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The New York Times/Warren Hoge

Fumes from a chemical plant rise over Vila Parisi, a slum in Cubatão, Brazil. A pollution monitoring machine there broke down from excess contamination.

## New Menace in Brazil's 'Valley of Death' Strikes at Unborn

By WARREN HOGGE

Special to The New York Times

CUBATAO, Brazil, Sept. 19 — The already distressed atmosphere of this city has now become filled with alarm over the discovery of greatly accelerated rates of stillbirths and fetuses with ghastly deformities.

One of Latin America's largest petrochemical centers and one of the most polluted communities on earth, Cubatão rests atop coastal lowlands intersected by four lifeless rivers and under a venomous mist fed by 1,000 tons of toxic gases daily and trapped by a 2,000-foot range of hills just inland.

The Mayor of this city of 80,000 inhabitants refuses to live here, and a group of state functionaries left when their request for gas masks was turned down.

A government environmental group once labeled Cubatão "the valley of death," a description that has become starkly apt with figures just turned up by Dr. Alberto Pessoa de Souza, the city's director of health. According to Dr. Souza, 40 of every 1,000 babies born here are dead at birth and another 40 perish within a week. The majority of the victims, Dr. Souza said, are deformed.

### Miscarriages Are Increasing

Florivaldo de Oliveira Cajé, a member of the city council and president of its environmental commission, said the number of miscarriages was rising dramatically while the average weight of normally born infants had decreased markedly.

Many of the mothers come from Vila Parisi, a boggy slum a foot and a half below sea level surrounded by three of Cubatão's 24 industries. A pollution monitoring machine set up there by state authorities broke down under the intensity of the contamination in 1977 after only a year and a half of service.

The residents, it found, were being showered with a constant barrage of 1,200 particulates per cubic meter, more than twice what the World Health Organization says produce "excess mortality" after 24 hours of exposure. The figures proved statistically that the atmosphere could not support human life. Fifteen thousand people live there today.

According to the test results, Cubatão's 50-square-mile area was being bombarded daily by 473 tons of carbon monoxide, 182 tons of sulfur dioxide, 148 tons of particulate matter, 41 tons of nitrogen oxide and 31 tons of hydrocarbons. A survey conducted this year revealed that of 40,000 emergency medical calls in Cubatão, 10,000 were for tuberculosis, pneumonia, bronchitis, emphysema, asthma and assorted nose and throat ailments.

### Other Matters Given Priority

These findings would prompt protests and action in nations of the industrialized world, but in developing countries such as Brazil environmental concerns stand little chance against national goals of speedy growth and the reluctance to worsen balance of payments difficulties by importing costly antipollution equipment.

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In a recent statement, Franco Benoffi, managing director for the Fiat-owned FMB Steel Company said: "Foundry work is unavoidably polluting work, and it is no longer accepted by highly unionized workers of the so-called developed countries. As is well known, in the developed countries an extremely strong emphasis — I don't say if correctly or not — is placed on the pollution problem. In view of these considerations, the iron foundry is an activity more suitable to third world countries."

Cubatão's affliction, much of which comes from the giant foundry of the Paulista Steel Company, is being aggravated. In the first six months of this year, emergency calls for respiratory problems in Vila Parisi rose by 50 percent because fertilizer plants switched to more sedimentary rock whose shavings slip more easily through chimney filters into the air. Many of the victims were children who had to be revived with oxygen pumps.

The director of the national office for environmental protection, Paulo Nogueira Neto, has suggested moving the 15,000 Vila Parisi inhabitants to a less pernicious place nearby. Mr. Cajé said this arrangement was acceptable only if accompanied by installation of antipollution equipment. "Why should we punish people who can't adapt to irresponsible industries rather than punish irresponsible industries who won't adapt to people," Mr. Caié argued.

### Agency Has Power to Fine

Most of the contamination is generated by fully owned Brazilian companies, but Dow Chemical, Du Pont, Union Carbide and French and German multinational concerns are reported to add to the problems.

The 12-year-old state unit responsible for reducing pollution has the power to fine offending industries, but statistics on its actions are not publicly available. Visible evidence suggests forcefully that the agency is lax.

One of Cubatão's dead rivers is covered with billowing suds from detergents, another boils from the effect of the chemicals dumped into it and a third is so hot that its course can be traced by the rising

steam that snakes through a fetid field of refuse. Fish retrieved from the nearby ocean outlet have been found blind and skeletally deformed from having ingested mercury in the tributaries. Mr. Cajé recalled frolicking and catching fish with his hands in the same waters before the first refinery opened 25 years ago.

Smoke rolls forth from scores of stacks in blue, yellow, red, charcoal and white, turning the air a jaundiced gray and invading the nostrils with a sickening mixture of acrid odors. There are no birds, no butterflies and no insects of any kind, and when it rains on particularly windless days, the drops burn the skin.

The industries of Cubatão have given the city the highest average per capita income of any city in Brazil, though the fact that the profits do not reach most of the city's inhabitants is attested to by the fact that 35 percent live in shantytowns like Vila Parisi with no social services. These worker colonies are characterized by small rundown cabins with a cot inside known as a "hot bed." A nighttime laborer sleeps in it by day while his day-

time counterpart occupies it by night. Of the 55,000 workers, only one-third live here. "They are the ones who simply can't afford to move elsewhere," said Carlos Frederico Soares Campos, Cubatão's Mayor, whose home is in the coastal city of Santos 17 miles away.

Mr. Cajé, a 32-year-old lawyer, worked nine years for the Paulista Steel Company and three and a half years for the government oil monopoly, Petrobrás. They are the two largest installations in Cubatão, and the experience equipped him with inside information and engineering knowledge. He is one of the few Cubatão public officials who lives here, a fact he is reminded of at least once every three hours when he must take anticongestant nasal drops.

Only one of the 24 industries, the Paulista Steel Company, has expressed any willingness to combat the pollution problem. "We are disposed to work for a solution," its president, Plínio Asmann, said. "But the initiative has to come from the Government."