



The letter concluded sadly: "They have been taken none too soon, for few of the magnificent trees represented in these views will be standing a few years hence."

Today almost a century later, the greatest conservation challenge of our generation is not mere preservation. It is the creation of new techniques to meet the population explosion and provide liveable cities; adequate open spaces and unspoiled streams, clean air and productive soil, ample power and ample supplies of food.

Recently the National Academy of Sciences in its report on Natural Resources observed:

"Science and technology enter into a new role. Rather than merely being an aid to resource conservation, they are now seen as charting the route to a principal avenue of solution."

To meet one of the world's grave resource challenges, the feeding of a growing army of the hungry, we are charting a new route. Aided by men of science, we have set forth to plumb that 70 percent of the earth that remains unexplored--the ocean depths. Thus, we may better discover and utilize the sea's bounties for the world's hungry.

As President Kennedy observed recently:

"To meet the vast needs of an expanded population, the bounty of the sea must be made more available. Within two decades, our own Nation will require over a million more tons of seafood than we now harvest."

The world picture is increasingly grim and Lord Boyd Orr, former director of the U. S. Food and Agricultural Organization, and Nobel Peace Prize winner, states that within 80 years the world must produce more than eight times the present world food supply.

Today, we in the Department of the Interior are meeting this challenge in a multi-front drive to raise this Nation's harvest from the sea, and at the same time, pass along to the free world, our scientific findings in this field.

The fisheries research programs now underway number into the hundreds. However, one above all others shines as a beacon of hope for the 80 percent of the world's population today receiving insufficient daily protein diet--which is a rather dainty way of describing spirit-sapping hunger that for millions annually is an epitaph.

This project, which our scientists in the Bureau of Commercial Fisheries have with limited resources, virtually led the world in research, envisions the creation and distribution of a fish protein concentrate.

This product is made from a whole fish reduced to a protein-rich powder easily added to cereals or other basic foodstuffs. By utilizing the unharvested fish of United States waters alone, it can provide supplemental animal protein for one billion people for 300 days at the cost of less than one-half cent per person per day!

The value of fish as a protein supplement has been recognized since the beginning of time. The problem has been one of distribution.

Harvesting fish is of only limited value if weight, susceptibility to spoilage, or transportation costs preclude shipping from coastal areas into the interior, where there often is a dense concentration of population. This is a baffling problem. It must be solved before fishery products make their full contribution toward solution of the overall world food problem.

Fish protein concentrate, however, would overcome the disadvantages of weight, spoilage, and high costs of distribution that are common to many other products. FPC is nutritious, adaptable to many diets, and easily packaged in various sizes. It is an outstanding example of wise resource use.

We believe that this food supplement, the intrinsic nutritional value of which is already well established, can eventually be obtained by any one of a number of different processing methods and in a variety of forms ranging from a white, bland-tasting powder to a dark, flavorful paste. Further, it can be manufactured from fish species not now used as food. We are convinced that we are at the threshold of a new and important marine food industry which, if it can be helped safely over the first difficult stages of development, will assume a position of major importance both here in the United States and abroad.

Today, in many parts of the world, and even off our own coasts, vast and sometimes unassessed fishery resources, capable of being converted into fish protein concentrate, are still available. If we are to alleviate the world's hunger and malnutrition these resources must be used to supplement the crops from the land. It seems obvious that these relatively untouched resources of the sea constitute the last unexploited, readily available source of animal protein. Wisely managed, this large renewable resource will contribute importantly toward solution of the very problems under consideration at this Congress.

It is especially significant that fish and shellfish provide the high-quality protein so essential as a supplement in the food of millions throughout the world who now depend, of necessity, largely on diets of land crops such as cereals and vegetables.

Much of the world's hunger, ranging from acute, extreme starvation to chronic, marginal dietary deficiencies, is a problem not only of how much food but of what kind. The most serious among the causes of hunger is protein malnutrition, frequently induced by a deficiency of the right kind of proteins, those, in fact, that cannot be synthesized by the human organism, and hence should be eaten every day. These essential proteins can be most readily found, in the correct proportions, only in the tissues of animals.

We in the Department of the Interior are not alone in our research and development work on fish protein concentrate. Other nations, also with both economic and humanitarian motivations, are similarly active. But the Department's program, recently initiated by the Bureau of Commercial Fisheries and now moving into high gear, is accorded a high priority. President Kennedy, in a recent public statement, described the program as vital to this Nation's efforts toward the betterment of mankind. A recent National Academy of Sciences report agrees.

We are confident that it will be possible to produce a fish protein concentrate containing 90 percent of high quality proteins at a cost of 10 to 15 cents per pound to the consumer. It has been estimated that the minimum daily requirement of protein, 70 grams, could be supplied through fish protein concentrate at a cost per person of about two cents a day.

Because a project of this potential and universal significance must be a cooperative effort we have resolved to work in the closest cooperation with the United Nations, and especially the specialized agencies to whom much credit must go for initiating and stimulating new efforts in fish protein concentrate.

While the idea of manufacturing fish protein concentrate is not new the time has now come to translate that idea into large-scale production of a product that holds such great promise for the benefit of mankind. This much we owe to ourselves and to our friends throughout the world who look to us for help in solving their hunger problems. The day may never come when hunger will no longer stalk the earth. Nevertheless we must not cease to dedicate our collective minds and energies toward the attainment of that goal.

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