

CENTRAL ASIA AND

By Kurt Engelmann

Studying development levels and processes is an important aspect of learning about Asia. The Asian continent contains countries that span an incredibly large range of developmental levels—from advanced developed countries, such as Japan, to least developed countries, such as Afghanistan, with some of the fastest growing “newly industrialized” countries in between (e.g., the People’s Republic of China). Often, it is the habit of students (and instructors) to group countries into these three categories—developed (the most advanced), least developed (the least advanced),¹ and newly industrializing countries, which previously belonged in the latter category, but are making a transition to the former. This practice presupposes that countries can be arranged in a strict hierarchy by developmental level, and that development occurs in a linear manner from one level to the next.

But there are several countries whose economic and social profiles don’t correspond neatly to these categories. Their social indicators are relatively higher than their Gross Domestic Product (GDP) and other economic indicators. Examples include former or presently communist countries—Vietnam, North Korea, the Central Asian states of the former Soviet Union—and other countries with strong, state-sponsored social programs, such as Sri Lanka. Creating additional categories, such as “lower middle income” or “upper middle income,” cannot capture non-income based differences between these countries and those without extensive state-sponsored social programs, where income is relatively higher and social indicators relatively lower.

Three basic strategies can be used to teach development in such a way as to cover a variety of differences between countries, not just in income. First, one can refer to some countries explicitly as exceptions. This would be a step forward from teaching traditional developmental “levels,” which hide social and other differences. But this strategy has the potential to intro-

duce these countries as aberrant exceptions not to be emulated, and does little to alter the notion that economic development is synonymous with economic growth. A second strategy is to rely on a composite index that represents a mix of measures. Traditional developmental levels are predicated primarily on economic performance as measured by GDP or GNP (Gross National Product) per person. Various composite indices have been invented that capture other aspects of development by including social, environmental, and other measures. The difficulty is selecting an index, since each index incorporates different measures (discussed below), and selecting an index presupposes that students understand each component measure, which should not be taken for granted. The third strategy is to have students define “development” themselves and create their own composite index. Since all composite indices require a subjective definition of “development,” from a pedagogical point of view, creating student-determined definitions of development is more transparent than accepting someone else’s subjective definition as embodied in an index.

In this article, I will provide a summary of the most commonly available social and economic measures of development for the Central Asian republics of the former Soviet Union—Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan—which are representative of the above-mentioned group of countries whose social indicators are comparatively higher than their economic indicators. I will also discuss ways in which these and other factors can be addressed when teaching about present and future development in the region.

DEFINING DEVELOPMENT A difficult first step in examining the developmental level of a country is to define “development.” Definitions have varied significantly over time. In the past, development was measured in terms of economic performance, with GDP and GNP as the two primary indicators. More recently,

KAZAKSTAN KYRGYZSTAN TAJIKIS

"LEVELS"

OF DEVELOPMENT

quality of life measures have been used to supplement or replace purely economic measures. The rationale for this change is that economic growth does not necessarily foster human well-being, as voiced by the United Nations Development Programme in the *Human Development Report* for 1996: "From a human development perspective, economic growth is not an end in itself. It is a means to an end—enlarging people's choices. So, it should be evaluated for its impact on people."²

The problem is that there are numerous ways in which people's choices can be affected, and numerous indices that try to measure impact on people. For example, the Human Development Index (HDI) used by the United Nations is based on a simple average of three factors: life expectancy, education (measured as a weighted combination of adult literacy and school enrollment), and GDP per capita. The HDI is based on a dynamic view of development that stresses human capital as a measure of potential. Other indices focus on the sustainability of development as measured by natural resource and environmental degradation. The *1996 Human Development Report* introduced a new indicator, the Capability Poverty Measure (CPM), which "reflects the percentage of people who lack basic, or minimally essential, human capabilities" as measured by the proportion of children under five who are underweight, the proportion of births unattended by trained health personnel, and the proportion of females who are illiterate.³ Other measures include the Gender-related Development Index (GDI), and the Gender Empowerment Measure (GEM).

With such a wide array of indices available and new ones being invented, which index or combination of indices should one accept, and how does one counsel students in determining levels of development? The answer to these questions must be addressed by each instructor individually, but it is important to keep in mind that the subjective nature of measuring development provides an opportunity for teaching in a much

more substantive way than simply having students memorize statistics. Development can be used in the classroom to bring forth a wide variety of social science concepts. Students can explore their own assumptions about "development," "poverty," and "capabilities," and identify measures themselves that reflect these assumptions. Students can compare their measures with each other, which can lead to a more substantive discussion about the nature of development. For advanced students, several composite indices, such as the HDI and GEM, can be introduced, with the assignment that students create their own weighted index and rationale for its construction. But they should be cautioned about data availability; censuses and surveys are conducted infrequently in many developing countries.

THE IMPORTANCE OF THE CENTRAL ASIAN STATES

The Central Asian states of the former Soviet Union occupy an important place in Asia in terms of size, location, history, culture, and economic potential. The five states taken together cover over 1.5 million square miles (approximately 4 million square km), an area more than ten times greater than that of Japan, and slightly less than the combined area of the two largest South Asian states, India and Pakistan. Fifty-five million inhabitants crowd densely populated oases, with steppe, desert, and mountain areas sparsely populated, for the most part.

The Central Asian states are situated at "the crossroads of Asia" on the route of the ancient Silk Road. Historically, the area has been subject to influences from outside—Persian, Arabic, Mongolian, Turkic, Chinese, and, most recently, Russian. Culturally, the area represents a transition zone between Islamic (primarily Sunni) and Russian/Soviet institutional systems and ways of thinking. Official languages of the eponymous countries are Turkic (Kazak, Kyrgyz, Turkmen, Uzbek) and Persian (Tajik), although Russian is widely spoken and is still the *lingua franca* of the area. Central

TAN TURKMENISTAN UZBEKISTAN

Asia is one of the largest cotton-producing areas in the world, and it contains substantial deposits of oil, gas, and non-ferrous metals.

ECONOMIC SPECIALIZATION AND DEPENDENCY

Before the Soviet era, the Central Asian population was employed primarily in subsistence agriculture. Grains were the predominant crop, providing 40 percent of total income from irrigated farming.⁴ Cotton was sown on less than 10 percent of cultivated lands.⁵ Consequently, cotton contributed only 5 to 7 percent of farmers' total revenue in Central Asia as a whole.⁶

During the Soviet period, Moscow imposed cotton specialization on the southern part of the region. According to Soviet planners, the chief measure of economic development was raw production of targeted goods, cotton first and foremost. N. J. Sapilnikov expressed this sentiment in a chapter on "The Basic Economic Problem of the USSR in Cotton-Growing," published in 1959. According to Sapilnikov, "the primary economic problem of the USSR" was "to catch and surpass the more developed capitalist countries in per capita production of products."⁷ As far as cotton was concerned, "the achievement of USSR indices on per capita cotton production, which exceeds the indices of the most developed capitalist countries, acquires great importance for the victory of the USSR in the world economic competition with these countries."⁸

Soviet officials sought to integrate cotton cultivation with the development of supporting industrial activities to form a cotton production "complex." In this "complex," cotton would be the central focus, and most cotton-growing inputs (e.g., fertilizer, tractors, seeds) would be produced locally, which implied increasing the size and scope of the industrial base in Uzbekistan, and the other cotton-growing republics to a lesser extent. Despite limited industrialization, the cotton-growing republics were dependent on other republics for finished cotton products, food, oil, consumer goods,

certain types of heavy machinery, and spare parts. The same type of dependency existed (and still exists) in non-cotton producing areas, such as mining and grain-growing areas in northern and central Kazakhstan.

ECONOMIC GROWTH AND DECLINE

Disruption of this system of mutually dependent areas led to economic contraction. As with other Soviet republics, the Central Asian republics experienced economic growth until the late 1980s, after which they experienced an unprecedented economic decline. Average annual growth rates for the republics were reasonably high during the 1970s—from 4 to 6.2 percent—but declined during the 1980s to 2 to 4 percent (see Table 1). The 1990s have been the decade of economic collapse, as all of the economies of the region experienced sharp negative growth, some as much as 30 percent in one year. Tajikistan experienced the highest rates of economic decline, due to civil war. Although these rates of decline were high, they were exceeded by other former Soviet republics that experienced years with over 50 percent decline in GDP (e.g., Armenia in 1992).⁹

The decline in overall growth is reflected in average income. Gross National Product (GNP) per person declined substantially over the 1990s, although some members of local elites enriched themselves, which widened the gap between the rich and the poor. The Central Asian republics fall in the low and middle income categories, with per capita GNP ranging from \$360 in Tajikistan to \$1,160 in Kazakhstan.¹⁰ Recent data indicate a slowing and possible reversal of this downward trend. The government of Uzbekistan reported positive economic growth in 1996. The amount of growth is subject to debate and is compounded by the fact that economic data is a state secret in Uzbekistan. But economic collapse seems at least to have slowed in most Central Asian states.¹¹

URBANIZATION Urban centers in areas of irrigated agriculture, such as Samarkand, Bukhara, and

TABLE 1
Gross Domestic Product Change Rates for the Central Asian Republics, 1971–1995 (in percent)

	1971–80 (average annual)	1981–89 (average annual)	1990	1991
Kazakstan	4.4	2.0	-4.6	-6.8
Kyrgyzstan	4.4	4.0	6.9	-9.1
Tajikistan	4.9	3.3	-2.4	-8.7
Uzbekistan	6.2	3.4	2.0	-0.5

Source: The International Bank for Reconstruction and Development, *World Development Report 1996* (Oxford: Oxford University Press, 1996), 173.

TABLE 2
Urban Population (percent of total) in the Central Asian Republics

	1980	1990	1994
Kazakstan	54.0	57.6	59.3
Kyrgyzstan	38.3	38.2	38.8
Tajikistan	34.3	32.2	32.2
Turkmenistan	47.1	44.9	44.9
Uzbekistan	40.8	40.6	41.2

Source: The International Bank for Reconstruction and Development, *World Development Report 1996* (Oxford: Oxford University Press, 1996), 173.

Tashkent, have existed for centuries, but urban life played a much smaller role in the territories of nomadic peoples, such as the Kazaks and the Kyrgyz. There, in the last century, Russians established settlements or greatly expanded existing trading posts into major cities, such as Vernyi, a.k.a. modern-day Almaty, the capital of Kazakstan. Russians and other migrants swelled urban populations as the area industrialized, and now they comprise the majority of the population in several major cities (again, Almaty is an example). Most cities became divided between an “old” city of low-rise, adobe, traditional houses populated by members of indigenous ethnic groups, and a “new” city of more modern urban design populated by a mixture of indigenous and immigrant groups. During the Soviet period, “new” cities expanded at the expense of “old” cities. For example, Tashkent, the capital of Uzbekistan, underwent massive expansion of its “new” city in the wake of the earthquake of 1966.

In 1926, levels of urbanization in most of Central Asia were below the Soviet average of 18 percent. Kazakstan had the lowest proportion of urban dwellers with 9 percent, followed by Tajikistan, Kyrgyzstan, and Turkmenistan, with 10, 12, and 14 percent urban, respectively. Uzbekistan was the only republic with an urban population above the Soviet average, 22 percent.¹² By 1980, urbanization had expanded rapidly, but the area still remained well behind the Soviet average, and there was only one republic with most of its population in cities, Kazakstan (54 percent). Urbanization levels of the other Central Asian countries were in the 30 to 50 percentile range (see Table 2). Between 1980 and 1990, urbanization levels dropped for all of the republics except Kazakstan, indicating a reversal of the overall trend. Urbanization has continued to stagnate into the 1990s for several republics, as Russians and others have emigrated *en masse* during the post-Soviet period.

As one would expect, agricultural employment exceeds industrial employment in all Central Asian countries except Kazakstan, where the urban population exceeds the rural. Tajikistan and Turkmenistan had the highest levels of agricultural employment, 41 and 37

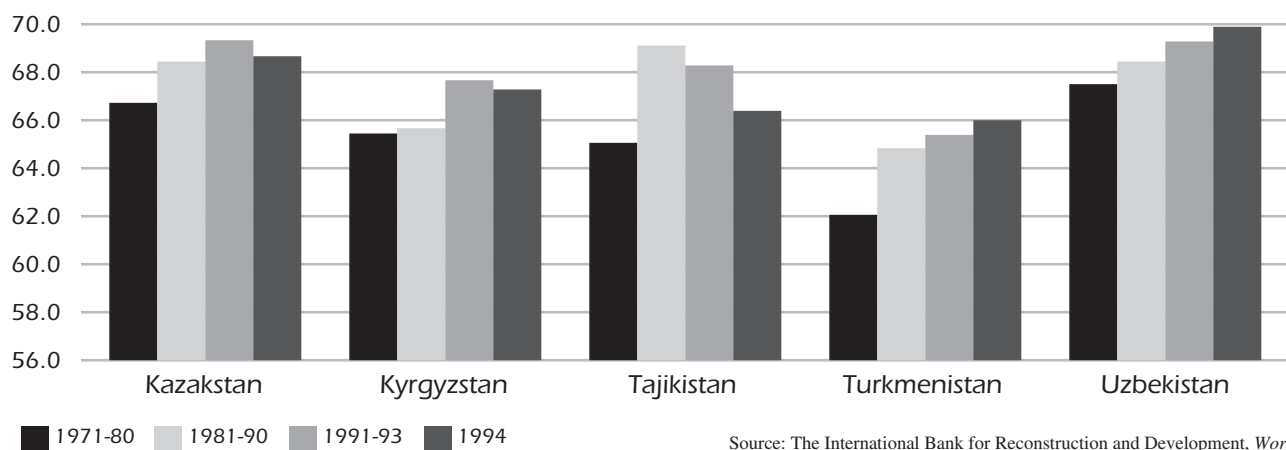
percent in 1990, respectively. The rate for Kazakstan was 22 percent, which is still much higher than in the advanced industrialized countries, such as the United States, where only 3 percent of the population is employed in agriculture.¹³

SOCIAL INDICATORS Life expectancy in the Central Asian republics is higher than in other countries with similar per capita income levels. Tajikistan and Kyrgyzstan rank near the top of the list in the “low income” category. They are exceeded only by Sri Lanka, the Transcaucasus Republics (Georgia, Armenia, and Azerbaijan, where records are often set for longevity), and a few other countries. Life expectancy in Uzbekistan and Kazakstan is above average in “lower middle income” countries, but life expectancy in Turkmenistan is slightly below average (66 versus 67 years at birth in 1994) (see Figure 1).

Unfortunately, life expectancies are on the decline in several of the republics. In Tajikistan, they dropped from 69 years in the 1980s to under 66 years in 1994, due primarily to the civil war there. They have also declined slightly in Kazakstan and Kyrgyzstan in recent years, which parallels similar trends in other former Soviet republics, although not as severe as in some. Life expectancy is rising in Turkmenistan, but, as mentioned above, it is already comparatively low there (66.3 years in 1994). Uzbekistan stands out as the only republic where life expectancy is high and rising, reaching nearly 70 years in 1994.

Infant mortality rates (IM) show great long-term improvement, with recent retrenchment in some countries. Infant mortality has dropped substantially in all countries since 1970, which parallels a drop in infant mortality worldwide. The decline has been sharpest in Uzbekistan, where infant mortality has dropped by 40 percent since the 1970s (see Figure 2). As with life expectancy, infant mortality rates are lower in Central Asia than income levels indicate. Kyrgyzstan ranks near the top of the list in the “low income” category in terms of infant mortality (29 per 1,000 live births), with Tajikistan further back, but Kyrgyzstan is still below the average (41 versus 58 per 1,000). Infant mortality in

FIGURE 1
Life Expectancy at Birth in the Central Asian Republics, 1971–1994



Source: The International Bank for Reconstruction and Development, *World Development Report 1996* (Oxford: Oxford University Press, 1996), 173.

Uzbekistan and Kazakhstan is the lowest in Central Asia and is far below average in comparison to other “lower middle income” countries (27 and 28 versus 36 per 1,000 live births).¹⁴ But as with life expectancy, IM in Turkmenistan is worse than the average at 46 per thousand, although IM increased slightly in Turkmenistan and Kazakhstan in the early 1990s. Maternity mortality rates, expressed as the number of mother deaths per 100,000 live births, are also comparatively low in the Central Asian republics—39 to 55 in the early 1990s versus 887 in Bangladesh, and 2,500 in Benin, Africa.¹⁵

Literacy rates are extremely high in the Central Asian republics—higher than those in many developed countries. All Central Asian states boast a literacy rate of 97 percent or higher, a legacy of Soviet-era emphasis on universal education. Male literacy exceeds female literacy, but only slightly so, with the latter exceeding 95 percent in all of the countries. This contrasts sharply with Afghanistan to the south, where less than a third of the total population can read, and a sharp disparity exists between males and females (47.2 and 15 percent literacy rates, respectively).¹⁶

DEMOGRAPHIC TRENDS, ENVIRONMENTAL CONSTRAINTS, AND RESOURCE USE A question to be raised with regard to any country’s development is its sustainability: can economic growth be sustained and quality of life improved for the foreseeable future? Resource endowments and environmental conditions are two important factors that need to be taken into consideration, especially as they apply to developing countries, where agriculture and other types of economic activities are more closely tied to physical resources. For the Central Asian states, environmental conditions have become a severe constraint on future develop-

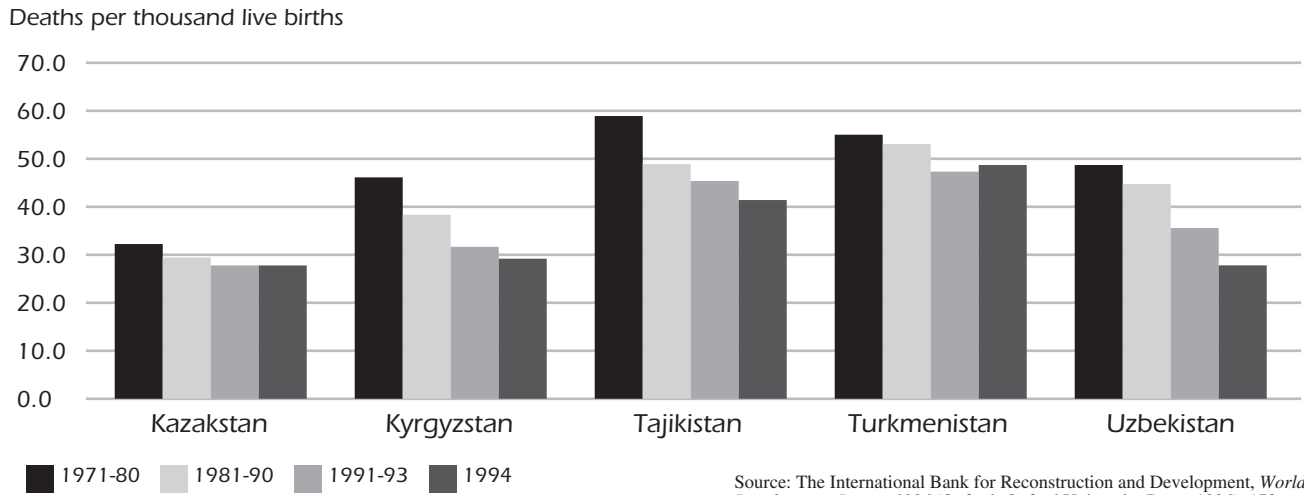
ment.¹⁷ Ze’ev Wolfson, the author of a landmark underground exposé on environmental problems in the USSR during the Soviet period, *The Destruction of Nature in the Soviet Union*, wrote more recently in *The Geography of Survival: Ecology in the Post-Soviet Era* that “It would be difficult to invent a more dangerous pattern for a disaster area than the one existing in the Aral and Caspian sea regions.”¹⁸

Wolfson estimates that the rate of desertification in the Aral Sea area is exceeded only by that of the Sahel/Sahara, but that in proportion to the size of the desert areas, the rate of desertification in Central Asia is greater.¹⁹ The desiccation of the Aral Sea, overgrazing, use of DDT and other pesticides, overapplication of fertilizers, soil salinization from improper irrigation practices, and other human-induced factors have helped lead to a severe decline in fertility and biodiversity in the region. These factors were a direct result of the Soviet agricultural system, but their effects continue to be felt; and cotton-growing, one of the main causes of environmental degradation in Central Asia, continues to be emphasized, since cotton is exported abroad for hard currency.

At the same time, the population is growing and is expected to continue to increase. With the exception of Kazakhstan (0.9 percent) and Kyrgyzstan (1.7 percent), annual rates of natural increase of the population have remained above 2 percent for most of the countries, led by Tajikistan at over 2.5 percent.²⁰ This lies in stark contrast to Russia, where rates of natural increase have been negative in recent years; technically, they should be referred to as rates of natural decrease.

Rising population and a growing rural labor force will put additional pressure on environmental resources. The waters of the two major rivers in the region, the Syr Darya and Amu Darya, are diverted

FIGURE 2
Infant Mortality in the Central Asian Republics, 1971–1994



Source: The International Bank for Reconstruction and Development, *World Development Report 1996* (Oxford: Oxford University Press, 1996), 173.

almost entirely for economic, primarily agricultural, use. The prospect of transferring water from outside the region is dim at best. The SibAral project, which foresaw the transfer of water from the Ob and Irtysh in West Siberia to Central Asia, was abandoned in the late 1980s. More recently, some have suggested transferring water from the Caspian Sea to the Aral, to no avail. Some attempts have been made to introduce more efficient water-use technologies, but these efforts have been on a small scale and can't be expected to keep pace with population growth. Rural unemployment, which has increased substantially since the dissolution of the Soviet Union, can be expected to increase, as population growth outpaces the ability of the economy to provide new jobs.

A great deal of media attention has been paid recently to a possible salvation for the economies of Kazakhstan and Turkmenistan, and, to a lesser degree, Uzbekistan—development of oil and natural gas deposits. These three republics contain substantial fossil fuel resources, which, although partially explored and exploited during the Soviet era, require foreign investment and expertise to bring to world markets. With the Central Asian republics so far removed from the sea, a major obstacle to developing the resources is the construction of pipelines to transport gas to Europe or oil to a suitable port for export. Barriers on all sides in the form of political instability (Afghanistan, Nagorno-Karabakh, Chechnya) and demands by states (the U.S. embargo of Iran, Turkey's restriction on shipments through the Bosphorus, Russia's insistence on exercising some degree of control) have impeded the development of pipelines capable of handling large-scale exports, for the time being at least. Central Asia's economic future will depend to a large extent on the development of a new transportation infrastructure.

STUDENT ACTIVITIES The above sections demonstrate how the Central Asian republics serve as examples of countries that defy standard income-based ranking of “levels” of development, as they rank higher in terms of social indicators than countries of similar income levels. The above sections also describe recent trends that might indicate future patterns of development in the region. These two aspects of development, the static and the dynamic, can be incorporated into student activities that illustrate the complexities of developmental processes. For static measures, students can compare and contrast various aspects of the Central Asian republics with other countries of Asia. This will allow students to become more familiar with particular areas of Asia as well as with “development” as a concept.

The more complex task is for students to examine development as a dynamic process, which requires the impossible task of anticipating the future. One strategy is to create several scenarios for future trajectories of development, which can help students understand the complexities of the developmental process. Students can create scenarios themselves by referring to their own definitions of “development” and identifying a factor or several factors that underpin Central Asia's development. These definitions can then be tied into independent study projects about the area. For instance, if a student has identified education as one of the key components of development, he or she would want to examine educational policy, practices, and resources (e.g., personnel, salaries, equipment) to determine whether Central Asia might continue to have a highly literate population in the future. If a student has identified extraction industries as key to the region's development, he or she would want to study the progress of pipeline construc-

tion, with all of its geopolitical implications. In this manner, students can begin to understand development not as a static measure of wealth or a set of predefined categories, but as a complex, dynamic process that can be used as a window to the exploration of social, political, economic, and other issues in the classroom.

In the course I teach on Central Asian Geography, the topic of water use and the desiccation of the Aral Sea precede the topic of development. The ordering of these topics seems to predispose students to include environmental criteria in their definitions of development, with several students emphasizing ultimate limits to growth. In class discussions, a student usually introduces the concept of “carrying capacity” and suggests that limits to development have been exceeded in the Aral Sea basin due to mismanagement of water resources. This view is often refuted by other students, who point out that advanced irrigation technology could allow Central Asia to increase its efficiency of water use substantially. To this debate, students quite naturally bring in other topics of a dynamic nature that are relevant to development, such as rates of population growth, diversification of production, and foreign technical assistance and geopolitical interests.

For the past several years, I have taken informal polls of students to see if there is a correspondence between their research paper topic and the ways in which they define development. As one might expect, there has been a general correspondence between these two factors, with students interested in business and economics topics defining development in a more traditional sense, and those interested in topics further removed from the economic sphere defining development in a more ecumenical fashion. But when I’ve used an approach of having students first determine what is most important to them personally before defining development, there seems to be a universal tendency to emphasize “human” measures in their definitions—nutritional levels, life expectancy, and infant mortality—since these measures are important to students in their own lives. One of the challenges of this approach has been to clarify the difference between personal well-being and societal well-being. I use the example of employment to show that, while structural unemployment may be difficult when experienced on a personal level (i.e., by the person who is unemployed), it is a necessary part of an economy’s function and growth, as human resources generally shift from less productive to more productive uses for society as a whole. The challenges associated with using an inductive, personal-to-the-general approach have, in fact, been fulfilling for me, since it forces students to empathize with people living in foreign countries and not simply see them in depersonalized, numerical terms. ■

NOTES

1. This category is frequently referred to as “developing.”
2. United Nations Development Programme, *Human Development Report 1996* (New York, Oxford: Oxford University Press, 1996), 11.
3. *Ibid.*, p. 27.
4. Viacheslav Ivanovich Iuferev, *Khlopkovodstvo v Turkestan* (Leningrad: Rossiiskaia akademiia nauk, 1925), 19.
5. Iuferev, *op. cit.*, 18–19.
6. Iuferev, *op. cit.*, 18–19. This figure excludes central and northern Kazakhstan, where cotton was not (and is not) sown.
7. N. J. Sapilnikov, *Ekonomika khlopkovdstva v kolkhozakh* (Moscow: Gos. izd. selsk. lit., 1959), 3–4.
8. *Ibid.*
9. The International Bank for Reconstruction and Development, *World Development Report 1996* (Oxford: Oxford University Press, 1996), 173.
10. Per capita GNP data for Turkmenistan is not available. Turkmenistan is listed as a lower middle income country. See *World Development Report 1996*, *op. cit.*, 172, 189.
11. For a discussion of the Uzbek government’s claims of economic growth, see the Economist Intelligence Unit’s *Country Report: Uzbekistan*, 1st quarter 1997, 22–24.
12. Ian Murray Matley, “The Population and the Land,” in *Central Asia: 130 Years of Russian Dominance, A Historical Overview*, Edward Allworth, ed. (Durham and London: Duke University Press, 1994), 97.
13. *World Development Report 1996*, *op. cit.*, 189.
14. There are several countries in the “lower middle income” category with substantially lower infant mortality rates: IM ranges from eleven to sixteen per thousand in Jamaica, the Baltic Republics (Estonia, Latvia, and Lithuania), Ukraine, Belarus, Bulgaria, Poland, Costa Rica and Croatia. *World Development Report 1996*, *op. cit.*, 194–99.
15. *World Development Report 1996*, *op. cit.*, 198.
16. CIA, World Factbook 1996, <http://www.odci.gov/cia/publications/nsolo/wfb-all.htm>.
17. Environmental conditions have also negatively impacted the current quality of life. See Murray Feshback and Alfred Friendly, Jr., Chapter 4, “A Sea of Troubles,” in *Ecocide in the USSR: Health and Nature Under Siege* (New York: Basic Books, 1992), 73–88.
18. Ze’ev Wolfson, *The Geography of Survival: Ecology in the Post-Soviet Era* (Armonk, N.Y. and London: M.E. Sharpe, 1994), 67.
19. *Ibid.*, 57.
20. Calculated from the World Factbook 1996, *op. cit.* Note that net emigration from all of these countries causes the rates of population growth to be less than these figures. Population growth in Kazakhstan, in fact, has recently been negative.

KURT ENGELMANN holds a Ph.D. in Geography from the University of Washington. Dr. Engelmann is currently the Associate Director and Outreach Coordinator of the Russian, East European, Central Asian Studies Center at the University of Washington, where he teaches a course on the Geography of Central Asia.