REMARKS BY SENATOR HUBERT H. HUMPHREY

FACING THE FOOD AND POPULATION CRISIS

The National Academy of Engineers

July 10, 1974

Washington, D. C.

It is a pleasure to be with you today. The National Academy of Engineers is a highly respected and influential group.

Of course it is also delightful to again be with old friends such as Ed Wenk.

I also am happy to be here because you have selected food and population as the topic of your seminar.

The American people are growing concerned about this subject. They have a basic feeling that, in spite of our great productive capacity, all is not well.

Food is an area where the United States has the capacity to play a great and positive role if the Administration will but seize the opportunity.

I must say that, with some exceptions, the news media has, until recently, not given adequate coverage to the increasingly critical world wide problems of limited food supplies.

The voice of the Academy of Engineers can be very helpful in reviewing and discussing this important topic.

We need to focus as much attention as possible on the issue of food and population. Recently, I received a letter from a Texas college student asking for materials on food reserves. His debating group wisely plans to make this the subject for the year's debates.

As professional engineers, you have a further and an equally important role. You can offer your judgments on the technical questions relating to a whole cluster of issues in the food area.

Your voices are important, and they will be heard.

Many ordinary citizens are now raising their voices and asking, What can I do? For your group, there is a great deal that you can do.

Engineers can make a major contribution in the area of food and population by dealing with two related questions:

First, what are the present limits of our ecological system in terms of supporting a population constantly expanding in size and in the scope of its demands?

And, second what steps should we take to expand these limits?

Focusing on these issues puts the problem in a universal perspective. And it takes us away from the idea that we can ignore other peoples in looking for the answers.

I am reminded of the words of Adlai Stevenson, who clearly perceived the problem in stating:

> "We travel together, passengers on board a little spaceship, dependent on its vulnerable reserves of air and soil, all committed for our safety to its security and peace; preserved from annihilation only by the care, the work, and, I will say, the love we give our fragile craft. We cannot maintain it, half fortunate, half miserable, half despairing, half slave -- to the ancient enemies of man -- half free in this day. No craft, no crew can travel safely with such vast contradictions. On their resolution depends the survival of all."

In looking at the first question of the limitations of our system, we should first of all note that this is a relatively new question for all of us.

Until recently, we had assumed an unending supply of minerals, petroleum, soil and water. Americans now are aware of the limited supply of petroleum and the future scarcity of many important minerals.

Few people have noted that most of the world's best land now is in production. The United States in the last two years returned most of its useable land to production.

In addition, water supplies are severely limited, especially in the areas of the world where the food needs are most severe.

We have depleted another important resource which Americans have taken for granted for many years. I am speaking of our ample food reserves which have meant plentiful supplies of food at stable prices.

In the face of a growing population and a sharply increased demand from the developed countries, it will be most difficult to rebuild our reserves.

Fortunately, in contrast to many other resources, reserves can be rebuilt or renewed if we have the will.

In looking at the issue of limited resources in the face of increasing demands, we unavoidably will face many difficult choices. Will we choose to use scarce energy to produce food or to power our automobiles? Are we as Americans prepared to face scarcities, if necessary, in order that other people may survive?

The engineers have a key role to play in finding answers to these questions.

Although many people are pessimistic about the future, and particularly about the rapid utilization of our resources, I am not without hope.

I am well aware of the fact that the ideas of Thomas Malthus are today in vogue. Clearly, some nations may face a Malthusian race between food and population. However, I am convinced that we can deal with this crisis.

The fact that we are facing these critical issues gives me encouragement.

Our engineers also must play a central role in dealing with our second task of stretching the present limits of our resources.

One of the most important areas of concern in food production is the supply of energy. Energy is critical to produce fertilizer and power machinery.

We must find new sources of energy to enable the developing countries to increase their food production. Our American agricultural methods, which require great amounts of energy, are not appropriate for developing countries. The quantity of energy which would be needed simply is not available.

At the same time, American agriculture will need to find new ways to increase production while conserving energy.

We will have to begin to pay careful attention to the quantity of energy used in agricultural production in relation to the food output obtained. To date we have operated on the assumption of an unlimited supply of cheap energy.

Another area where engineers can play an important role is in increasing food production through improved soil and water management.

This is of vital concern to countries such as India and Pakistan which need to increase the output from dryland farming and existing irrigation systems. Improved management of soil and water resources could lead to a several-fold increase in the food output of these countries.

I also would hope that engineers will respond to the challenge of developing an improved food information system. With the threat of scarcity before us, we will need to have the best possible information on likely world food supply and demand. And this information will be required on a timely basis.

When we had ample reserves, we could be casual and assume that everything would work out satisfactorily. With world food reserves now down to about three weeks, we do not have that luxury.

It was with this in mind that I urged the President to take up this subject with the Soviet leaders on his recent trip to Moscow. I hardly think it unfair to ask the Soviet Government to warn us if they have a poor harvest and expect to buy heavily on the world market.

There are a whole host of other important contributions which engineers can make, from developing improved techniques of food processing, to designing new approaches to food storage.

I think we can stretch the benefits from our resources if we are prepared to be creative.

We also must face the long-range need to bring population increases in line with food and other resources. However, we hardly can expect parents in developing countries to accept Western notions on family planning when surviving sons may represent the only available form of social security.

We need to emphasize total development for these countries, which means adequate food, health care, education and employment. When these basic conditions have been established, population increases will begin to decline, as they have in other countries.

In the meantime, you and I must work with the conditions as they are. We should not expect miracles or shortcuts.

I have not outlined the impossible dream, nor have I been a prophet of gloom and doom.

My suggestions have been modest proposals which you can and should be interested in tackling.

Beyond your professional interests, you also are citizens with the accompanying rights and responsibilities.

We Americans have begun to realize that a chaotic world with one-half affluent and well fed will not long survive while the other half faces starvation and malnutrition.

We cannot expect to remain an island of prosperity surrounded by an ever growing sea of famine and despair.

As that great world citizen, Albert Schweitzer, stated,

> "You don't live in a world all alone. Your brothers are here too."

The American people have already begun to respond to the challenge.

I urge this group to make its contribution from your wealth of leadership and knowledge. At this time of crisis, you cannot afford to do less.

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Dr Seamans
Dr Ed Wenk

REMARKS BY SENATOR HUBERT H. HUMPHREY

FACING THE FOOD AND POPULATION CRISIS

THE NATIONAL ACADEMY OF ENGINEERS

Committee on Public Engineering Policy

JULY 10, 1974

WASHINGTON, D.C.

Dr Paarlberg
Dr Walter Wilcox

IT IS A PLEASURE TO BE WITH YOU TODAY. THE NATIONAL ACADEMY OF ENGINEERS IS A HIGHLY RESPECTED AND INFLUENTIAL GROUP.

OF COURSE IT IS ALSO DELIGHTFUL TO AGAIN BE WITH OLD FRIENDS SUCH AS ED WENK.

I ALSO AM HAPPY TO BE HERE BECAUSE YOU HAVE SELECTED FOOD AND POPULATION AS THE TOPIC OF YOUR SEMINAR.

THE AMERICAN PEOPLE ARE GROWING CONCERNED ABOUT THIS SUBJECT. THEY HAVE A BASIC FEELING THAT, IN SPITE OF OUR GREAT PRODUCTIVE CAPACITY, ALL IS NOT WELL.

FOOD IS AN AREA WHERE THE UNITED STATES HAS THE CAPACITY TO PLAY A GREAT AND POSITIVE ROLE IF ~~our~~ Government ~~ADMINISTRATION~~ WILL BUT SEIZE THE OPPORTUNITY.

Nat Food Policy. International Nutrition

Food Rich Countries - as Canada. Australia New Zealand

I MUST SAY THAT, WITH SOME EXCEPTIONS, THE NEWS MEDIA HAS, UNTIL RECENTLY, ~~BEEN LESS THAN FORTHRIGHT IN POINTING OUT THIS KEY PROBLEM~~ NOT GIVEN ADEQUATE COVERAGE TO THE INCREASINGLY CRITICAL WORLDWIDE PROBLEMS OF LIMITED FOOD SUPPLIES.

THE VOICE OF THE ACADEMY OF ENGINEERS CAN BE VERY HELPFUL IN REVIEWING AND DISCUSSING THIS IMPORTANT TOPIC.

WE NEED TO FOCUS AS MUCH ATTENTION AS POSSIBLE ON THE ISSUE OF FOOD AND POPULATION. RECENTLY, I RECEIVED A LETTER FROM A TEXAS COLLEGE STUDENT ASKING FOR MATERIALS ON FOOD RESERVES. HIS DEBATING GROUP WISELY PLANS TO MAKE THIS THE SUBJECT FOR THE YEAR'S DEBATES.

AS PROFESSIONAL ENGINEERS, YOU HAVE A FURTHER AND AN EQUALLY IMPORTANT ROLE. YOU CAN OFFER YOUR JUDGMENTS ON THE TECHNICAL QUESTIONS RELATING TO A WHOLE CLUSTER OF ISSUES IN THE FOOD AREA.

YOUR VOICES ARE IMPORTANT, AND THEY WILL BE HEARD.

MANY ORDINARY CITIZENS ARE NOW RAISING THEIR VOICES AND ASKING, WHAT CAN I DO? FOR YOUR GROUP, THERE IS A GREAT DEAL THAT YOU CAN DO.

ENGINEERS CAN MAKE A MAJOR CONTRIBUTION IN THE AREA OF FOOD AND POPULATION BY DEALING WITH TWO RELATED QUESTIONS:

FIRST, WHAT ARE THE PRESENT LIMITS OF OUR ECOLOGICAL SYSTEM IN TERMS OF SUPPORTING A POPULATION CONSTANTLY EXPANDING IN SIZE AND IN THE SCOPE OF ITS DEMANDS?

AND, SECOND, WHAT STEPS SHOULD WE TAKE TO EXPAND THESE LIMITS?

FOCUSING ON THESE ISSUES PUTS THE PROBLEM IN A UNIVERSAL PERSPECTIVE, AND IT TAKES US AWAY FROM THE IDEA THAT WE CAN IGNORE OTHER PEOPLES IN LOOKING FOR THE ANSWERS.

I AM REMINDED OF THE WORDS OF ADLAI STEVENSON, WHO CLEARLY PERCEIVED THE PROBLEM IN STATING:

"WE TRAVEL TOGETHER, PASSENGERS ON BOARD A LITTLE SPACESHIP, DEPENDENT ON ITS VULNERABLE RESERVES OF AIR AND SOIL, ALL COMMITTED FOR OUR SAFETY TO ITS SECURITY AND PEACE; PRESERVED FROM ANNIHILATION ONLY BY THE CARE, THE WORK, AND; I WILL SAY; THE LOVE WE GIVE OUR FRAGILE CRAFT.

WE CANNOT MAINTAIN IT, HALF FORTUNATE, HALF MISERABLE, HALF DESPAIRING, HALF SLAVE -- TO THE ANCIENT ENEMIES OF MAN -- HALF FREE IN THIS DAY.

NO CRAFT, NO CREW CAN TRAVEL SAFELY WITH SUCH VAST CONTRADICTIONS. ON THEIR RESOLUTION DEPENDS THE SURVIVAL OF ALL."

IN LOOKING AT THE FIRST QUESTION OF THE LIMITATIONS OF OUR SYSTEM, WE SHOULD FIRST OF ALL NOTE THAT THIS IS A RELATIVELY NEW QUESTION FOR ALL OF US.

UNTIL RECENTLY, WE HAD ASSUMED AN UNENDING SUPPLY OF MINERALS, PETROLEUM, SOIL AND WATER. AMERICANS NOW ARE AWARE OF THE LIMITED SUPPLY OF PETROLEUM AND THE FUTURE SCARCITY OF MANY IMPORTANT MINERALS.

FEW PEOPLE HAVE NOTED THAT MOST OF THE WORLD'S BEST LAND NOW IS IN PRODUCTION. THE UNITED STATES IN THE LAST TWO YEARS RETURNED MOST OF ITS USEABLE LAND TO PRODUCTION. (Reserve of 70 million acre

IN ADDITION, WATER SUPPLIES ARE SEVERELY LIMITED, ESPECIALLY IN THE AREAS OF THE WORLD WHERE THE FOOD NEEDS ARE MOST SEVERE.

WE HAVE DEPLETED ANOTHER IMPORTANT RESOURCE WHICH AMERICANS HAVE TAKEN FOR GRANTED FOR MANY YEARS. I AM SPEAKING OF OUR AMPLE FOOD RESERVES WHICH HAVE MEANT PLENTIFUL SUPPLIES OF FOOD AT STABLE PRICES.

IN THE FACE OF A GROWING POPULATION AND A SHARPLY INCREASED DEMAND FROM THE DEVELOPED COUNTRIES, IT WILL BE ~~MOST~~ DIFFICULT TO REBUILD OUR RESERVES.

BUT FORTUNATELY, IN CONTRAST TO MANY OTHER RESOURCES, RESERVES CAN BE REBUILT OR RENEWED IF WE HAVE THE WILL.

(Farmers + Market-Slump R&K) (Reserves! nat. Interest.)

IN LOOKING AT THE ISSUE OF LIMITED RESOURCES IN THE FACE OF INCREASING DEMANDS, WE UNAVOIDABLY WILL FACE MANY DIFFICULT CHOICES. WILL WE CHOOSE TO USE SCARCE ENERGY TO PRODUCE FOOD, OR TO POWER OUR AUTOMOBILES? ARE WE AS AMERICANS PREPARED TO FACE SCARCITIES, IF NECESSARY, IN ORDER THAT OTHER PEOPLE MAY SURVIVE?

THE ENGINEERS HAVE A KEY ROLE TO PLAY IN FINDING ANSWERS TO THESE QUESTIONS.

ALTHOUGH MANY PEOPLE ARE PESSIMISTIC ABOUT THE FUTURE, AND PARTICULARLY ABOUT THE RAPID UTILIZATION OF OUR RESOURCES, I AM NOT WITHOUT HOPE. (Planning Policy)

I AM WELL AWARE OF THE FACT THAT THE IDEAS OF THOMAS MALTHUS ARE TODAY IN VOGUE. CLEARLY, SOME NATIONS MAY FACE A MALTHUSIAN RACE BETWEEN FOOD AND POPULATION. HOWEVER, I AM CONVINCED THAT WE CAN DEAL WITH THIS CRISIS.

THE FACT THAT WE ARE FACING up to THESE CRITICAL ISSUES GIVES ME ENCOURAGEMENT.

OUR ENGINEERS ALSO MUST PLAY A CENTRAL ROLE IN DEALING WITH OUR SECOND TASK OF STRETCHING THE PRESENT LIMITS OF OUR RESOURCES.

ONE OF THE MOST IMPORTANT AREAS OF CONCERN IN FOOD PRODUCTION IS THE SUPPLY OF ENERGY. ENERGY IS CRITICAL TO PRODUCE FERTILIZER AND POWER MACHINERY.

WE MUST FIND NEW SOURCES OF ENERGY TO ENABLE THE DEVELOPING COUNTRIES TO INCREASE THEIR FOOD PRODUCTION.

OUR AMERICAN AGRICULTURAL METHODS, WHICH REQUIRE GREAT AMOUNTS OF ENERGY, ARE NOT APPROPRIATE FOR DEVELOPING COUNTRIES. THE QUANTITY OF ENERGY WHICH WOULD BE NEEDED SIMPLY IS NOT AVAILABLE.

AT THE SAME TIME, AMERICAN AGRICULTURE WILL NEED TO FIND NEW WAYS TO INCREASE PRODUCTION WHILE CONSERVING ENERGY.

WE WILL HAVE TO BEGIN TO PAY CAREFUL ATTENTION TO THE QUANTITY OF ENERGY USED IN AGRICULTURAL PRODUCTION IN RELATION TO THE FOOD OUTPUT OBTAINED. TO DATE WE HAVE OPERATED ON THE ASSUMPTION OF AN UNLIMITED SUPPLY OF CHEAP ENERGY.

ANOTHER AREA WHERE ENGINEERS CAN PLAY AN IMPORTANT ROLE IS IN INCREASING FOOD PRODUCTION THROUGH IMPROVED SOIL AND WATER MANAGEMENT.

THIS IS OF VITAL CONCERN TO COUNTRIES SUCH AS INDIA AND PAKISTAN WHICH NEED TO INCREASE THE OUTPUT FROM DRYLAND FARMING AND EXISTING IRRIGATION SYSTEMS. IMPROVED MANAGEMENT OF SOIL AND WATER RESOURCES COULD LEAD TO A SEVERAL-FOLD INCREASE IN THE FOOD OUTPUT OF THESE COUNTRIES.

I ALSO WOULD HOPE THAT ENGINEERS WILL RESPOND TO THE CHALLENGE OF DEVELOPING AN IMPROVED FOOD INFORMATION SYSTEM. WITH THE THREAT OF SCARCITY BEFORE US, WE WILL NEED TO HAVE THE BEST POSSIBLE INFORMATION ON LIKELY WORLD FOOD SUPPLY AND DEMAND. AND THIS INFORMATION WILL BE REQUIRED ON A TIMELY BASIS.

WHEN WE HAD AMPLE RESERVES, WE COULD BE CASUAL AND ASSUME THAT EVERYTHING WOULD WORK OUT SATISFACTORILY. WITH WORLD FOOD RESERVES NOW DOWN TO ABOUT THREE WEEKS, WE DO NOT HAVE THAT LUXURY OF TIME (World Food Conference)

IT WAS WITH THIS IN MIND THAT I URGED THE PRESIDENT TO TAKE UP THIS SUBJECT WITH THE SOVIET LEADERS ON HIS RECENT TRIP TO MOSCOW. I HARDLY THINK IT UNFAIR TO ASK THE SOVIET GOVERNMENT TO WARN US IF THEY HAVE A POOR HARVEST AND EXPECT TO BUY HEAVILY ON THE WORLD MARKET.

THERE ARE A WHOLE HOST OF OTHER IMPORTANT CONTRIBUTIONS WHICH ENGINEERS CAN MAKE, FROM DEVELOPING IMPROVED TECHNIQUES OF FOOD PROCESSING & TRANSPORTATION TO DESIGNING NEW APPROACHES TO FOOD STORAGE.

I THINK WE CAN STRETCH THE BENEFITS FROM OUR RESOURCES IF WE ARE PREPARED TO BE CREATIVE. (Research on Seed Varieties) Soybeans

Interchange - U.S.-China

WE ALSO MUST FACE THE LONG-RANGE NEED TO BRING POPULATION INCREASES IN LINE WITH FOOD AND OTHER RESOURCES. HOWEVER, WE HARDLY CAN EXPECT PARENTS IN DEVELOPING COUNTRIES TO ACCEPT WESTERN NOTIONS ON FAMILY PLANNING WHEN SURVIVING SONS MAY REPRESENT THE ONLY AVAILABLE FORM OF SOCIAL SECURITY.

WE NEED TO EMPHASIZE TOTAL DEVELOPMENT FOR THESE COUNTRIES, WHICH MEANS ADEQUATE FOOD, HEALTH CARE, EDUCATION AND EMPLOYMENT. WHEN THESE BASIC CONDITIONS HAVE BEEN ESTABLISHED, POPULATION INCREASES WILL BEGIN TO DECLINE, AS THEY HAVE IN OTHER COUNTRIES.

IN THE MEANTIME, YOU AND I MUST WORK WITH THE CONDITIONS AS THEY ARE. WE SHOULD NOT EXPECT MIRACLES OR SHORTCUTS.

I HAVE NOT OUTLINED THE IMPOSSIBLE DREAM, NOR HAVE I BEEN A PROPHET OF GLOOM AND DOOM.

MY SUGGESTIONS HAVE BEEN MODEST PROPOSALS WHICH YOU CAN AND SHOULD BE INTERESTED IN TACKLING.

BEYOND YOUR PROFESSIONAL INTERESTS, YOU ALSO ARE CITIZENS WITH THE ACCOMPANYING RIGHTS AND RESPONSIBILITIES.

WE AMERICANS HAVE BEGUN TO REALIZE THAT A CHAOTIC WORLD WITH ONE-HALF AFFLUENT AND WELL FED WILL NOT LONG SURVIVE WHILE THE OTHER HALF FACES STARVATION AND MALNUTRITION.

WE CANNOT EXPECT TO REMAIN AN ISLAND OF PROSPERITY SURROUNDED BY AN EVER GROWING SEA OF FAMINE AND DESPAIR.

AS THAT GREAT WORLD CITIZEN, ALBERT SCHWEITZER, STATED, "YOU DON'T LIVE IN A WORLD ALL ALONE. YOUR BROTHERS ARE HERE TOO."

THE AMERICAN PEOPLE HAVE ALREADY BEGUN TO RESPOND TO THE CHALLENGE.

I URGE THIS GROUP TO MAKE ITS CONTRIBUTION FROM YOUR WEALTH OF LEADERSHIP AND KNOWLEDGE. AT THIS TIME OF CRISIS, YOU CANNOT AFFORD TO DO LESS.

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Minnesota
Historical Society