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## The Dieldrin Story

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# How U.S. environmentalists ensured the survival of locusts in Africa

by J. Gordon Edwards

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At a time when a locust plague of Biblical proportions threatens to wipe out the food supply of much of Africa, the most effective weapons in the war against the locust are excluded from battle because of environmentalist politics. We are told that wide-scale spraying will “harm” the environment, and in particular destroy the so-called natural organisms that allegedly might curb the locust population.

It is true that locusts are frequently decimated by natural external factors, such as weather. Other factors may destroy great numbers of them under some conditions, and these factors have been considered for possible use in control programs. Viral diseases sometimes reduce the numbers of locusts; however, producing sufficient numbers of them in the laboratory and releasing them in the field has not yet been successful. Three bacterial diseases were introduced into U.S. locust swarms in 1920, but without evident effects.

For 30 years, U.S. Department of Agriculture (USDA) entomologists have saturated small locust colonies with protozoan parasites (*Nosema locustae*), in hopes of establishing them in Montana locust populations. The results are called “encouraging”; however, this year, in July 1988, eastern Montana is suffering from 25 locusts per square foot, and the pests have eaten every green thing in large areas. They have even stripped the paint from houses, and have made roads

slick with their bodies. There, as in many areas of North Africa, the overwhelming numbers of locusts are responsible for increasing desertification, a condition which may persist for years.

Meanwhile, in the Fiscal Year 1988 AID budget, the country of Mali received \$651,000 in aid for *Nosema* research, while the Cape Verde Islands received \$75,000. Natural enemies such as birds, lizards, flies, and wasps are so scarce, relatively, that they can have no significant effect at all on locust swarms.

### Chemical controls

The only effective control programs in the United States, as well as in Africa, to date have been those employing chemical insecticides. Chemicals, such as coal tar products, pyrethrins, naphthaline, and arsenic, were used before 1900, usually mixed with attractive baits that would be devoured by the advancing hordes of locusts. Some experimenters even added vinegar, orange pulp, or lemon juice as attractants. They all found it impossible to get enough poison into the field to really “control” the grasshoppers.

After airplanes became available, the baits could be applied much more quickly and over much greater areas, which greatly increased their effectiveness. In the 1940s, synthetic chlorinated hydrocarbon insecticides were produced, and they soon replaced the more expensive, less effective insecticides—and were also generally less hazardous to non-target animals. Chlordane, BHC, and toxaphene were especially useful.

The director of African Emergency Operations at the

U.S. Agency for International Development (AID), Robert Friedline, has favored the use of those insecticides that would not "bioaccumulate." He recommended non-persistent fenitrothion and propoxur in "wild areas" of Africa, and malathion near human concentrations ("due to its low mammalian toxicity"). However, what Mr. Friedline failed to realize is that such pesticides will not persist on foliage long enough to kill the necessary numbers of hoppers or locusts. The pests continue to emerge from the egg masses for many days, while the insecticides disappear and must be reapplied—a very expensive operation. (He also evidently failed to notice the extensive scientific literature refuting the myth of pesticide "biomagnification," which was exploited in the 1960s and 1970s by pseudo-environmentalists.)

Malathion costs more than 10 times as much as the more effective dieldrin and often disintegrates in two to three hours on a hot, humid day, so it will not be present in the foliage eaten by young locusts that hatch a few hours after the expensive spray application. In the March 27, 1988 issue of the French daily *Le Monde*, experts point out that after sprays with malathion (which kill on contact), normal life cannot come back the following year. This is not true when dieldrin is used, for dieldrin must be *eaten* by the insect to be fatal.

In the late 1940s, aldrin and dieldrin were developed and miraculous locust control was achieved from as little as 2-3 ounces per acre applied from the air—without harming crops or people. One small plane could spray dieldrin over 1,000 acres of infested land in 15 minutes, killing a half-billion grasshoppers and protecting thousands of tons of grain! This method of crop protection was soon being used in Africa and Asia, and hundreds of millions of humans were thereby saved from starvation during the 1950s and 1960s.

Most locust eggs hatch in remote regions where no control measures have been used. If the first food eaten by the young hoppers contains traces of pesticide, the insects die, obviating the necessity of feeding them much larger doses of poison later. After they have passed through their immature stages and develop functional wings, the adult locusts take to the air and can fly as much as 900 miles in 14 days, or 3,000 miles in a locust lifetime of four months. That brings them to cultivated regions with lush green crops. Each acre of hoppers *not* killed in their infancy matures to consume the agricultural crops on 200 acres!

In 1975, Dr. D.L. Gunn, a world authority on locust control, commented on the "crippling limitations on aerial application of pesticides and the prohibition of dieldrin usage" (*PANS*, 21:148-54). He warned that unless more than 97% of the immature locusts are killed, their populations will increase. It is essential that the applied insecticides be capable of retaining their toxicity for at least a week after being applied to the foliage upon which the locusts will feed. The insecticide must also be able to remain toxic for several months during storage in hot climates, so that it will be available for control applications as soon as needed. The

chemicals used against locusts and grasshoppers in Africa in 1986 and 1987 failed to meet either of these requirements. They were effective on plants only for three or four days! Also, those short-lived insecticides were many times as costly as dieldrin, and the most expensive part of any control program is the cost of *applying* the chemicals. Unfortunately, during the intervals between less-toxic chemical applications, hordes of hoppers continue their development, and adults produce millions of fertile egg-pods.

Dieldrin is the superior chemical for locust control in Africa, being more persistent than substitutes both in storage and on foliage. It is highly toxic to insects that ingest it, but safe to the people and other vertebrates that are exposed to it. It does not migrate through the soil, it does not "biomagnify" to any appreciable extent, and it is not toxic to vertebrate animals in the sprayed areas. Dr. Gunn concludes in the cited article that "dieldrin is indispensable as the agent for successful locust plague suppression."

The concentration of dieldrin needed to kill locusts that eat the foliage is not greater than 5 parts per million (5 ppm) on the foliage. Grazing animals are not harmed by eating foliage containing a hundred times that concentration of dieldrin. Humans are completely safe in the sprayed areas, even when they drink the milk and eat the flesh from exposed animals. It has been proved that the dieldrin ingested by vertebrates is rapidly depleted from their tissues and there is no indication of significant toxic, carcinogenic, or mutagenic effects resulting from environmental applications of dieldrin.

The current locust campaign reflects the U.S. Agency for International Development (AID) 1987 "Locust Strategy Paper" in which someone, misinformed by radical elements in the United States, thought perhaps the principles of biological control, or integrated pest management (IPM) would work on the billions of swarming locusts. That "Strategy Paper," in accordance with FAO and World Bank policy, requires consideration of pesticide effects on insect predators, and encourages the funding of environmental research in order to "evaluate the potential of environmental effects of the pesticides and to select, implement, and manage effective environmental measures."

This integrated pest management approach was emphasized, despite the knowledge that millions of lives would likely be lost in Africa each year that such a capricious "environmental study" was being evaluated, and that even greater numbers of African natives would suffer malnutrition, disease, and debilitation as a direct result of conditions forced upon them by the far-fetched hopes of a few "environmentalists" in wealthy distant nations.

Admittedly there is another possible reason for the irresponsible behavior of the U.S. AID and U.N. Food and Agriculture authorities involved. Most of those individuals surely realized that a possible result of their actions would be a great reduction in the number of people surviving the locust plagues. Failure to reduce the swarms of locusts that would

## How dieldrin was suppressed

The Environmental Defense Fund—an environmentalist legal group—filed suits against the Environmental Protection Agency on Dec. 30, 1970, just one day after that government agency had been created, saying that dieldrin was long-lived in the environment and was potentially carcinogenic in man.

Three months later, on March 19, 1971, EPA Administrator William D. Ruckelshaus stated that he had intended to cancel use of dieldrin, but did not do so because it could not be determined that an “imminent hazard” existed.

The Environmental Defense Fund then petitioned their apparently captive U.S. Court of Appeals in Washington, D.C., which ordered Ruckelshaus to reconsider the dieldrin matter. He did so, and convinced the producer, Shell Corporation, that it should drop its legal registration of dieldrin for aerial applications, but continue registration for other uses.

The report of the Aldrin/Dieldrin Advisory Committee

was submitted to Ruckelshaus on March 28, 1972. The cover letter stated, “the Committee was unanimous in the views and recommendations we bring to you.” These views were *not* to ban dieldrin for agricultural uses in the United States, but to avoid using it near aquatic environments. The committee found that in rats, dieldrin at 20 ppm or more in the diet significantly *decreased* malignant tumors. In other animals, there were no adverse effects, except in one hypersensitive strain of mice. The committee said it “did not feel that the balance of data indicated a carcinogenicity hazard” and stressed that tumors did not form in other strains of mice, nor in any other animals, including primates.

The committee agreed with the conclusions of all other committees of experts who examined the evidence concerning dieldrin. Nevertheless, Russell Train, who succeeded Ruckelshaus as EPA administrator in September 1973, personally disagreed with all these conclusions, and took it upon himself to halt the hearings and ban the chemical as an “imminent hazard.”

The committees Train ignored were: the Pepper Committee (Food and Drug Administration, 1965); the Jensen Committee (National Academy of Sciences-National Research Council, 1965); the Gunther Committee (FDA, 1967); the Committee of Agricultural Research Science

predictably destroy enough grain each year to feed 200,000 to 400,000 natives in each of a dozen African countries must surely please the advocates of human population reduction there. (Similarly, health officials who are now permitting malaria to kill more than a million African children every year—because of the ban on DDT—may take credit for effectively reducing the population of many African nations.)

Lukas Brader, a Dutch agronomist who is the director of FAO's Emergency Center for Locust Operations in Rome, told *EIR* in a March 1987 interview that “if you spray everywhere, you would really not allow the natural balance to reestablish itself and, in fact, you prolong the plague beyond the two or three years it would normally last” (*EIR*, April 8, 1988). Brader stated that he would not recommend spraying the developing billions of hoppers (immature, flightless locusts), “because the environmental impact would be such that you would just prolong the plague” since the spray “would kill the natural parasites of the locusts.” He claimed that “normally there is a 50% to 60% mortality from all sorts of other insects that eat these grasshoppers.” Brader neglected to name any of these insects, and apparently did not know that mortality rates greater than 90% are essential in order for the number of gravid females to be reduced to a level that cannot produce even greater numbers of hoppers the following year.

### Some facts about dieldrin

Because the prohibition on the use of dieldrin in African locust control programs is so important an issue, that insecticide deserves further discussion. The Aldrin/Dieldrin Advisory Committee, which reported to the Environmental Protection Agency administrator on March 28, 1972, was composed of seven experts, including toxicologists, environmentalists, agriculturalists, and cancer researchers. They devoted two years to their study. While warning against extensive applications of dieldrin in marshes, where “measurable toxic effects in some fish” have been documented when one pound per acre or more was applied, the experts reported that the use of dieldrin applied directly to soil at one pound per acre over 16 years led to levels of about 1 ppm in a variety of insects and less than 0.02 ppm in a variety of seeds of plants grown in that soil. Such usage is unlikely to have substantial effects on wildlife, the committee concluded, and “There appear to be no reports that aldrin or dieldrin have adverse effects upon plant life.” Other pertinent points from their 100-page report are given below and in the accompanying box.

The Environmental Protection Agency (EPA) suggested 10 parts per billion (ppb) as an acceptable water quality level, but the highest recorded level in the U.S., after decades of extremely massive applications, was only 0.4 ppb (in the

(USDA, 1969); the Wilson Committee (British Department of Education and Science, 1969); and the Mrak Commission (Department of Health, Education, and Welfare, 1969); and the 1970 Food and Agricultural Organization/World Health Organization Committee.

In August 1973, cancellation hearings began regarding dieldrin on food crops, after appeals to Judge Herbert Perlman were rejected. A year later, in April 1974, Alan Kirk of EPA asked Shell to stop production of dieldrin until the hearings ended. Shell refused, saying that to stop production "would be tantamount to a plea of guilty before the trial was complete."

Suddenly, on Aug. 2, 1974, tax attorney Russell Train issued a notice of EPA's intention to suspend dieldrin production, because he considered aldrin/dieldrin to be imminent hazards. He said 10 million pounds more would have been produced in 1974 and sold in 1975. Train ignored the 1972 panel report which had refuted his "hazard" statement in advance. (During the hearings so far, witnesses from EPA and EDF had produced 24,000 pages of testimony against dieldrin, but the defense witnesses had not yet testified.)

### **Train redefines 'carcinogenic'**

Shell requested immediate, expedited hearings on the

matter four days later, but EPA rejected this request. Then a new and precedent-setting criterion for determining the carcinogenicity of a substance was proposed by Russell Train. He stated that, for purposes of "carcinogenicity testing, tumorigenic substances and carcinogenic substances are synonymous." This opinion was in sharp contrast to policies of toxicological groups, medical agencies, and the FDA, where carcinogenic substances were defined as those that cause *cancerous* tumors (which are malignant and capable of being transferred within the body). It was upon this basis, however, that Train deemed dieldrin to be carcinogenic, and banned it.

The ruling against dieldrin became final Oct. 4, 1974. No more dieldrin could be manufactured in the United States. The reason given was that there was "no great necessity for aldrin and dieldrin, since only 10% of the U.S. corn crop is usually treated with those chemicals, and effective substitutes exist for them." Shell Corporation appealed to the U.S. Court of Appeals in New Orleans, seeking to overrule Train's decision. To prevent that court from ruling on the issue, the EDF appealed again to its captive U.S. Court of Appeals in Washington, D.C., and succeeded.

Russell Train left EPA in 1977 and is now president and chairman of the board of the World Wildlife Fund.

Tombigbee River, Mississippi). Typical levels in the Mississippi River were only 0.015 ppb, which the committee stated "do not seem to be alarming." Analyses of aldrin/dieldrin in samples of soil, water, or animal tissues were not to be construed as definitive, they pointed out, because sulfur and polychlorinated hydrocarbons (PCBs) were often identified mistakenly as being aldrin or dieldrin residues. (The analytical methods misidentified many such artifacts, calling them aldrin, dieldrin, DDT, etc.) In 34 samples of soil that had been collected in fields and tightly sealed before 1910 (30 years before aldrin or dieldrin existed), 20 showed "apparent residues" of those nonexistent chemicals when analyzed in the 1970s! (*Pesticides Monitoring Journal*, 1970)

In the 1960s, the average human intake of aldrin/dieldrin was 5 micrograms a day (or 0.005 milligrams a day). Divided by 70 kilograms, the weight of a person, that equals 0.00007 milligrams *per kilogram* (0.00007 ppm). Primary intake included 0.05 ppm in dairy products, 0.03 ppm in fatty meats, and less than 0.01 ppm in cereals and vegetables. Those residues only averaged 0.15 ppm in human body fat after years of daily intake averaging 5 micrograms a day. What effects might that body residue have on mammals? The committee reported that there "were no untoward effects from aldrin or dieldrin, even among occupationally exposed humans whose intake was 50 times the average amount for 13

years." Such men "not only showed no signs of toxicity, but failed to show the minor effects upon liver function" (which are early signs of bodily changes produced by similar compounds in experimental animals when massive doses are ingested). In experimental rats, dieldrin at 20 ppm or more in the diet actually *decreased* cancer production (and the dieldrin-fed animals developed less than half as many tumors as did the "controls").

The possibility of harm to the environment, to beneficial parasites or predators, or to vertebrates exposed to aerial sprays of dieldrin in Africa is infinitesimal. The toll of human deaths in locust-ravaged regions of Africa is catastrophic. Hopefully, U.S. scientists will convince the EPA and AID officials that their attitudes are poorly considered and will result in the unnecessary deaths of hundreds of thousands of Africans and in severe malnutrition and suffering of millions of others.

### **Worst African swarm in 30 years**

Given the refusal to use dieldrin in Africa, it was no surprise to read recently that "swarms of locusts migrating from northwest Africa threaten harvests in 15 African nations," and those nations will require \$300 million in aid to make up for destroyed crops. Lukas Brader, director of the Emergency Center for Locust Operations at FAO, noted this

year that the biggest swarm in 30 years was sweeping across North Africa. This was the result of locusts being allowed to breed uncontrolled in the Sahel and elsewhere the previous year. Meanwhile, a U.N. conference was debating whether to use effective pesticides to combat the locusts. The director-general of the FAO, Edouard Saouma, acknowledged that after two years of permitting locusts to develop, "The invasion is of unprecedented dimensions and will move through the sub-Sahara region from the Atlantic Ocean to the Red Sea." And U.S. AID Administrator M. Peter McPherson warned that recent African rains set the stage for the worst locust infestation there in 60 years.

What this means in terms of crop destruction is frightening. The swarms of locusts now beginning to migrate will eat 80,000 metric tons of vegetation a day. AID officials estimated that 15,000 metric tons of cereal grains can supply 1 million people with a pound of food per day for a month. In 1958, locusts destroyed crops in Ethiopia which would have been sufficient to feed 1 million people for a year. In Somalia, one swarm of 40 billion locusts ate over 40,000 tons of grain each day—enough to feed 400,000 people for a year.

Due to their extensive surveillance program, the discovery of dieldrin insecticide, and the availability of aircraft, officials in Africa eventually became able to kill the young locusts shortly after they hatched, and to prevent the flying swarms of locusts from destroying crops. The desert locust (*Schistocerca gregaria*) was not as easily controlled as the migratory locust (*Locusta migratoria*), because it swarms more extensively and breeds wherever and whenever rains occur. The desert locust can fly for 17 hours non-stop, and migrations of 1,000 to 3,000 miles are not uncommon. In 1978, they bred near the Red Sea and devoured over 8,000 tons of crops per day in the horn of East Africa (43 swarms were in Ethiopia and 17 in Somalia). Aerial sprays eventually controlled them, otherwise grain and other crops as far away as Pakistan, Morocco, and Tanzania would have been ravaged, as well as those of Saudi Arabia, Yemen, Somalia, and Ethiopia.

In 1986, the eggs of four major species of locusts were hatching simultaneously in 15 countries. The ineffective actions of officials during this unprecedented destruction of crops, and the FAO forecast that 50 million humans may starve to death in Africa and Asia by 1988 indicates their awareness of the severity of the situation. Even those who survive such a plague will not be untouched. Survivors will suffer malnourishment, resulting in reduced mental capacity and great susceptibility to diseases. Also, people who eat grain that is infected by certain fungi may become cancerous or develop gangrenous infections.

### **The role of the U.S. environmentalists**

There are several reasons for the present threat to Africa and Asia. First, there is the refusal of appropriate African agencies to take effective action in 1986 and 1987, despite

warnings from entomologists around the world that indolence would result in devastating swarms of locusts developing. Another contributory factor was the deliberate action of the U.S. EPA, the Environmental Defense Fund (EDF), and the AID. Despite their awareness of effective control procedures, nations attending a conference in Africa last year were still debating whether to use dieldrin sprayed from the air to combat the locust swarms. In view of the tremendous loss of life that would ensue if the locusts were not halted, it seems incredible that there was any doubt as to the desirability of taking the most effective actions possible.

Because the 1986 locust program was so late getting started and used non-persistent and relatively ineffective insecticides, enormous numbers of locusts and grasshoppers were able to lay eggs that year. It is noteworthy that in one West African country where the government insisted on a crash program to eradicate the plague, there was success. In 1987, Senegal requested aid from the United States and received the loan of four DC-7 planes to spray 2 million acres of that country. More than 95% of the young grasshoppers were killed by that operation, but billions elsewhere in Africa were spared, and, because of the actions of recalcitrant FAO entomologists, these locusts were able to mate and deposit enough eggs to produce another generation 10 times as large the following year. Senegal was the only African country that eliminated locust devastation in 1987, and unless overwhelmed by billions of grasshoppers or locusts produced elsewhere (due to FAO ineptitude), Senegal will again escape severe damage in 1988.

At least 15 African nations were terrorized by migrating swarms of four species of locusts in 1987, as the uncontrolled pests continued to multiply exponentially. FAO authorities shirked their responsibilities to the African countries, prattling about possibilities that spray programs in the breeding areas of locusts "might harm beneficial predators and parasites of the locusts." The unrealistic hope that "natural parasites and predators" might significantly decimate the residual masses of locusts led the FAO to deliberately shield the pests from effective control measures during the last two years. As a consequence, the burgeoning hordes of migratory locusts will be more destructive than ever this year.

### **Shirking responsibility**

As *EIR* documented at the time, it was political chicanery that prevented the use of effective control procedures in Africa in 1986 and 1987. The United States must be considered the major culprit in this crime against humanity in Africa, because it was there that the myth that natural enemies might control the migratory locusts was promulgated. EPA attorneys banned dieldrin and aldrin in 1974, despite the advice of its own Scientific Advisory Commission, after two years of investigative research by that group of scientists (see box). The EPA then coerced the agencies responsible for funding overseas health programs to prevent dieldrin (and other

chemicals) from being used in Africa, even when millions of human lives hung in the balance.

Unfortunately, many Third World authorities—like much of the U.S. population—are quite gullible. They often do not respect the opinions of research scientists, but instead may embrace unsupportable claims made by EPA attorneys, and by amateurs, engaged in fundraising for neo-Luddite pseudo-environmental groups. When they hear it said that “natural enemies can control all insect pests,” or that the environment will be harmed by insecticides properly applied, many of them believe it. They do not recall that their countries have been almost continuously ravaged by locusts for at least 2,000 years *despite* the abundance of “natural enemies.” They seek no confirmation of unproven U.S. claims and make no surveys of the abundance and efficiency of natural enemies of locusts. Nevertheless, some have recommended that the use of insecticides be avoided, “because the chemicals would kill the natural enemies of the locusts.”

Worse yet, even after trained scientists in devastated areas realize how far-fetched the claims really are, and seek to chemically control the “hoppers” before they develop wings and migrate, they find that a few North American radicals thwart their efforts.

African leaders were influenced by the bias of Russell Train, who headed the EPA (1974-77), and perhaps did not know the nature of his “kangaroo court” hearings on dieldrin (see box). Many still respect decisions made by government agencies in this country. They may have thought that if the United States banned dieldrin, it must be dangerous, and therefore, should not be used in Africa, even to save millions of lives.

A British science attaché pointed out (*Science*, 196: 1182, 1977) that “there is a limit to the number of times even the greatest country in the world (U.S.A.) can afford to appear ridiculous in international affairs.” (He was applauded by over 600 specialists at a meeting called by the EPA to discuss the U.S. Toxic Substances Control Act.) He suggested that the EPA “should not presume to legislate for the Universe and the whole human race.”

The U.S. AID responded to the U.S. “National Policy Act” by issuing “Regulation 16 Guidelines,” in 1986. Secretary of State George Shultz, relying on that as his authority, telegraphed orders to U.S. embassies in Africa in March 1986, stating that “The U.S. cannot, repeat cannot, as a matter of longstanding policy, participate in programs using any of the following pesticides: (1) lindane, (2) BHC, (3) DDT, (4) dieldrin.” Countries that cannot support their pest control programs without U.S. financial aid have therefore been unable to use the only really effective insecticide in combatting the locusts, namely dieldrin!

### **The FAO’s malthusianism**

The FAO officials also appear to have been completely fooled by U.S. integrated pest management propaganda, even

to the point where some of them actually think parasites and predators might eradicate locust swarms. The FAO ignores the fact that migratory locusts have devastated Africa repeatedly since Biblical times whenever moisture conditions were favorable—*until* dieldrin was discovered and used there. Biological control of insect pests may work on certain pests under certain conditions; however, even if natural enemies can kill 70% of the locusts, the survivors will leave concentrations of egg masses hundreds of times greater than the previous year (assuming of course that the weather remains favorable). To effectively reduce the potential of the following year’s devastation, more than 90% of the hoppers must be killed, either by direct human action or by natural weather conditions.

During the plague conditions of 1986, after months of delay, the FAO finally met in Rome on Aug. 19, 1986, knowing that the “window” for emergency spray programs to halt the explosive spread of the locusts throughout West Africa and in millions of acres of crops in the Sahel would be less than three weeks in September (before the locusts developed the power of flight). Nevertheless, the FAO decided to use only small planes, and to spray only around croplands rather than in the vast breeding areas where future generations of locusts would be festering in billions of egg-pods buried in the ground. Surely it would be much cheaper to control the locusts (at a cost of less than \$40 million) than to ship food to the devastated countries (at a cost of more than \$200 million a year!)

Rafink Skaf, senior officer in the FAO Emergency Center for Locust Operations, was interviewed for *EIR* by Marjorie Hecht in September 1986. He stated, “We want to take advantage of this year to assess the result of the [bio-control] campaign, because it’s never been done on such a large scale.” He must have been infatuated with the dreams of pseudo-environmentalists, or influenced by the malthusians who consider fatal starvation of millions of Africans a necessity in reducing the black populace there. Hecht noted in *Fusion* magazine (January-February 1987, p. 44), that “the response from the U.N. FAO was slow—in keeping with their stated policy of reducing the population of Africa and restricting the diet of those people left to subsistence-level cereal crops.” (Interestingly, although Skaf, who just retired from FAO, opposes wide-scale pesticide spraying, he supports the use of dieldrin and blames the U.S. ban on dieldrin for the present plague.)

Why is an organization ostensibly dedicated to protect food and agriculture so slow in fighting a plague? *EIR* has referred to the FAO as an organization “which is dedicated to the genocidal idea that Africa is overpopulated,” and appears to be guaranteed to fail in the war against locust swarms. Three past deputy directors of FAO are on record in interviews by *EIR* saying that “people are the problem in Africa” and that “it would not have such problems if it had fewer people.”