O THE PERCEPTIVE OBSERVER, THE SIGNS OF ENVIRONMENTAL CAtastrophe in Central America abound: decimated forests, soil erosion, slash and burn agriculture, the sad shantytowns that surround the cities, the stench of untreated sewage, the sting of pesticides blown from the cotton fields – a litany of disaster that threatens the beleaguered isthmus no less than the current political turmoil.

So intricate are the interconnections between land and people and resources, it is difficult to separate one issue from another. Jeffrey Leonard, who has written the definitive work on natural resources in Central America, emphasizes the interrelationships:

Political instability undermines economic development; stagnating economic development in the face of rapid population growth adds to the numbers of people living in absolute poverty; extreme poverty coexisting alongside wealth and resources concentrated in the hands of a small percentage of the total population provides fertile ground for still further political chaos.

It is easier to describe a vicious circle, however, than to prescribe for one. One brave attempt at a breakthrough has been the Central American peace process which, after a long gestation, was born at the town of Esquipulas in eastern Guatemala on 7 August 1987. There the presidents of five countries - Cerezo of Guatemala, Duarte of El Salvador, Azcona of Honduras, Ortega of Nicaragua and Arias of Costa Rica agreed on a variety of interlocking procedures in an effort to achieve "a firm and lasting peace in Central America." Since then there have been a flurry of meetings of officials, foreign ministers and, after months of diplomatic manoeuvring, of the five

presidents again, in February of this year at Costa del Sol, El Salvador. This incremental growth of cooperation has survived setbacks. What impelled the presidents to go even this far, despite substantial opposition was, in the analysis of one interested observer, a common perception of economic malaise. President Daniel Ortega of Nicaragua said to a Canadian parliamentary committee last May, "One point unites us and that is our economic problems. [They] allowed us to speak to each other."

It was a good thing – for their economies are burdened with debt loads higher in proportion to gross domestic product than those of most of their neighbours in Latin America, by declining prices for basic exports, by widespread unemployment and under-employment, by grossly inadequate infrastructure such as roads, water treatment facilities and electrification which, in Nicaragua and El Salvador, have actually been disintegrating because of their internal insurgencies. Moreover, the negative effect of all of these factors is exacerbated by rapidly-expanding populations, under-paid and ill-trained public servants, and a brain drain that accelerates as the crises mount.

At the heart of these economic problems are the use of land and renewable resources: forests, soils, water and fisheries. Natural resources account for more than half of the region's economic production, half of all employment, and most exports. The economic crisis is thus, fundamentally, an environmental crisis – the degradation of natural resources – which, in turn, is at bottom a question of power-relationships and of politics.

THERE ARE THREE BASIC PROBLEMS: TOO MANY PEOPLE, TOO LITTLE LAND, and patterns of land use that can only be described as perverse. Land distribution began to be skewed in the last century with the gradual introduction of export crops. Coffee farming led to the expulsion from communal lands of many thousands of peasants who had grown corn,

beans and other basic foods to feed their families. Later, wealthy sugar and cotton planters accumulated vast tracts by ousting still more peasants. The most dramatic change occurred in the 1950s when the US market was opened to Central American beef, and huge areas of farmland were converted to cattle grazing, requiring plenty of land and very little labour.

Today, typically, the richest farmland in the river valleys is used as pasture for cattle – land much more suited to basic crops for domestic consumption. For the production of cotton, Central America has engaged in one of the world's highest rates of pesticide application and suffered the consequences of widespread pollution and poisonings. Virtually all of the flat, fertile soils of the region are used by large landowners for commercial crops and cattle-ranching, and are often underutilized.

Meanwhile, small farmers are pushed onto more marginal land. Throughout Central America land-poor farmers are driven either to cul-

tivate hillsides or to colonize the pristine forests of the rapidly receding frontier. According to the UN Food and Agriculture Organization, in 1960 about 61 percent of the region was in forest and woodland and about one quarter was devoted to agriculture. By 1980, only 40 percent remained forested while 35 percent was in agriculture - two-thirds of which was pasture. These same trends continue despite the small amount that the beef cattle industry contributes to export receipts in relation to the vast amounts of land in pasture. In 1980, for example, export receipts were between US \$18 and \$47 per square kilometre of pasture compared to coffee's contribution of between US \$1,500 and \$1,800 per square kilometre of land.

ENVIRONMENTAND SECURITY

THE CASE OF CENTRAL AMERICA

How is land used, what land, by and for whom?

Fundamental political questions

for this war-torn isthmus are also

key environmental issues.

BY GREGORY WIRICK

Unfortunately for land-poor farmers both hillsides and frontier settlement are rarely sustainable: the hillsides erode within a few years, while the soils of most frontier areas are quickly exhausted by intensive farming and usually abandoned to cattle ranchers after two or three seasons. Then the small farmers are obliged once again to pull up stakes in a vain search for land that will permit them to feed their families.

Rapidly-growing populations make the search ever more doubtful. According to the Latin American Demographic Centre, a unit of the United Nations, the population of the five Central American countries today exceeds twenty-seven million, more than double the figure of twenty-five years ago. In 1986, the annual rates of population increase were 3.1, 3.2 and 3.4 percent respectively for Guatemala, Honduras and Nicaragua and 2.8 percent for the region as a whole. The regional rate will see Central America's population double again in the next quarter century.

These figures translate into relentless pressure on a limited and deteriorating natural resource base. El Salvador has been especially besieged. The most densely populated country in the continental Americas, El Salvador is unique in the region for its lack of an eastern frontier on the Atlantic coast to which people can be encouraged to migrate. For many years, a flow of Salvadorans to neighbouring Honduras, where work and land were more readily available, acted as a "safety valve." But by 1969 resentments over this immigration erupted in the so-called Soccer War between the two countries and the virtual collapse of the Central American Common Market, one of the most promising attempts of the 1960s at regional integration.

In the ensuing decade, despite a continuing flow of migrants abroad, El Salvador exploded into violent civil war. Jorge Villacorta, who served briefly as the country's deputy agriculture minister before joining