

Hoeh_Herman-1986

This is addressed to our Auditorium PM Congregation.

We are reaching attendance capacity for the regular afternoon Sabbath service.

So for the remainder of the academic year, which we have the influx of students, our congregation will use room SC as the Science Area 111 in the Academic Center for Overflow.

So you will remember that, the Auditorium PM Congregation, if there is a place that you will have to go because you have no seating available, you will automatically remember it is SC, the Science Area in the Academic Center 111.

I was asked by ministerial representatives from our department to be responsible for the Bible study this evening and was suggested that I would deal with a topic which I could let them know about later.

At the time that the request came through on behalf of Mr. Salyer, I already knew what I would be doing in the week just preceding this study, so I said logically what I should address is the problem of the crisis in world agriculture, because I would be attending this week a conference on this subject, and instead of trying to put my mind on something else that always helps to try to rehearse what one hears over four days' time from nine in the morning till well into the evening and some days, we're not here to just recite details, but I would like to give a perspective.

So let me say something apart from the conference which I would like to address first, and that is over the years, those of you who knew Mr. Armstrong knew that he had a general interest in the subject of what was beneficial in the area of agriculture as a part of a way of life as he was interested, of course, in many other areas.

Now, he was not by nature a farmer.

He said that professionally if he had to be, he would not have been a success in the area.

Well, he probably would have succeeded better than some and certainly wouldn't have succeeded as well as others.

This is true of any one of you in any field.

That's just realistic, being realistic, but it is important for us to realize, and I want to get this clearly stated, that just as Mr. Armstrong also had concern in the area of the abuse of alcohol and gave time on his radio broadcasts in 1946 to this subject on one occasion, so also he was concerned about this when the college was established in Pasadena in the earliest days, and we went even looking down toward Escondido in terms of whether we should have a kind of extension farm in this area, and it turned out we had opportunities both at Bricked Wood and in Big Sandy, Texas to work on some programs and to learn.

So in this sense, the work has, though we're not in any sense of the word in agricultural college, been aware of the problem, and from time to time has addressed this matter in the plain truth and will be addressing it in the plain truth in a brochure that is forthcoming and will be addressing it in the new series on the World Tomorrow broadcast.

And so I felt that when a knowledge of this particular session, this international conference came up, it would help me significantly to listen to men in many fields, because as an editor, it's one thing to edit in terms of writing style, readability, effectiveness and merely calling upon what you may have remembered from times past on the subject.

And it's another thing to talk to men and women who are working in this particular area in all parts of the world and who get together and share their information.

And so what happened was that approximately the middle of last month, I think it was around the 15th or so of July, I received a letter from Nepal, this is in the Himalayas, in which Lieutenant General Rana, who was an advisor of Her Majesty, wrote me because my name was mentioned in connection with the marvelous film that our television department did with Mr. Armstrong's full support on behalf of His Majesty's projects in Thailand, which were focused essentially on the agricultural needs of the nomadic peoples and the poor individuals in the Thai countryside.

And because of that, and our general awareness, General Rana asked if I might possibly be able to attend this session and inform him, at the same time find additional information that is being done by research groups on the East Coast.

And it seems, of course, that when an advisor to a queen asks you that it would not be advisable to turn it down.

And so I turned over the care of our property to my wife for this week, which she usually does anyway, but she had no fallback position, in other words.

There was one of those remarkable opportunities to meet individuals, and in some cases to have private discussions.

This is called the IFOAM Conference, that is, it's an international federation of organic agriculture movements.

And this is the sixth such international conference, which was held at the University of California at the campus at Santa Cruz.

Most people, of course, are unaware of such proceedings, but it is interesting that they have met now every two years, and this was the sixth time.

This dealt with global perspectives on agroecology and sustainable agricultural systems.

So I merely define it as an international conference on sustainable agricultural systems, at which point people said, what do you mean sustainable? Well, if you know anything about agriculture, you would know in many cases it's no longer sustainable.

So let us then define what the problem is by such a term, which we are going to be addressing on the television program.

Agriculture in Upper Syria, between the Tigris and the Euphrates, is sustainable agriculture.

It has been functioning in a manner now as it was in the days of Abraham.

That is sustainable agriculture, because essentially the population is able to live and survive in the region with no serious damage to the land.

Agriculture in southern Mesopotamia was based on different and more brilliant ideas.

It was not sustainable.

There is no Ur of the Caldees, there is no Babylon, there is no Nippur, and you can go and name all the ancient towns.

Where is Issen, where is Larsa, they're all gone.

The agriculture of southern Mesopotamia in the area that we now know as southern Iraq, in Shinar or Babylonia, was not sustainable.

Now agriculture along the Nile for thousands of years was sustainable.

It had its drought crises, and any area can have a crisis with drought.

That of course takes foresight and management in advance, but once such a period is over, it is sustainable.

However, of recent times, the British created a problem around the 1890s, and the Nasser regime in Egypt created a problem essentially in the 1960s by developing massive irrigation ideas far in advance of the traditional agricultural concepts of the Egyptian Felaen.

Now in developing agricultural concepts focusing on irrigation, both the British and the Egyptians failed to realize that when you irrigate, you also must solve the problem of the water that accumulates.

And so just as there was a fatal problem in southern Mesopotamia that in part involved how to disperse the waters that are spread on the land, so also the problem of drainage beset the British, and created the need for new ideas that Nasser came up with with the help of the Russians, and now of course Egypt is going to be facing in anywhere from seven to ten years a crisis of significant proportion.

In this sense, we can say that some areas of agriculture with their flaws, as in China, have proved to be sustainable.

There are problems that the Chinese must face, why they have to cook all their vegetables, which in a truly successful sustainable agriculture should not have to be necessary.

But one must recognize, of course, that there are other areas of the world where agriculture is significantly suffering, and it is no longer sustainable in the present format.

So we'll be discussing some of this, and I thought I would give you some feeling about what to me was unusual.

This was a part of the educational system of this world.

This was held at one of the branches of the University of California.

It was held at an unusual place, Santa Cruz, which lies south of San Jose, which is south of Oakland, so you get an idea where it is along the coast.

It's north of Monterey, north of San Luis Obispo, north of Santa Barbara, you see as you move down this way.

It happens to be in an area where farming is typical, and where most of the girls who attend the University of California at Santa Cruz don't wear makeup, because they look and act like what they are, farm girls.

It is not quite typical of the rest of the system.

In Davis, in Pomona, you generally have emphasis on what is called normal agriculture today.

The latest techniques in developing ideas to curb pests, to curb fungi, to increase production studies are made, therefore, in depth in terms of pesticides and herbicides and petrochemical input, and the supply of more water, often at the expense of the knowledge of how to drain the accumulated water away, the problems of salinization that come from such new, modern, normal techniques.

But here at the University of California, it was something interesting at the Santa Cruz campus.

The agricultural studies at this campus are devoted to the questions of sustainable agriculture, organic agricultural techniques, and are not devoted to traditional agriculture.

I had never known before that such ideas were now being entertained in the educational system.

I knew that, in fact, there are people in other countries that have been seriously thinking about it, certainly in Scandinavia, certainly in France and the low countries, Switzerland and Germany and England.

I had never known to what extent it is possible in this world when it is quite clear that there is a problem for people to begin to put their minds to it.

Now it happens to be that the people in general who have put their minds to it are not quite in the mainstream of agricultural thinking.

This would be regarded as the kooky campus, of course, of the system, because they are not really in the mainstream.

But I would say it was really interesting to meet graduate fellows and girls who sat with farmers, who sat with professors, who sat with people who spoke dialects or languages from India, who certainly spoke Spanish, and who spoke in all sorts of broken English out of Europe.

Their vocabulary might have been better than some of ours, but their accents and some of the peculiar wording, of course, bespeaks the second language.

But to see them there and to have such an interest was, I think, reflective of the fact that there are some people who do consider, in the physical realm, that something ought to be done.

Now in this case, my feeling was that there was only one outspoken young person in the audience who was politicized.

There were no politics allowed at this meeting.

That was policy.

And some of these international congresses believe that when scientists and men in these movements come together, that they are not formal representatives of their government, those from the People's Republic of China did not speak on behalf of the Communist Party.

Those from other countries, capitalists or socialists, never addressed it in terms of the social, sorry, in terms of the political party dominant in the country at the moment.

The only area where a person was politicized had to do with Chile and the present dictatorial government that is there.

The speaker was not politicized, but just one person in the audience.

So I think it is good to realize we're not dealing with people who are on the Communist or Marxist bandwagon in terms of ecology, because we're dealing with the question of agroecology, the relationship of our food supply, of our timber supply, our paper supply, our water supply, the source of the maintenance of our health with respect to the whole environment or ecology, as it is commonly called.

And ecology, of course, is considered more an art than a science.

So this gives you something of the background.

I had a chance to visit on, it started Monday morning, let me just tell you, the sessions began at nine in the morning.

The presentations were, there was, every day it was nine in the morning.

Then there were six sessions going on at the same time.

That meant I had to make a choice in any period of time of one out of six potential useful topics, which meant that much more of interest, and I tried to focus in on what might be the most valuable both for the work and also for our service to our friends in Nepal.

It was essentially 20 minutes of presentation.

Then you could leave for another lecture, and discussion would often go on for another five or ten minutes, and then there would be another lecture.

So we had that program in the morning.

Then on Tuesday, between two and five, although we had to arrive at one o'clock for the tour, and then we had an introductory presentation.

The actual tour of the University of California campus at Santa Cruz in their agro-ecology program was given, was presented to us.

It is devoted to plant life.

It is not devoted to livestock.

Its focus is plant life, vegetables, fruit trees, root crops, ornamentals, flowers, whatever is in that scope.

They have to limit it.

It's a large campus, but it has a sharp focus.

The agriculture department was, in fact, designed wholly around this question of sustainable agriculture, which is, in my judgment, a remarkable contribution of this campus.

I won't tell you of the details of the agricultural program, but I want to tell you of an adjoining garden, which is near what is called Merrill College.

It's called a garden project.

That afternoon, after five o'clock, we had an opportunity to tour it.

It was originally inspired by a man who died approximately four years ago, I think, 1982.

The student said he was an eccentric, but they all learned to like and appreciate him.

He insisted that it was possible to take a significant hilly slope and to develop an agricultural garden based on a combination of vegetables, fruit trees, root crops, ornamentals, flowers, and to make that hillside so productive that you would hardly believe it.

He had a dream, in other words, and he thought that the students at the college should work at that.

Undoubtedly, it was an opportunity that has really affected the whole campus.

It's a campus quite unlike Ambassador.

It is simply not kept.

On the other hand, there isn't much to keep under redwoods and pine and oak.

You just leave it as it is, and the campus is under these forest trees.

It has, I would call, a natural beauty, as distinct from the more formal beauty of our campus here.

This garden is unusual.

It's on a slope that most people would think would be practically useless, except for a few orchard trees.

On this four acres, the students earn each year, last year is one example, of course the dollar value fluctuates with inflation, but they cleared last year on four acres, and remember this is dealing with experiment, this is not dealing with merely money making.

They cleared \$13,000 in sales.

That's not bad when you consider, of course, that they are doing studies.

They're learning how to work a garden.

What is most remarkable is it's on a slope, and they're not only paths running this way downhill, there are paths running downhill.

Reminds me of the way poles till their countryside, which doesn't wash away.

I think Poland, perhaps, represents sustainable agriculture in Eastern Europe more than most nations do.

It was remarkable to see students work in such a program.

If you ever happen to be in the region, you're always free to visit it.

Let me just say that if you should ever go up the coast.

To see what they come down, they take out of this part of their experimental gardens, they will take cut flowers, they will take vegetables and fruits, ornamentals, whatever happens to be marketable.

Put it on a cart, and go down to the edge of the campus by the roadway, and people in the community know that at a certain time, on two days of the week, you can buy there everything that is growing without pesticides, without herbicides, without high-powered petrochemical fertilizers, and with students tender, loving care and interest.

And of course, they're able, with that \$13,000 to supplement the more hoses, tools, whatever is necessary, and graduate students are there who guide the program, students who even have graduated, who would like what we call hands-on experience, who finish the academic program.

So in this sense, I think it is nice for you to know that it is possible even to have young men and women today.

And one man in the Department of Agriculture, I will come to him, I believe he must have been of Czechoslovak background, he certainly reminded me of Mr. Sefak, who's in the Department of Agriculture, and who asked me to call on him any time I should be in the San Joaquin Valley, because he's wrestling there with a problem.

What to do with all the water that is accumulating as a result of agriculture, and the selenium as a result of the salinization of the area, because agriculture that is not watered by the rain in a natural fashion, but where it carries salts along the soil as it leaches out, creates a serious problem, and they're trying to find what trees won't take up the poisons, but will evaporate the water.

And at the same time, what plants can utilize a poison, because too much selenium is a poison for the human family, yet selenium is necessary for the healthy survival of dairy cattle.

So they're trying to grow grasses that will remove the excess selenium on one side of the valley and sell it to the other side of the valley, to the dairies.

And this is a program, because they also have to get rid of the water, and they're trying to find what trees will not take up excess selenium so that if you burn the wood, you don't return it to the environment, which is another problem.

So I can say that even the California Department of Agriculture is becoming concerned as well they might be.

So apart from that general background, I would like to take you through a few of the lectures and some of the ideas that were presented.

You rush from one to the other, and you don't really have time to reflect.

Monday evening we were finished at about 5.30 to 6 o'clock.

There was an evening presentation, which I didn't go to.

I wanted to become acquainted with the Emerson's who hosted me.

The Tuesday evening, the last lecture was over at 9.40, and I don't think we left there before around 10 o'clock.

So it was a 9 a.m. to 10 p.m. occasion, it was an all-day affair.

And the next evening was over about 5, and we had a Bible study, and the next evening was over about 4.30, and then we had a Bible study, one at San Jose, the other at Salinas.

So these were full days, and we obviously had the chance to go over the published literature, which I have quite a stack at the house during the noon hour in order to see what is done in the various areas of the world.

So let me go to some presentations that might be of some value to you.

In the original presentation, we normally find people gather together, and they listen to a major discussion.

It is obvious, of course, that the United States is not in the lead in this study, but Europe is.

It is also obvious that East Asia is making a contribution, that the African countries are concerned, that Mexico is highly concerned, that Chile is only beginning, for instance, to wake up to problems.

I would say that probably at this moment the international president is a man from one of the universities in Germany.

So we're not dealing with somebody outside the field of education like we might have been thought of, as if we had commented on organic agriculture, or like Mr. Rodale was thought of for most of his life until he died.

They're learning that indeed there is something that we can know for agriculture more than merely for your backyard vegetable garden or fruit tree.

The idea that organic gardening can only be useful in a small plot behind your house is simply no longer true.

We can, in fact, apply many of these principles on a grand scale, because indeed there is something to be said about the new technology that goes with it.

Monday, 2 p.m. afternoon, after the main lecture, I will just say, so that you have a little insight, there was a lecture on the potential of soil biotechnology in the development of sustainable and profitable agricultural systems, the potential for soil biotechnology.

That is that the biology in the soil can, through new understanding of science, assist in the recovery of damaged lands and increase the potential of what has been cared for.

The speaker, Mr. Alan Stout, a member of the church, just wants you to know that.

It was a very effective speech I did not attend because I could pick his brains at another time.

I instead attended a lecture on the problem of agriculture delivered by one Zidah from the People's Republic of China, and so Mr. Stout, he never knew I was coming, I never knew he was coming, although we have the names of everybody who attended and the addresses, so it is now possible for us to communicate with upwards of 400 people from around the world.

My name and addresses there, and Mr. Stout, all of us who formally attended and or entered into a discussion.

But it was a very effective presentation, I will say this, he cited some of the experiences of Ambassador College that in fact we cannot work with farmland without taking the biota, that is the living forms of life in the soil into consideration and at the same time recognize that those living forms can very greatly assist in both the restoration of land and the improvement of what has already been suitably cared for.

There was a very interesting lecture by Colin Duncan, an Englishman, Lessons in Sustainability from English History.

Now I will not read the details, I want to give you an overview here, I have a summary of all the lectures that were given.

But let me point up something very interesting just for your knowledge, the summaries will all be expanded and the fully presented papers will be printed next year, usually it comes out the year after such a congress has held.

He pointed up something very remarkable about English agriculture as it used to be before the corn laws were abolished.

Under older English agricultural policy an owner could not dispose of his land which was his inheritance.

Now today we happily can dispose of our land, we can dispose of our inheritance and we can of course get on the government, the government dole.

It is interesting that in God's system agricultural lands were not transferable from tribe to tribe, even within the nation, you remember the story, read the last chapter in the book of Numbers, one of the most fundamental laws, that meant that an owner who worked the land was responsible for his inheritance and it was also responsible to see that a man to whom he might rent it out would also properly care for it.

It doesn't mean that you had to work it but you could not dispose of it.

I think it is very important that we realize that if even within the nation of Israel one tribe was not allowed to marry out when there were no heirs into another tribe and lose that land to the tribal inheritance.

Think of that in terms of the present problem where nations are now confronted with peoples who have been uprooted.

Get the case of Sri Lanka where the British brought in the Tamils to work the tea plantations because the native people of Shingalese were not that interested in working that hard to provide tea on their land for people who drank it in another.

But then the Shingalese after independence turned right around when they needed hard currency and brought more Tamils in.

So what we have is a crisis of people who in a sense have left their tribal lands, have come and dwelt in another and will never dream of returning.

The British brought the Indians to Fiji.

The British brought the Indians to the Caribbean.

This was not in the area of slavery, all of this was after it.

People have been moved about and so the colonial powers, not alone the British, brought people from one area to another.

Some of these people do not have opportunity to get much of the land to which they have come.

And in other cases they do.

This varies.

Many Tamils don't have access to the land.

Indians have significant access to the fine lands in Fiji.

The Fijians usually have poorer lands but the majority.

That is the inheritance of the Fijians was taken from them and given to another people.

If you want to say that those people have solved the problem, yes, I think they have learned to work with it even if it is touchy.

In Fiji they have learned to be reasonably wise in making decisions between the two major groups.

We have the same problem in South Africa.

We have the same problem in this country.

In a sense I am giving you a bigger picture, a picture that would not only have solved the agricultural problems, it would have solved in fact the racial crises that are developing in different countries of the world, not just racial but even the inter-tribal crises.

Because it isn't just a question of the Indian versus other peoples in Africa or other parts of the world, the European versus the black and South Africa.

There are problems all over Africa, all over South America where peoples have lost their inheritances.

It is one of the problems in the Philippines, one of the major problems in the Philippines.

It will never be solved until they solve this most fundamental principle of the inheritance of land.

Now of course the world can't solve it, because the world doesn't know that there is a God who would even decide whose land is what.

In the Middle East Christians can read the Bible, the Muslims know at least something of what the Bible says to the Koran, and the Jews do, and you have great conflict because there is no enforcement of ultimately what is the Jubilee.

One of the greatest causes of world problems today that were not addressed up here, but it was addressed as an area, not in terms of the Jubilee, but the man who addressed this said, we ought to reconsider that one of the major problems today is the displacement of people, the displacement of people socially and economically that leads to crisis after crisis, food riots, and people who come into the most awful ghettos, and it isn't always in South Africa.

I will tell you a little about Chile in a moment, but his emphasis on the fact that until a people learns to treat their land as an inheritance, they will never ultimately solve their problems, I think was one of the highlights of the session, and that it should have been addressed by an heir of the birthright I think was significant.

An Englishman, Mr. Colin Duncan, a very, very interesting presentation. I'll move along to some other thoughts. Tuesday, because we're doing it in an hour and a half, it took me four days to listen to, Tuesday we had a presentation, I'm trying to pick out here, one by a very famous person in the movement, Mr. Wes Jackson, who lives in the Middle West.

The effects of Maximilian sunflower are naturally occurring weeds. Now I'll just tell you a bit about this because it shows what men can learn. There are in fact some particular plants that weeds don't like growing near them, and so if you plant the Maximilian sunflower or inter crop it with certain other plants that don't mind it, you discover that the weeds shun the area. So there is a study, and a very brilliant young lady was the one who gave the presentation of the program at the university,

where this study, alipathy, is being examined, and that is the effect that one plant has on another. One tree may have on another or trees on plants, not merely the absorption of water, but actually an effect that may have variable causes.

That is an interesting thing because herbicides, how to kill weeds, is one of the great problems today. There was an interesting lecture on the Philippines experience, alternative approaches in agricultural development, and I wanted to cite this. There was pointed up in the meeting that such companies as Dole, and this is not to single out Dole or Del Monte or any other particular one because they're not the only ones that have, but many companies owned by others outside the land have come into a land and bought up the land in what amounts to perpetuity, farmland. Let's say that the two pineapple companies have purchased some of the finest agricultural land or bought it up under the American regime over there, 36,000 acres. The Filipino works the land. His inheritance belongs to American corporations. It will never go back to him, the Filipino, because the title belongs to someone else. They work the land, are given the same kind of wages that we give our farm laborers here in principle, not the same sum, but farm workers the world over are blessed by having the lowest wage scale. Why should they be given anything more than the lowest? They're dumb, they're stupid, they can't think of anything else. Isn't that right? Well, you're wrong if you think so. But that's what's drummed into people's minds until the person who is in sports, the person who is in entertainment, he is the person whom in many cases I wouldn't trust with my animals. He's the one you pay hundreds of thousands of dollars to. Just think about what James said. James didn't say pity the entertainer, pity the sportsman.

He said pity the man who tills the soil, the laborer. There is nothing actually he can do. He is in a position, many of them who don't own the land have always been in this position, the tenant farmer. But even the farm owner in this country is coming into this position. He controls neither the input nor therefore the value of the output. They used to control the input and therefore had far greater control over the value of the output.

But once you are dependent on petrochemical companies, outside sources for energy and fertilizer, and once you are dependent on government to set your price or corporations that you agree will buy what you produce, you don't have control over input or output.

But let me go back to the Philippines. I'm adding things from other lectures, you know, you put these things together. The inheritance was significantly taken from the Filipinos by the Spanish so that several dozen great landed families of Spanish background own the majority of the land. The American corporations came in and bought the land, and now they have it. What is growing on it feeds another people. We pay Philippine wages as a corporation, let's say, but we sell to the western, first world market. And if we don't sell it, we sell some in the Philippines, mostly to hotels where foreigners come. And so we go to Latin America, and in many cases we have created great cattle ranches in Costa Rica. We created banana republics elsewhere, so to speak. Now, we say of course we have given these people the chance, and your wife often on occasion, or 375 an hour, and live in the shacks in many cases that you can see in the San Joaquin Valley. But don't ask the farmer or owner to pay much more, because his price is already determined by the fact that most people want to cut down on the cost of food so they can increase the expenditures in technology, entertainment, travel, sports, higher standard of living. This is the way our society is working, thinking in terms of self. The farmer who pays the laborer, in many cases, he is the farmer who pays the laborer himself. He can't do anything because there's somebody above him who has another idea to hold him in his position. He doesn't have the control over his output.

So you see what the problem is. Now we have another problem. The Japanese have caught on to this idea, and they're doing an awful thing. They were trying to buy American land, the Arabs caught on to the idea, and they're trying to do an awful thing. They're buying American land. Now whether it's true or not, you understand what I mean? It's all right for us to do this in these other countries, but it's wrong for any country to do it to us. Think about whether we really live according to the principle which says there shall be one law, both to the one who was born in the land and to the stranger. We should be applying it in our country. We should be applying it elsewhere. Let me tell you a little bit of why the Japanese did want to buy up farms that produce soybeans. They came over here in the 50s and saw marvelous soybeans as they were harvested. They were very, very good clean, ready to use on the Japanese table, you know, with cooking whatever, processing.

So they placed orders over here, and when the soybeans arrived in Japan they looked into the sacks and found that upwards of 5% was trash. Well, because the United States government recognizes that there's always the possibility that some trash can be in it when you harvest it. So they give you upwards of 5%. So along the way from the farmer to the final time when it got into the sack, they simply added about 5% of trash along the way. And the Japanese came back and wondered if we had machine problems.

And they discovered what went wrong. And they decided if they were going to get what we were producing they would actually have to control the land where it was produced.

So we'll move along. I think you see a part of the problem. Let us say what happens in Costa Rica. So you get a real picture. Marvelous country, third world, a developed third world country, and agriculturally developed third world country. It's developed not on the basis of vegetables, fruits, or ornamentals, although they are all important, but primarily on the basis of cattle. Now the cattle in general is in the control of foreigners who have invested in the country. The country has no objection to that. But now the cattle must be marketed. But you've paid the local people local wages. But you can sell these cattle on the U.S. or European or other markets, Japanese, for significantly more than the local people can afford to pay. Because the Japanese can pay more for beef from Costa Rica than the local people pay. You know how the difference in weight scales are in the country. So the local people earned wages. But the animals were sold somewhere else.

And four to five years ago the people were going hungry in the country. Our daughter in law, of course, has a family ultimately from them, and food had to be shipped from here to there. Because the people were going out into the forests to find something to supplement their food, which was in such short supply, because in the free market economy the country was marketing its protein outside of the country, and the people were going hungry in the land. Now they are a people with reasonably good sense. Spanish, some Indians, Germans, Jews, Italians, some blacks who have come in on the East Coast. A country that is different from many Latin American countries. Instead of having food riots, they realized that there was still hope in their forests. Much like the Greeks had to go up to the mountains when the Germans occupied it. So you want to know why we have some problems in the world.

You need to know a little something about the problems of marketing, not merely the problems of growing the product. All of this must be looked at if a solution is to be found.

That was a very interesting presentation on the Philippines, much greater detail than I am giving us now.

Fish Rice Culture in Thailand by Kenneth Mackay. A very interesting presentation. The ties have discovered that it is possible to improve the land that when the water is on the rice, it is possible to expand your fish culture, that is, the protein resources of the country.

By utilizing the land, sorry, by utilizing the water that is in the rice paddy for a certain period of time. And they have, in fact, by the presence of fish, many of which, of course, eat insects. And in that sense, eat the insects that carry viruses. They find that the production even of the rice has increased with the presence of fish. So it is possible for the simple farmers to improve their standards. This is something of their own thinking and planning with the guidance and input of their educational system and some foreigners who are learning from them and with them. And they are learning from the foreign ideas also in this sense that are coming along. The beneficial effect of pasture forest intercropping in Taiwan. What do you do when the hillsides erode away and there is not a single kind of grass you can plant to stop the erosion? No grass in your country. That will do. The Chinese in Taiwan, the native Taiwanese found that they were having a problem. You cut modern roads in order to open up forest areas or reach communities that had not been reached before. And the hillsides come down. In those tropical areas, it's not like building a road in these solid rocks here. This is soil on the surface. And these are often forest areas instead of the barren areas we are familiar with. And with all the rain that falls, there is no way to sustain the hillsides adequately. So what they had to do, they went to Africa and they found there was only one kind of grass that would stop this erosion and they introduced Kikuyu grass. Now one of the interesting things about some of these African grasses one of which they did not introduce is they can grow approximately one foot in a night.

They have a certain vigor. And so you can understand where your hut will be if you leave for a week. Anyway, the question arose. The Chinese in Taiwan placed the grasses high on the hillsides where the erosion was taking place. And significantly mature trees that could be planted. This was all done by hand, not by seed that would wash away. It was all done by hand. They would take parts of the grass that you're familiar with, you know, when you see a lawn and that would have root that's in that grass. And they would take parts of the grass that they are familiar with, you know, when you see a lawn and that would have root that's in that would be planted all done by hand. And they have stabilized the hillside. And there are trees that grow. The problem is what do you do to stop the ranked growth of the Kikuyu grass? And so you turn, I didn't say it grows a foot a night. Six inches is enough. Be away two weeks and you'll wonder where your hut is. They turn the cattle in. So they're using cattle to keep the grass at a certain level so it doesn't get out of hand. So they are reforesting a kind of open forest and using now this grass also to sustain the growth cattle and to prevent further erosion. But they then face the problem. How do you prevent it from growing in areas you don't want it to? And so here they have adopted what scientists have long understood the importance of forest fires in nature. Every once in a while a forest must burn over. Or there will be so much undergrowth that cattle, sorry, the wildlife, the deer for instance, will not have any opportunity to graze nor will there be an opportunity for new forest trees to grow. So science has long learned in the field of forestry that controlled forest burning is important. So what they do is simply, in the drier season, burn areas of the Kikuyu grass that they control burning where they do not want it to get a start. And this is how they are regulating their countryside. It was one of those more interesting presentations in terms of learning of what men are faced with and some of the solutions to the problems. The area of agroforestry, the problem in the San Joaquin Valley, was prevented, was presented by Dr. Vasek Chervinka who works for the California Department of Agriculture and he does seem, he rather, well I like him when I heard his lecture and I guess he rather liked me. We found each other often walking different paths to the same lecture because he knew the campus better than I did. He probably took the shorter one. I took the marked one. But he found that I was often interested in the same topics that he was.

And I think it is interesting that we do have the possibility through him of someone who can also inform us of the problems that our own Department of Agriculture is developing.

And I would like to, if I don't directly communicate with him, I think a man like this would present on occasion to our student body an enlightened lecture who represents government, not somebody left field, whichever direction one is looking. But it was presenting the problems that we have created in the San Joaquin Valley. Let me just say that most Americans who have lived in this state and most Americans who have come to and do not know that 90 years ago, 95 to 100 years ago, the southern part of the San Joaquin Valley was a lake and you could go by boat from Bakersfield to Visalia. We destroyed the ecology of that part of our most remarkable valley. Have you ever looked at a map of California printed in 1880 or 1890? You would be surprised how different it looks. There is a huge lake there, a giant lake. Let me tell you what happens in cases like that. There was also a lake in the county in which I was born in Northern California, a marvelous lake where all sorts of wildlife came. This is what can happen. So you drain the lake because you want to get value out of it. They didn't know what to do with wildlife and how to utilize a nesting ground for ducks and geese, not to mention the fact there could have been fish culture. But it was drained and it was wonderful soil so you plowed with a horse, planted. After you've reaped it, you burn off the straw. Next year you discover it's a little harder to plow so you have two horses and still good crops. Then you have to have four horses to plow with. Of course you burned it off, you don't put much humus back. Finally you have a tractor and then you must get a bigger one. Finally the production goes down. This lake to which my father came in Sonoma County has so disappeared and all its effects that the land is now worth nothing even to grow vegetables and all they do is plant vegetables for seeds. It isn't worth eating anymore, it's just for seeds. In fact it got so poor for seeds, they're now building houses on it. It's worthless because they burnt off the humus that should have been turned back into the soil. They got the value of the ash but what they needed was more than ash and so the end result is that that method of agriculture was not sustainable. So the Cattati Flats in the county are gone. Much of southern San Joaquin Valley is suffering from the same problem, salinization. It's now even because of the presence of pesticides, heavy metals further north and it's drifting into the area. It's now in some cases possible to have wells that you can't use because the waters will poison the vegetables and therefore make them unmarketable by government standards. That's taking place in this state. We had a very good lecture on a number of areas of Mexico and Central America. I would have to say it is my impression that despite the abuse of pesticides by many farmers in Mexico, in my judgment there are more enlightened people trying to face up to this problem in Mexico than I ever dreamed at the level of government, at the level of educators. I would say that sometimes the government did not know what was taking place and people would go on a local level and communicate with friends in education and when the government found out and examined the programs, the government said, you can go ahead. I will tell the local administrators not to harass you, which apparently is also typically a problem that often happens there when people who are not native to the region seem to be coming in and intruding and can be misunderstood. But as a whole, I would say I am pleased that at least our neighbor to the border in this area is developing programs because we have a growing church in Mexico and they might as well profit by such understanding. We had also on Wednesday a section directly devoted to the agriculture of Costa Rica, which is where I got some very interesting information. I won't present it here, but indeed there is much going on in Latin America with the exception as a whole of Chile, which I would like to address.

It may not be the only exception because I don't know, but it clearly indicates that Chile is far behind Mexico in understanding the problem of making agriculture serve the country. I will move along here. We had a presentation on Thursday of fertile soil without toil given by a woman and her subject was sludge. What do you do with all the sludge the thousands of tons every day that pour

into the sewers from the chemical plants, from the packing plants, from every household? This is a problem that Chinese solved their way. They simply loaded on boats and row up or down the river or with their putt putts and dump it on the soil, and then they have to, of course, cook all their vegetables.

The Chinese never developed a system to resolve the problem of composting human waste, and when they have to deal, I want you to understand their problem. No country has to deal with approximately 22 percent or one-fifth to one-quarter of all the human waste in the world in an area of the United States for size just east of the Mississippi. Now you will understand why they haven't been able to solve the problem, but they also haven't wasted what we are doing.

This to me was one of the very important areas. Now most people in China would never think twice of using night soil on farmland. They have no alternative. Where else are you going to put it? They should have developed a method of composting, and they should have developed even scientific methods, but there are methods to solve the problem. One of them I will now shortly address, but I want you to realize that in this country we have two problems, human waste and chemical waste, industrial waste of all sorts, but not all chemical waste, some of which have to be carted on our highways that spill in the night when you don't see it, and they are dumped safely in certain areas that 30 years later we discovered weren't safe at all. Then we have a cleanup program to dump those wastes somewhere else where it is safe, or we burn it in the atmosphere. Some of the best places, of course, to burn it are nearby where poor people live in the major cities. I want you to know how we do it, because this is what is happening in our society. The young lady was Diane Livingstone.

Fertile soil without toil. She had studied the question, what are we ever going to do with a massive amount of waste, and put it to a suitable use. So she toiled with this problem and discovered that in general, after long experiments, there was nothing that the earthworms could do. They would simply die in this marvelous contribution of our cities.

However, through understanding of chemistry and understanding of biology, she discovered that there indeed were combinations of the use of chemicals and certain varieties of earthworms that would survive. They have developed a program where it is possible now to breed a certain kind of earthworm that actually decomposes the sludge directly without going through the layered system of compost. It is now marketable and usable for the vegetable garden and absolutely free of any pathogens, that is, things that could be pathologically dangerous to the human being. Some of these were slide presentations, and you see this vast sludge, and then you focus on a part of it, and here someone takes the fork and tips it over, and there are these marvelous worms which eat on average every day the size of the worm. Now, you weigh 150 pounds, like you trying to eat 150 pounds a day. Well, these are, of course, made to do that. You are made to use your mind. These little worms were made to use their stomachs, and they are now marketing this produce. Now, there is a secret.

She said that there are certain factors that are simply copyrighted, in that sense are patented, if you want to put it another way, that is not given out. She would not be fully free, but she is saying that there is a possibility, and there is a breakthrough, and we can develop this as a way of resolving, in this country, the use of it for the development of agriculture and for many other countries, it isn't important for that. It's far more important just to keep the disease away. In Thailand, the problem would be minimal. In Nepal, the problem would be far greater, where there is very little attention or practically none to this problem of human waste. So this was, to me, one of the more remarkable lectures that it is now possible to have a breakthrough. They are marketing their produce. I am going to get some for our garden and examine it and see what happens, because I want to report to you what can be done, because so much of the world is full of illness, because we have never solved this

problem, which should easily be solved. You know, I used to wonder why Jesus had to pray for all these sick people. Do you think that every sick person was a Gentile who was eating pork? Why? I know he talked to some Gentiles in some places, but he was in Judea and he was in Galilee. People who should have been keeping the law, who should not have been sick. Now, let me tell you what was happening and why there was sickness in those days. Herod, the builder of Caesarea Philippi.

Now we have evidence of what happened in that city, but we therefore can understand that the Roman world, the Jewish world, had previous technological understanding. But archaeologists have examined this in particular, but it will give you an idea of what was or was not known and should have been known. This city had a sewage system that opened to the eastern Mediterranean shore and was so built that when the tide came in, it would simply wash it all out to sea, well, almost. That is, it sort of accumulated along the shore. And so you went out to fish. You don't know what they did in terms of washing, but in the days of Jesus, in the days of the Roman Empire, neither the Romans nor the Jews adequately understood what happens when people gather together in the great cities. You want to know why God gave Adam and Eve a garden? Man needs to start out to understand how to live on the soil, how to live on the, in the countryside. Cities can come along, but not all of them belong when you have learned the solution to problems. The more you study, the more you know. Now it is possible to solve our problems after millennia of foolishness, ignorance.

So we don't say that technology should be abandoned. We don't say that scientific investigation should be abandoned. There are some very important, sometimes very inconsequential studies going on up there, as well as in all of these who are reporting. But it was interesting to know that from time to time there is a logical breakthrough. You see, the problem was not so much with just sludge. The problem was with the chemicals that mix with the sludge, which would in some cases be so toxic to the worms, and they had to solve the problem of the combination. Just for your information, I don't give you all sorts of information, but there was one point, I think I remember the number, but I'd like to get it correct.

There are, no one in the world, documented 5,000 species of earthworms, from miniscule ones to the Australian two-yard-long ones. Remarkable, each one having its own purpose.

Now this brings us to something that appeared in several of the lectures. There is what we have addressed in the plain truth, but now there's so much more and we need to readdress it. Mr. Don Schroeder has done some good work on it. Mr. Gene Hogberg has done some good work on it, and that is we don't realize that in today's world we have developed a concept in agriculture of marketing a few strains on a mass scale. This is what is called agribusiness.

And in marketing on a vast scale, just a few strains, maybe six varieties of potatoes, ten varieties of apples, just to use an illustration, maybe a few varieties of wheat or corn. We therefore gain uniformity, but at the expense of plants that do not fit in their local environment.

God gave us these species of earthworms so that they would do their job in different niches.

Some earthworms must be in wet soil, some in dry soil, some earthworms must learn to like it warm, some must learn to like it cold. And so God made all these varieties of earthworms to survive in the various climes of this marvelous earth. Why do we have funguses? Answer because some areas have more moisture than others and some plants resist the fungus and others do not. So when I say we may have ten marketed varieties of apples typical in this country, and I doubt that most of you can name ten on the market. When I grew up and went through high school, which is where I took agriculture, we had in this country at that time upwards of 120 varieties that were being marketed. There are over 300 varieties of potatoes that grow in Peru alone. We are now only beginning as a

human society to realize how important it is to preserve these varieties. What we have tried to do is take a few varieties, reproduce them on a mass scale, and then when they were susceptible to and couldn't fight off weeds or couldn't fight off fungi or couldn't fight off viruses, insects, worms, whatever it was, we simply went to the petrochemical companies to ask for a solution instead of introducing a variety that liked fog and could resist fungus or a variety that was essentially drought tolerant that didn't need significant amounts of water so you didn't have to have salinization as a major problem. Anyway, this was one of the important lectures that was given. Genetic preservation and implications of biotechnology. That was reflected in several of the lectures. I heard a very interesting one by a Charles Kaufman from the Rodeo Research Institute in Pennsylvania. I was very interested in what he had to say and he mentioned Nepal inadvertently and I mentioned why I was there to him and I said that I have this yet to discuss of course with Mr. Tkach and with others in editorial but General Rana asked me in his letter if I could possibly visit Nepal in November and I inadvertently mentioned that and he said, you know, I am going, scheduled to go to Nepal in November in search of what we call botanical gene plasm. That is seeds that can be researched over here and he asked me if it were at all possible. Of course, I was already by that time suggesting to him that it would be very possible to put him in contact with the right people. We do have very great favor there and I am very grateful that the government of Nepal has appreciated our awareness of these problems and it will take me a little while now to develop all that I have notes and notes and notes and I have a lot more to go over because this was a, you know, it was really quite a presentation in areas that I don't think about every day or I have not formally studied for some time. There was a young man who lives in the southern part of this state who gave the most remarkable presentation design and management of sustainable agricultural systems for orchards and he showed slides and it was one of the very fine lectures.

I said, what if I were to ask to visit your farm? I would like my wife to see visually what I saw on the slides. He said, just give me a call the day before and I will give you a tour. It is one of the most remarkable achievements because he has taken what was simply scrub brush land in California south of here and turned it into a profit that he has earned from a marketable program. He makes a living at it and there are many interesting ideas.

I thought it was one of the most complete presentation of anything. I had a chance to listen to a Michael Venger who is in Aspen, Colorado on a system that is very important for the development of algae on the basis of the use of agricultural and human waste in desertified or poor lands where insufficient water supply exists and to utilize through a technological breakthrough which has to do with pasteurization of waste.

Waste for villages, not for cities, this is for villages. Now this other method could work also but where the other method simply turns out soil. This is using the waste and pasteurizing it and creating a system for the production of certain algae that can be used as a food supplement in areas where diet is seriously limited for women and children.

This man had been in Thailand, India and Nepal and I had a very fine talk with him. I will only say here, after I heard his lecture, I thought from a technical point of view that he could present and draft a paper. He said, yes, I can draft a paper describing everything.

I asked him, I did not commit myself, I asked him, would you understand how to draft it for His Majesty the King of Thailand so that a pilot presentation, if the king found an interest in this, might be for the northeast, the more desertified area, that is the more arid area of Thailand, where it would be possible to utilize the waste, some of which will ultimately go to compost, some of which to biogas, and an interim usage for the development of algae to supplement the diet of people who

are deficient. And he said he would. He happens to be a young man who is married to a Thai woman. It spends some time in Thailand and some time over there. And he said that she would be quite able to be of assistance in seeing that it was developed and worded in a manner that would also, you know, it is more than technology. One also must recognize how to present technology in a different culture.

So that was an unusual opportunity. He was a very, very fine young person and was quite impressed with what this work has done. And I mentioned some of the things that we have done. We have been involved with the agricultural programs through the publicity of it in Thailand.

We have been involved with the refugees. We have been involved in Jordan and another kind of program. The AICF, or the Ambassador Foundation, has for some years supported the agricultural development of the pygmies in the Tori Forest, which has made it possible for a people who could have perished to be at least 4,500 people today. There were 4,300 people 14 years ago. And as a result of our minimal but helpful support, those people have not perished. The secret was that we didn't decide to feed them. The secret was that moneys needed to be used to buy the forest so they could actually own their inheritance.

And it wouldn't be cut down by businessmen who pay the blacks money in zaire, wages, and the timber is taken from the country and sent to Europe. That's what's happening in the Third World. Many of their resources are simply being sent to the industrial world.

We are, in fact, speaking of the whole First World, at this very time we are still pillaging much of the Third World, using those resources, some of which are renewable, some of which are not. And most of the renewable we're not bothering to renew that much in the Third World. And then there are Third World countries like Brazil who are doing the same thing to themselves. Anyway, I do hope that we will be able to have some very useful contacts as a result of the opportunities that were afforded me on this occasion. It will be a little slow progress. I must draft material to Mr. General Rana. I must try to locate some of the books and order them for him, which he, in fact, knows something of but doesn't really have any way of knowing where he can get some of these. And I had never seen some of the good tie-holes until they were on display there during the Second World Committee whole period. I would like to conclude, then, and point out how significant in some parts of the world different aspects of our work is. We use television in some countries.

We use the plain truth in some countries. And sometimes we have a breakthrough with Youth Magazine. We can use the good news as backup. We can interest some people through the correspondence course in our booklets. We use man and woman power through Ambassador College. We use the foundation. And I have here, it says, my name, Ambassador Foundation.

I felt that putting Worldwide Church of God was not quite the approach to use. I didn't feel that the plain truth was quite the approach. Though in here I am listed as Ambassador Foundation, the plain truth magazine, but there was only room for one. And I felt that this enabled me to explain many of the things. I would want it understood by Mr. Dacoch, Mr. LaRavi, anybody else. I am not asking to be an official in the foundation. I am not an official. I would turn you down if I were asked. But I use it anyway. And it is amazing what people say. The man who was working on this technical equipment for the development of algae for improving the diets of certain critical areas, he marveled at the depth to which we had actually given fault. And I think that is the reason why we are doing this.

Some of these people have one or two at most long-range in-depth studies. And for us to have and for myself to recite the various kinds of things we do was even an education for some of these people.