

The Third World's biological holocaust can be stopped

by Carol Hugunin

Today we are seeing a biological holocaust in Africa, and, increasingly, also in Asia: starvation, epidemics of human immuno-deficiency virus (HIV), which causes acquired immune deficiency syndrome (AIDS); cholera, malaria, tuberculosis, and the gruesome and deadly Ebola hemorrhagic virus in Zaire. These diseases are fostered by the level of austerity forced on developing countries by the International Monetary Fund (IMF) and World Bank. At the same time, new research shows that easily cured nutritional deficiencies, such as a lack of vitamin A or selenium, could be a major factor in some of the worst-affected countries.

The situation generated by IMF-dictated economic policies is so insane that even the academic world, normally well insulated from economic and political issues, is forced to take notice. In the May 18 issue of *AIDS* magazine, Dr. Peter Lurie of the University of California, San Francisco, laid the blame for the AIDS epidemic right where it belongs: with the structural adjustment programs (austerity) forced on developing countries by the IMF and World Bank in order for these countries to get loans.

These structural adjustment programs increase poverty, unemployment, and force decreases in government spending on health, education, and social welfare. They destroy agricultural self-sufficiency, forcing the import of expensive food, and tear down developing industries, forcing citizens into unemployment. A marginalized population is then left to prostitution and drug trafficking. And these changes have been forced on developing countries at precisely the time that they can least afford them. By the year 2000, it is expected that 90% of all manifestations of HIV will have occurred in developing countries. HIV spreads rapidly among prostitutes, intravenous drug users, and in conditions of poor nutrition, and where syringes and similar equipment are reused due to lack of available medical supplies, forced by budget cuts.

What Dr. Lurie is explaining about the relationship of the malthusian policies of the IMF and World Bank and the spread of HIV is exactly what Lyndon LaRouche predicted in 1974 would occur: Malthusian policies would foster the resurgence and spread of old diseases, as well as the development of new ones.

"For HIV transmission in developing countries to be substantially reduced," wrote Dr. Lurie, "economic policies that may have promoted disease spread must be modified. . . . First, the satisfaction of basic human needs such as food, housing, and transport must become a primary goal. . . . Finally, the charters of the IMF and World Bank must be altered to permit the cancellation or rescheduling of debt." Dr. Lurie further proposes that the IMF and World Bank be forced to issue AIDS impact reports with their loan proposals, taking direct responsibility for the impact of their policies.

The World Bank found this criticism so painful, that its officials wrote two letters to the editor of the London-based *AIDS* journal, protesting that the publication of this article was "unacceptable," "ignorant," and "extraordinarily naive." Reached by Reuters to comment on the World Bank's reaction to his paper, Dr. Lurie said it was "classical institutional defensiveness," and that they should "take a more honest look at what it is their programs might have caused in these developing countries, and revamp their programs accordingly."

In the case of AIDS, professionals were initially claiming that it was primarily a homosexual disease, yet Dr. Mark Whiteside in Belle Glade, Florida found very high prevalence of AIDS among migrant workers, and others have clearly found a very high prevalence among Africans subject to tremendous poverty. In 1978, Dr. John Grauerholz of *EIR* proposed that economic breakdown creates successive waves of viral, bacterial, and parasitic disease which weaken the immune system, leaving impoverished populations exceedingly vulnerable to diseases like AIDS.

Now scientific experiments are beginning to rigorously document that there are certain key nutrients necessary for the body to maintain its immune system defenses. Scientists are documenting that for just pennies a day per person in nutritional supplements, pandemics like AIDS could be drastically slowed down. A series of recent experiments has shown that anti-oxidants (such as vitamin A, vitamin E, and selenium) play a crucial role in enabling the immune system to fight viral diseases, including HIV.

Mutant Cocksackie and Keshan's disease

A group of scientists led by Melinda Beck, M.D., at the University of North Carolina, has discovered that a common, relatively harmless virus can mutate to a virulent heart-damaging form in mice that have poor diets. The virus used was Cocksackie, a ribonucleic acid (RNA) virus which humans experience as a common childhood disease. The mice suffered deficiencies in selenium (Se) and/or vitamin A. The very virulent mutant form leads to Keshan's disease, a weakened heart muscle condition that ends in heart failure, which is found in an area of China where grains are selenium-deficient, and which, until recently, crippled thousands of women and children through a broad belt of China. Now the Chinese government uses nutritional supplements that include selenium to protect these people from the disease. A report on this work was published in the May issue of *Nature Medicine*.

Cocksackie virus, like HIV and influenza, is a single-strand RNA virus, which means that it lacks the capacity to correct mistakes which occur during replication; hence, like these other RNA viruses, it mutates rapidly as it reproduces itself.

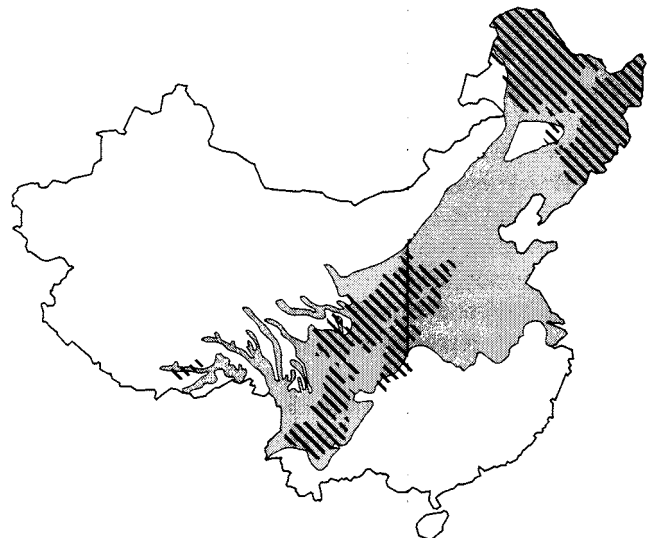
Dr. Beck's experiments created shock in the medical community for two reasons. This is the first time that nutritional deficiencies in the host have been documented to engender more virulent viral mutations. It is also the first documentation that, once mutated, the virus can inflict the same damage on mice fed a diet adequate in selenium and vitamin A. Some scientists have speculated that maybe the reason the more virulent form of Cocksackie virus hasn't swept around the world, killing countless humans with heart failure, is that since the more virulent form of Cocksackie virus is still a single-strand RNA virus, it mutates back to a less lethal form just as readily as it mutated to that more lethal form.

Dr. Beck noted in her paper the broad ramifications of her team's work: "If our findings with Cocksackie virus are generalizable to other RNA viruses, perhaps they can explain the steady emergence of new strains of influenza virus in China, which has widespread Se-deficient areas. Our findings might even help to explain the crossing over of certain viruses to a new host species through accelerated mutation rates. For example, the crossing over of HIV to humans may have been facilitated by the existence of Se-poor regions in Africa."

This is the trend that LaRouche hypothesized in 1974, when he said that malthusian economic policies would create conditions that act as a Petri dish, breeding new and more virulent forms of disease, which would spread out of their place of origin to the entire world.

Dr. Beck's group hypothesizes that selenium and vitamin A, both being anti-oxidants, help maintain the ability of the immune system to fight infection. Neither selenium nor vitamin A, however, should be taken in large doses, since both become toxic at high doses.

Keshan Disease and Kaschin-Beck Disease, correlated with the belt of selenium-deficient food grains in China



■ Marginal or Deficient selenium food grains
▨ Keshan and/or Kaschin-Beck Disease

HIV transmission and vitamin A deficiency

Dr. Richard Semba, of Johns Hopkins School of Medicine in Baltimore, has published a series of papers linking vitamin A deficiency to transmission of HIV from mother to infant. His team studied 567 HIV-infected pregnant women in a hospital in Blantyre, Malawi. Nearly 70% of these women were vitamin A deficient, one of the highest rates of vitamin A deficiency in the world. The women with the most severe vitamin A deficiency had a 32% chance of transmitting HIV to their newborns, compared with a 7% chance among those who had no vitamin A deficiency. Some 93% of the infants born to mothers with the most severe vitamin A deficiency died of AIDS in the first year of life.

Vitamin E and murine AIDS

A group lead by Dr. Ronald Watson at the University of Arizona has done large-scale experimentation on mice, indicating that vitamin E slows the progression of HIV to clinical AIDS. The mice get murine AIDS, which is clinically similar to human AIDS, and therefore is frequently used for laboratory research. Very preliminary unpublished clinical trials in Europe indicate that supplementing HIV-positive patients with vitamin A, vitamin E, selenium, and other anti-oxidants seems to prolong the period in which the HIV virus remains in the dormant phase, blocking development of full-blown clinical AIDS.

Selenium and RNA virus dormancy

The crucial role anti-oxidants play in enhancing the ability of the immune system to function normally, may not be the only way selenium deters RNA viruses from causing disease in humans. Will Taylor, Ph.D., a scientist at the University of Georgia, is developing evidence that many RNA viruses, including HIV, Cocksackie, and possibly Ebola virus, have a gene for a selenium-protein. This selenium-protein keeps the virus in a dormant, non-reproducing phase, much like zinc-rich proteins; the so-called zinc fingers wrap around deoxyribonucleic acid (DNA), in humans, controlling what DNA is expressed and what remains dormant. This allows RNA viruses like HIV to quietly hide for years within the human host's cells. Under certain conditions of immune system and or nutritional stress, these viruses will suddenly start reproducing, and possibly mutating like crazy.

Dr. Taylor's hypothesis provides an excellent description of what is clinically observed in the progression from a long dormant HIV-positive status to full-blown AIDS. It is well known that HIV uses precisely this strategy, hiding in white blood cells for years, to evade an immune response from its human host. According to Dr. Taylor, some human immune cells also have large selenium needs for normal immune functions. So, under conditions of selenium deficiency, the HIV virus can no longer make the selenium protein which keeps it from reproducing and mutating rapidly. And, the immune cells lack the selenium protein ammunition they need for proper immune function. Hence, one observes a typical clinical pattern of rapid shift from a lengthy HIV-positive phase, in which selenium levels in the blood are adequate and no signs of AIDS are present, to an AIDS phase of rapidly dropping selenium levels and rapid clinical deterioration, in which the immune system is increasingly less capable of fighting HIV.

In studying the area in Africa where AIDS was first thought to have emerged, medical teams found low selenium blood levels in the tiny town of Karawa, and the somewhat larger town of Businga in northern Zaire. These towns are in the Mongala River watershed area, associated with the smaller Libala and Ebola rivers—the same general area in which the Ebola virus first emerged. That whole area of northern Zaire is medically known as a thyroid goiter belt. Since selenium is required for iodine to be properly utilized by the thyroid gland to form crucial thyroid hormones, the presence of goiters throughout this area is further evidence of human selenium deficiency.

Although these areas need further medical research, they point to a simple reality: If the political will is there to reverse the current global economic policy, developing countries could quite quickly be provided with nutritional supplements that would curtail the spread of some of the world's most deadly diseases, while long-term industrial development policies are put into place to transform Africa and Asia.

'Shock therapy' yields food crisis in CIS

by Rosa Tennenbaum and Marcia Merry Baker

The month of May, which should be the high point of spring planting in the Eurasian farmlands of the former Soviet bloc, instead this year marked a new low in declining agricultural potential and per capita food consumption in the Community of Independent States (CIS). Russian State Duma (Parliament) Economic Policy Committee Chairman Sergei Glazyev, writing in *Nezavisimaya Gazeta* on May 11, asked, "The President and the parliamentary opposition sat by while science-intensive industry was liquidated in 1994. Will they be as calm in the face of the bankruptcy of our domestic agriculture?" A European Union delegation to farm regions in CIS republics in May called the situation "depressing" in severity, and gave accounts of desperate food shortages to the June 6 issue of *Agra-Europe*.

The recent years of shock therapy economics and the "reform" looting of all vital stages of national food systems—water, land, and transport infrastructure, farm inputs, farm operations, and food processing and distribution—have resulted in a full-scale food crisis. A year ago, an *EIR* statistical feature report warned of these consequences ("Shock Therapy Ravages Russia's Food Production," by Robert Baker and Paul Gallagher, *EIR* March 18, 1995, pp. 18-33).

As of mid-May, the Agriculture Ministry in Moscow calculated that equipment, spare parts, and fuel existed in amounts sufficient only to cultivate at most 30 million hectares out of the 71 million hectares in Russia that should be planted to crops. Not even one-fourth of the national farm equipment inventory was in working order because of the lack of parts and fuel. The same situation exists elsewhere.

As of late May, in Kyrgyzstan, spring planting was far behind, with little more than half the land planted. Every third tractor and planting machine was sitting in a repair shop, and farms had no means to pay for repair bills. One-third of the trucks, which play a vital role on the farms in this region, were out of commission because there is no money for gasoline.

However, even if the machinery fleet were miraculously mobilized, the lack of quality seeds and farm chemicals would jeopardize the crops. Over the seven-year period 1987-94, annual tonnage of fertilizer applied in Russia fell by 90%, dropping from 14.2 million tons in 1987, to 1.4 million tons last year. As of this April, in 52 out of 89 administrative regions, farms did not purchase one single ton of fertilizer for use this season, because of a lack of funds. Only one-fourth of the area planted in Russia was fertilized