search on relapse rates and recovery.

Relapse rates in many clinical outcome studies are high (5). However, only about 30% of addicts go to clinics for treatment (6). This population is unusual in that more than 60% suffered from one or more additional psychiatric disorders, and among cocaine addicts, the comorbidity rate was 76%. In contrast, for addicts who did not seek treatment, 70% of the population, the psychiatric comorbidity rate was 29%, a figure that is not much higher than the expected value for those not addicted (6). In other words, the clinical relapse rates for addicts may say more about the plight of individuals with multiple disorders than about the nature of addiction.

Treatment for addicts can work, and outcome studies indicate that programs are most effective when they are consistent with the ideas that (i) drug use in addicts can be altered by the proper arrangement of costs and benefits, (ii) addictive drugs reduce options but do not eliminate choice, and (iii) the biology of addiction is the biology of voluntary behavior (7).

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The Korean DMZ: A Fragile Ecosystem

The Demilitarized Zone (DMZ) and the Civilian Control Zone (CCZ) along the South–North Korea divide are widely known biologically diverse reserves (Ka Chung Kim, Policy Forum, 10 Oct. 1997, p. 242).

The CCZ has been under persistent threat of development by landowners, who wield enough power to pressure congressmen to legalize development in the CCZ. A special CCZ development program was nearly created by these forces, but Korea's current financial crisis has slowed down its progress.

The Korean Peace Bioreserves System, discussed by Kim, does not appear to be able to alter the fate of the area's bioreserves. Several years ago, the Ministry of Environment attempted to designate the Chulwon area a National Ecological Park by enforcing the Natural Resource Conservation Act, but he did not succeed because of strong resistance from the landowners. In early 1997, the Korean National Commission for UNESCO completed a study to design a CCZ ecosystem preservation plan, but it also has had little success stopping the development forces. The fundamental problem is the conflict between the private preferences that lead to resource appropriation and the social preferences that value resource preservation.

We need to consider the long-term benefit from preserving the bioreserves and compare this benefit with individuals' immediate goals of pursuing land conversion for personal monetary gain. The government, law-makers, biologists, ecologists, and landowners need to be cognizant of the value of ecosystem resources in the areas. It

is therefore critical to clarify the language and concepts we use to express the value of biodiversity and policies leading to its preservation. "Value," here, does not mean only ethical or emotional judgment about duty to future generations and responsibility toward the nonhuman natural world, but also monetary expression of the nonmarket value of ecological resources and non-use values perceived by existence, option, and bequest preferences. Existence value is the willingness to pay for the satisfaction of knowing that a natural environment is protected. Option value is defined as the annual payment of a kind of insurance premium to retain the option of possible future use. Bequest value is defined as the willingness to pay for the satisfaction derived from endowing future generations with the irreversible biological resources (*1*).

A preservation program based on these values would alter the fate of ecosystem life by showing that biodiversity in the areas is not in conflict with local economic well-being, but in fact is essential to it.

Currently, an ecotour of the CCZ in the Chulwon area attracts 360,000 tourists per year. This tourism provides the regional economy with tangible effects, such as related business opportunities (including hotels and restaurants). A valuation study was performed in the Chulwon area in the fall of 1997 (*2*). The total value of ecotourism in that area was estimated to be 1.05 billion won (approximately 1600 won are equivalent to $1 U.S.). The annual average revenue from selling entrance tickets to tourists is 385 million won. Thus, in addition, there could be an estimated 665-million-won surplus from ecotourism. Also, non-use values of existence, option, and bequest perception would mount to a few hundred billion won. While ecotourism may constitute the financial impetus for farmers to practice environmentally safe farming, the latter would justify government compensation to landholders to not convert land into commercial sites. Meanwhile, the multiplier effects generated by ecotourism-related business activities would spread through the regional economy, which would eventually sustain itself in harmony with a healthy regional ecosystem. In addition, adverse environmental impacts are not now included in feasibility accounting and, in fact, are not usually recognized until adverse effects become a debatable issue among the general public.

The most efficient solution is a rational and tangible valuation scheme that can convince landowners and other private interests that their economic goals are best served by resource-conserving actions.

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3. I appreciate helpful criticism from Patrick McDade.

Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-789-4669), or regular mail (*Science*, 1200 New York Avenue, NW, Washington, DC 20005, USA). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. They may appear in print and/or on the World Wide Web. Letter writers are not consulted before publication.