20 percent in 1990–1992 and to 17 percent today. Progress has been greatest in the Far East and South Asia, two traditionally famine-prone regions. In contrast, in sub-Saharan Africa, famine’s chief remaining redoubt, one-third of the population remains malnourished.

Malnutrition and famine are obviously linked. But at present, mass hunger is a far greater challenge to the global community than famine. Perversely, it is much easier to solicit sympathy and funding for one time disaster relief than for alleviating endemic food shortages.

Wars exacerbate economic backwardness and vulnerability to famine. It is no surprise that, in the 18 countries most subject to food emergencies since the mid-1980s, the UN Food and Agriculture Organization (FAO) calculates that current or past armed conflict has been a major factor in 14 cases. Weather, principally drought, was the chief cause in 8 cases, and what the FAO calls “economic problems” in 5. One country, Haiti, has been subject to all of these factors.

The improvements visible in most of the world are the result, of course, of rapid rises in food production as well as falling transport costs. At the global level, food output per head has risen about one-third since the early 1960s. It is particularly reas-

suring to find agricultural output rising faster than population in former famine black spots such as China and India. Only in sub-Saharan Africa has food output failed to keep pace with population. Since the early 1960s, the decline per capita has been about 10 percent, and as a consequence, reliance on imported food has grown.

As for predictions about the future of famine, it is worth noting that the prognostications of past students of hunger and famine have rarely gotten it right. Stanford University biologist Paul Ehrlich's doomsday forecast in the late 1960s is a notorious case in point. His forecast of global famine in the 1970s—"hundreds of millions of people ... going to starve to death in spite of any crash programs embarked upon now"—got it almost exactly wrong.

Changes in the nature of famine, particularly in recent decades, justify tempered optimism about the future. So does the progress of democracy and relative political stability in much of Africa, where their absence often led to famines in the past. But while the recent examples of famine have occurred in the poorest and most fragile of economies, even much stronger countries would be wise to consider the hazards ahead.

Since the turn of the new millennium, hope for the future has been qualified by increasing concern about the implica-

tions of climate change, and the prospect of massive emissions of carbon dioxide leading to accelerated global warming. The challenges of a growing global population, rising living standards, and increasing urbanization are real, with implications in the medium term for soil productivity, the relative price of food, and perhaps political stability. Even more important, any optimism about "making famine history" must be qualified by the realization that the threat of wars between and within nations is never far away. The hope for a famine-free world depends on improved governance and on peace. It is as simple—and as difficult—as that.

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100. IS POPULATION STILL AN IMPORTANT POLICY ISSUE?

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Are population control policies still desirable, given that global population is expected to stabilize over the next century? Whereas past population policies and programs have favorably affected the timing and nature of global population stabilization, in the future they must attempt to do the same for the emerging economic and social dimensions of demographic change.

Demographic factors have been the driving force behind much of human history, but for most of the 1960s and 1970s, only one demographic dimension, population growth, dominated the public policy agenda. The sudden rise in population growth rates in Asia, Africa, and Latin America led many development specialists to conclude that rapid population growth made increasing global per capita economic growth difficult if not impossible. As these research findings became clear in the late 1960s, there was an outpouring of alarmist popular works on the “population bomb,” with some arguing that it was already too late to reverse these ominous trends. Spaceship Earth might already be doomed.

But governmental policies and programs aimed at reducing human fertility were developed and adopted around the world to nearly universal approval. These family planning programs, together with the economic and social progress achieved in many developing nations, have had an impact. Population growth has fallen sharply, and total world population is now projected to level off toward the end of this century at some 8 billion to 10 billion people, far below previous forecasts. This very success has led some to draw the conclusion that, having defused the population bomb, demographic concerns no longer are important on the public policy agenda. Here I will examine some issues that suggest that such a conclusion may be premature.

WHY POPULATION POLICIES STILL MATTER

First, even accepting the likely prospect of eventual global population stabilization, a considerable amount of further absolute growth will occur in the three to four generations required for a global equilibrium to arise. Due to demographic momentum, this growth will continue to put pressure on employment, education, and health (particularly in urban areas) and require continuing and expanding programs already in place, even if this growth is only temporary.

Second, most of this growth will be in the poorest regions. These policies and programs have barely begun to have an impact on sub-Saharan Africa, parts of South Asia, and the Caribbean. Fertility and potential growth there remain high. Moreover, family planning programs that increase access to contraception are an important component of the reproductive and infant health measures urgently needed to deal with the HIV/AIDS epidemic and related health issues in these same regions. These new threats make these programs more imperative than ever.

Third, large prospective population increases will continue to power large international migration streams, mainly from the poor areas of Africa, Latin America, and South Asia to the developed nations. Even with no population growth, income differentials would cause such movements, but the larger the base population, the greater the migration. These movements will require policy and program reactions at both the sending and receiving ends.

Fourth, sustained low fertility in the developed nations—Europe, North Ameri-

ca, and some Asian countries—is leading to a sharp relative increase in the older age groups and will create a growing intergenerational transfer burden to carry out already existing social insurance programs. This problem is exacerbated if fertility remains below replacement level because succeeding cohorts become progressively smaller. Recent policy and program initiatives in some European countries have attempted with some success, through public support to day-care centers and subsidized maternal and child and health programs, to increase fertility. On the other hand, human longevity continues to increase, adding to the retirement burden. These age structure-rooted issues will remain on the public policy agenda for decades to come.

Population—in terms of size, growth, distribution, and composition—will shape many of the issues with which economic and social policymakers will grapple in the decades to come.

ARGUMENTS AGAINST POPULATION POLICIES—PAST AND FUTURE

All the above discussion takes for granted the desirability of public policy and program interventions to affect social and economic outcomes connected with population. But it is also possible to maintain that such interventions interfere with built-in structural adjustment processes that would produce an outcome without public policy or program. This may be thought of as the “invisible hand” solution. The demographic, economic, and social systems may very well tend toward equilibrium if left to their own internal dynamics. From the very outset of family planning programs, some critics have pursued this line of argument and held that family planning programs were unnecessary over the long run.

The great wave of concern over the population bomb in the 1960s and 1970s swept these criticisms aside, but now, with the bomb defused, the critics have returned with a renewed vigor, arguing that population never belonged on the public policy agenda, pointing out that since fertility is typically lower for educated, middle-class couples, birth rates would have fallen naturally with development. These programs, moreover, are further indicted as ethically flawed. After all, fertility is the result of the most intimate and personal interactions imagin-

able among human couples. Observed outcomes are those desired by the couples involved. Surely public-sector efforts to intervene in these processes are inherently coercive and destructive of human reproductive rights, critics argue.

Ethical issues cannot be settled by debate, but it is worth pointing out that throughout recorded human history, societies operating with a fixed resource base and relatively constant technology have recognized the need to balance population with resources. Fertility decisions made by couples can create externalities—sharp declines in marginal productivity and environmental degradation—that affect the viability of the larger group. Societies have used a variety of measures, ranging from control over access to marriage to infanticide to control population size. Modern family planning programs appear quite benign in comparison.

Would fertility have, indeed, fallen in the developing world with no program intervention? This point cannot be proven one way or the other. But it has been established, beyond any reasonable doubt, that the programs did have an impact. At the very least, they did help lower fertility by supplying information and safe, more effective contraceptive means to couples around the world. Perhaps global population would have eventually stabilized without policy and program intervention, but it would have been at a much larger total and a much lower per capita income level.

Today, a global population of 10 billion may prove manageable, but what about one of 15 billion or 20 billion? Such extremes are not implausible, and population remains the inescapable denominator for all discussions of poverty eradication, global climate change, energy requirements, and ecosystem viability.

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