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Economic
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Economics and Public Service:

Proceedings of the 30th Anniversary ERS Conference

ERS 30th Anniversary

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Preface

The Economic Research Service was established on April 3, 1961, by directive of then Secretary of Agriculture Orville Freeman. Secretary Freeman has shared the story of how he was persuaded by John Kenneth Galbraith, Willard Cochrane, and others to re-create an institution akin to the former Bureau of Agricultural Economics (BAE).

During its 30 years of existence, ERS has tried to be responsive to the changing needs of the times. Thus, the substantive content of our program today is quite different from that of the 1960's. But, the overall mission has remained the same: to serve the common good by providing economic and other social science information that improves the performance of agriculture, resource markets, and the rural economy.

ERS manages no major national programs, owns no major physical facilities, and operates no fleet of vehicles. But, ERS influences decisions, serving the public through the power of timely, relevant, and credible information produced with our most valuable and valued asset--our people.

The 30th anniversary of the establishment of ERS seemed an appropriate occasion to bring together distinguished academicians, political leaders and policymakers, alumni, friends, and the existing ERS staff to consider the lessons of the past and the challenges of the future. Accordingly, a one-day conference, Economics and Public Service, was held at the Washington, DC Convention Center on April 4, 1991.

ERS has published these proceedings of the conference to stimulate further dialogue about the role and future of the Agency, a public institution. We justify its existence by our contributions to the welfare of the American people. Therefore, we invite agricultural economists, rural sociologists, and others who have an interest in ERS to consider the views expressed in these pages and to share their thoughts with us. Open dialogue about the Agency's program and mission and transparency of our programs and goals help assure that we are indeed providing a public service worthy of taxpayer support.

I want to thank the many people who contributed to the success of this conference--the distinguished speakers and moderators, who donated their time to prepare and share their recollections, perceptions, and recommendations for ERS; the conference planning committee: Andy Anderson, Douglas Bowers, Joe Braxton, Cecil Davison (chair), Paul E. Flaim, James Horsfield, James Johnson, Robert Reinsel, and Sara Wampler, whose teamwork shaped a polished event we shall long remember; Vickie Smith and Donna Lapelosa, who planned and executed the Administrator's Awards Ceremony; Dwight Gadsby, who prepared the superb photo exhibit; and Verna Blake, Evelyn Blazer, David Carter, Millie Evano, Sybil Glascock, Carol Kotch, Victor Phillips, and others who handled many other details and activities during the conference. I am grateful to all of these people, and I am especially pleased that so many others were able to attend and participate with us as ERS begins its fourth decade in Economics and Public Service.

John Lee

John E. Lee, Jr., Administrator
Economic Research Service

Washington, DC 20005-4788

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Contents

First Session Seminars

Agricultural Policy in the 1960's

William T. Manley, moderator 1
John A. Schnittker 3
Don Paarlberg 6

Agricultural Economics and Public Service

James T. Bonnen, moderator 11
Willard W. Cochrane . . . . . .15 ✱
Otto C. Doering 18

Situation and Outlook

George Hoffman, moderator 23
Donald Seaborg 25
Martin E. Abel 30
Abner W. Womack 32

The Agency Workplace--Where It's Been, Where It's Going

Frankie Swenholt, moderator 37
Seminar Summary 37

Second Session Seminars

Agricultural Policy in the 1970's

Wayne Boutwell, moderator 39
Richard Lyng 40
Dale E. Hathaway 43

ERS and the Land-Grant Universities

B.F. Stanton, moderator. 47
R.J. Hildreth. 49
Burt Sundquist . . . . . .54 ✱

The International Dimension

Lyle P. Schertz, moderator 59
Quentin M. West 64
Alex F. McCalla 71

History of BAE/ERS

Walter W. Wilcox, moderator 75
Joel Kunze 76
Wayne D. Rasmussen 84

Luncheon Presentations

Edward Madigan 93
Nathan M. Koffsky 95
Orville L. Freeman 96

Third Session Seminars

Agricultural Policy in the 1980's

Keith Collins, moderator 107
William Lesher 109
James C. Webster 114

Resource Economics

Larry Libby, moderator 117
Melvin L. Cotner/William H. Heneberry 120
Pierre Crosson 141

Rural Development

Charles E. Bishop, moderator 143
Lynn M. Daft 146
William A. Galston 153

ERS Technology, 1960-90

Michael Ahrens, moderator 161
Clark Edwards and Bill Lindamood 161

USDA and ERS Support Groups: What's Out There?

Sara Wampler, moderator 169
Seminar Summary. 169

First Session Seminars

Agricultural Policy in the 1960's

Moderator: William T. Manley
Director, National Economic Analysis Division, ERS, 1974-76

This particular part of the program will focus on agricultural policies in the 1960's and the role of economics in fashioning those policies. Both of our speakers, Don Paarlberg and John Schnittker, were in the middle of the farm policy debate during that era. I am sure that you will agree with me that we are very fortunate to have these distinguished speakers share their views with us.

Also, I know that you will join me in commending John Lee and his colleagues for putting together this program. While attention will be given to the role of economic analysis in general, I am sure that ERS people will be particularly interested in the appraisal of the role of economic analysis as it relates to the development of their own programs.

Over the years many observations have been made about the relevance and performance of USDA's economic research programs. There is probably no general agreement on the topic. There is one point, however, about which most would agree. Looking back at the old BAE and beyond, USDA has even to this day provided an institutional setting that has allowed a continuous flow of objective and unbiased research. The programs have not been without criticism.

But, I think most would agree that the research was designed to provide policy people with objective analyses. I point this out because many of the people who are speaking here today, and who are in the audience, have played major roles in contributing to the establishment and maintenance of this research environment. Their continued involvement can help maintain this vital ingredient of institutional support in future years.

In seeking to identify relevant research needs in economics, most would agree that the best way to look forward is to look back. I think that is what is intended here today. In the economics profession, we try to project into the future by looking back. We use this methodology in our subjective and even our most objective analyses. On the subjective side, we add to policy or make policy decisions from past experiences of economic theory. And, our most sophisticated economic models, representing the more objective side of things, depend upon the use of relevant past observations.

The task of identifying the contents of future economic research programs is a difficult one. Oftentimes, there is a strong temptation to try and predict exact future economic outcomes and, thus, the parameters of the economic analysis needed to deal with these particular situations. But, we do not seem to have a very good track record in predicting exact outcomes.

A case in point is the breakup of the economic systems in Eastern Europe. No doubt this momentous development will have significant longrun impacts on American agriculture. And it would have been considered excellent foresight to have predicted that outcome and to have developed a research base specifically for the purpose of analyzing its impacts.

But, even if it were possible to identify all or a large part of future probable outcomes needing analysis, there would likely never be sufficient resources to devote attention to a significant portion of them. An alternative to the dilemma, of course, is to fashion a research program that is designed to deal with a range of future outcomes and while I don't have license to fully develop the point, I feel sure that today's seminar will shed some interesting insights into how one deals with the problem of allocating scarce research resources to the constant and considerable needs for economic analysis.

Summary of Remarks by John A. Schnittker
Director of Agricultural Economics, 1964-65
Under Secretary of Agriculture, 1965-69

Economic analysis for policy decisions is often hostage to political preconceptions and choices which determine or influence what is to be studied, critiqued, or designed. This was the case in the 1960's, as before and since.

The early Kennedy-Freeman years in the Department of Agriculture were dominated by three farm program themes:

- To increase farm income and expand exports;
- To stop the accumulation of commodity surpluses that had developed during the late 1950's, raising costs, and which led to the emergency legislative proposals of 1961 and 1962;
- To try to make the long-established mandatory acreage programs work, not only for cotton, rice, and peanuts, but also for wheat and corn. Above all, Secretary Freeman was determined to avoid a new round of surpluses and to reduce program costs.

Even though commodity programs dominated, subsidiary themes were also important:

- To expand domestic food assistance;
- To use U.S. farm products more constructively in developing countries. This required a new line of research on world food needs.
- To make rural development more tangible and more effective.

Year-by-year legislation to reduce acreages in 1961 and 1962 managed to reduce grain surpluses, with a little help from moderate crop yields and increased exports. Some progress was made toward higher farm incomes, but it was never enough. Efforts in Congress to expand mandatory acreage control programs to feed grains failed, and changes made in voter eligibility to gain support for the wheat program in Congress in 1962 led to its defeat in a producer referendum in 1963. Dairy and cotton programs remained out of control, largely the result of political resistance to change.

Two events in the early years, however, helped pave the way for separation of income supports from price supports, and for establishment of grain loan rates at or near world market levels. It would be heartening to tell you that these events were largely or at least partly the result of urgent economic analysis by the Economic Research Service or the Staff Economists' Group. The latter had been established in 1961 to serve as buffer and bridge between the Office of the Secretary and the newly reunited Bureau of Agricultural Economics (now renamed the ERS). These events, however, developed out of a long history in the case of wheat, and by accident in the case of corn. They were:

- Replacement in 1962 of a cumbersome 1961 "high loan/low CCC sales price" program for feed grains with a market-oriented program consisting of a "low" loan near the expected average market plus a payment of something less than 20 cents a bushel. This was done largely at the urging of a grain company representative, in conference, not at the instigation of economic analysts or even at the initiative of USDA. With many revisions, it evolved into today's feed grain, cotton, rice, and wheat programs.

- Enactment of the voluntary wheat certificate program of 1963, after the longstanding but revised mandatory program had been rejected. This was the first full-scale separation of income support from price support for a major U.S. farm commodity. It was unique in that funds for the deficiency payments were generated by payments from wheat millers to CCC, an idea that had been incubated by wheat farmer representatives in the 1920's, and nourished over the years by farm groups and later by the fledgling National Association of Wheat Growers. This procedure was soon called "a bread tax," and processor payments were replaced by Treasury funds in the early 1970's. The pattern of low or moderate loan levels supplemented by deficiency payments was established, however, and it remains.

The most important single direct policy contribution of ERS in the early 1960's, especially of Administrator Nate Koffsky, led to the abandonment of payment-in-kind (PIK) as the principal payment method for export subsidies. PIK had been used in the 1930's, and again in the 1950's as a way to use commodities as money. It works fine when surplus stocks are being reduced. When grain stocks increased from year to year in the 1950's due to the impasse between Congress and the Administration, PIK simply recycled the surpluses. New grain was delivered to CCC in large quantities, and old grain was pushed into the market in smaller quantities by CCC. The Koffsky Task Force showed that PIK (then as now) does not save, but costs. PIK was soon abandoned, as were export subsidies on feed grains, since corn prices were at competitive levels by late 1962.

Another really important contribution of the USDA economics establishment in the early 1960's was a distant and vague precursor of the world board for commodity outlook estimates. Secretary Freeman found that different agencies sometimes provided varying estimates of key economic variables to foster their own agenda. This became embarrassing at some point during 1961, so Freeman named his economic advisor, Director of Agricultural Economics Will Cochrane, as the arbiter of economic and commodity estimates. This function is partly institutionalized in the World Agricultural Outlook Board.

Finally, Nate Koffsky and Will Cochrane conspired as early as 1963 to reestablish research on rural people, rural development, and natural resources in a single ERS division. This was done in 1964, just after Cochrane's departure. The first director and the organizer of this sensitive division, on leave from North Carolina State University, was Dr. George Tolley. He was the son of Howard Tolley, who had headed BAE when it did some of the pioneering but controversial research on rural life, and just before the BAE was dismembered in the 1950's. Research in this area remains sensitive, but is no longer under attack.

Brief discussion of a few incidents from the 1960's does poor justice to that exciting time. Perhaps these recollections may help to remind current

professionals in ERS, the Economic Analysis Staff, and the World Board how important their work is, and that opportunities for innovation and service are always plentiful.

Don Paarlberg
Director of Agricultural Economics, 1967-77

When I received a call asking me if I would come to this meeting, I told my wife that I had been invited and she said as much to herself as to me, "Those years you spent with ERS were the happiest years of your life." And she was right. I think sometimes wives can perceive these things more readily than do their husbands.

Congratulations to ERS on its 30th birthday. But, really, as Bill has said, this is in a sense your 69th birthday. You began as the old Bureau of Agricultural Economics back in 1922 with Henry C. Taylor as your leader. And you continued in that form, a very prestigious organization, until 1953 to 1960 when you had sort of a midlife crisis which is not unusual for a government organization.

Prior to 1953, the Democratic Party had been in charge of the executive branch and, indeed, also the legislative branch, and during that period there had developed a farm policy which involved deep Federal Government intervention in the market processes of production and pricing. The Republicans, who came in in 1953, were intent on trying to change this policy.

And they had the perception, erroneous as it turned out, that the heart of agricultural policymaking was in the Department of Agriculture, specifically in the old Production and Marketing Administration and in the Bureau of Agricultural Economics, the old BAE. We set out to change this whole setup and we reorganized and renamed the old Production and Marketing Administration. We called it, first, the Agricultural Stabilization Service, the ASS, which somehow seemed an inappropriate acronym.

We then called it the Agricultural Stabilization and Conservation Service, and so it has continued. We scattered the old BAE to the four winds. The biggest part of it we called the Agricultural Marketing Service, and O.V. Wells was put in charge of it. O.V. Wells wrote an article in the old *Journal of Farm Economics* and defended as best he could this demolition of the old BAE. In that same issue of the *Journal*, a number of prestigious people took issue with the action and wrote separate objections to this demolition. And these were J.D. Black, P.H. Appleby, H.C. Taylor, Howard Tolley, R.J. Penn, and T.W. Schultz. So, it was a traumatic time for the old BAE.

Now what we found out, after having demolished the old BAE and after having changed the old Production and Marketing Administration, was that the heart and soul of agricultural policymaking so far as it related to price supports and production controls was in the Congress and not in the Department of Agriculture that the people in USDA were civil servants in the honored tradition of that term.

But, we had undertaken these great changes and so it continued for 8 years. Then came 1960, and the Democrats came back in, and Will Cochrane was the agricultural advisor to President Kennedy and he had the perception to know what had happened to the old BAE and he had the power to make the changes, so he really reassembled the old BAE and put it back together with some modifications. And that was the beginning of ERS 30 years ago and it is that which we celebrate.

Okay. So you had a rebirth or a reincarnation, whatever you want to call it. Now the charge given to John Schnittker and to me is to discuss the price support and production control events of the 1960's. This, of course, is to exclude much of the work of ERS and discussion of the kind of thing that is going on presently in other meetings and, frankly, I am really more interested in those things than I am in the price support and production control operation. But, I accept this assignment. Jim Bonnen and Otto Doering and Will Cochrane are talking about those things.

The job of ERS, as John Lee has often said, is to hold up a mirror to agriculture so that agriculture can see what kind of creature it really is and sometimes it hasn't perceived its image very well. It sees through a glass darkly as the Apostle Paul has said. But, nevertheless, that is the task of ERS.

Now the thing to which John and I are committed is to consider the work of ERS people on price support and production control techniques, in the agency that helped devise proposals, and shook them up, fleshed them out, and laid them before the Administration and before the secretary and before the Congress. That's a job. Now the task which has been laid on these analytical people is to devise means of increasing farm prices and farm income.

Ever since 1933, the agreed way of doing this--agreed by the Congress, that is--is to reduce production and to count on inelastic demand to increase prices and incomes more than proportionally. This effort has been concentrated on the basic crops, with a few more added, although these are but a small part of agriculture. It leaves out consideration of hogs, cattle, poultry, fruits, and vegetables. The specialized products that generate the largest share of agricultural income are left out of these programs.

Insofar as these programs of production control would increase price and hopefully income, they would do so by funneling most of the dollars to the large farmers who need the help the least. And the parts of agriculture that lie outside these favorite crops are on the whole doing better than the ones that are in it. The ones that are outside have increased their markets. They have not lost their markets to rival exporters as happened, for example, to cotton. They have done fairly well, but their performance has not been, I think, adequately appraised by Congress.

The inevitable result of reducing production would be to stimulate output, to reduce consumption, and to build up surpluses. Any student of Economics 101 could have said that this would be the result, which it has been. There are but three ways to balance supply with demand if prices are held above the equilibrium level. The first way is through mandatory controls; the second way is through expanded utilization; and the third way is through the purchase of nonproduction.

At various times we have been doing all three of these and at various times we have emphasized one more than another, but they have all been operating concurrently. I want to talk briefly about each of these three.

The difficulty with mandatory controls is that it concedes market growth to rivals. Cotton is the best illustration. It conceded its markets to the Soviet Union, China, Brazil, Egypt, and to other countries in a form of <u>hara-kari</u> that this great industry brought on itself. Another difficulty was that

Congress would not cut production deep enough to make room in the market for all that we could produce.

For wheat, for example, Congress passed a law saying we could not produce below 55 million acres. Now 55 million acres of wheat at that time produced all the wheat that we could eat and sell and barter and give away and, in addition, we piled up about a hundred million bushels a year. So, we had an unsatisfactory experience with mandatory controls.

We then concurrently expanded utilization. We developed Public Law 480 with its various motivations, one of which was to get rid of surplus. We tried direct donations. We tried nonfood uses. We tried to get the wheat growers to agree to use some of the wheat for animal feed, but they insisted on having the full support price for everything that they produced. And, to some extent, this expanded utilization displaced some of the products that we would otherwise have sold.

In more recent years, there have been new ways of expanded utilization. The food stamp program, the WIC program, the expanded export program, cereals on credit--these have taken on large dimensions. But, as I say, these expanded uses were not sufficient to balance supply with demand.

There came a crisis in 1962, and Congress offered to the wheat farmers a choice between high support prices coupled with strict production controls or, on the other hand, low support prices coupled with loose production controls. That was in the referendum that had to have two-thirds of the votes to pass, to have the tight production controls.

The vote was taken on May 21, 1963, and the farmers voted for low prices and for loose controls. In no wheat State did the vote reach the desired two-thirds level. And for the country, as a whole, it failed to win a simple majority. Now the lesson that objective observers would be expected to make from such an occasion is that Congress would not legislate, the Department could not administer, and the farmers would not accept the degree of production control that would be necessary to balance supply with demand at prices promised by the politicians.

What was the consequence of this vote where the farmers opted for low prices and loose controls? Did Congress give the farmers what they voted for? What they wanted as manifested by their vote? No. So enamored was the Congress with high price supports that they proceeded to buy the nonproduction that they could not mandate, and that is the watershed in farm policy that John Schnittker and I have been asked to address.

The purchase of nonproduction was very costly. It cost more to purchase the nonproduction of a bushel of corn than it cost to produce the corn. That may seem incredible, but that is what the studies show. With high prices, we induced farmers into growing the corn. With the soil bank and the conservation reserve and the acreage reduction program we tried to induce them not to produce. It was like a man and his wife bidding against one another at an auction. So, the cost went up as could be predicted.

Another difficulty was that this venture held the umbrella for rival products of which sugar is the chief illustration. That great industry is rapidly losing its market to high fructose corn sweeteners as a result of this kind of operation. The policy people in ERS who work at developing proposals for

supporting farm prices and farm income really work with the economics of a second best.

The first best would be to reduce the fluctuations in farm prices and farm incomes which could be done by supporting prices below the equilibrium level rather than above it and by responsible fiscal and monetary policies which we've not had for the past 60 years. We've been on a roller coaster with regard to these things. Now the chances of getting this kind of program from the government and from Congress, I think, to use a statistical term, are not significantly greater than zero.

Now you have troubles any way you go. Mandatory controls, rejected. Expanded use, inadequate. Pay for nonproduction, very costly. You people who work at these proposals for supporting farm price and farm income have a job like Sisyphus, the mythical character from Greek legend. He was required by the Code of Hell, no less, to roll a heavy stone up the mountain and after he got it rolled up there, it rolled back and he had to do the whole thing over again. So he had, you might say, a hell of a job.

And, ERS has a hell of a job. But the necessity for working at this difficult thing is imperative. It is much more difficult to work at the economics of the second best than it would be to work at the economics of the first best, but you have to do it as long as Congress deports itself as it does. There is no escape from it. Hang in there. With a Congress behaving itself as it does, what you do is absolutely essential and there are those who love ERS, myself not least among them.

Agricultural Economics and Public Service

Moderator: James T. Bonnen
Michigan State University

This panel is entitled "Agricultural Economics and Public Service." It will focus on the Economic Research Service (ERS) and the profession: whom do we serve and how? What has been the rationale and expectation of ERS and its program and should they be reexamined today? This panel will explore the public service roles and obligations of both ERS and the profession and several associated problems and issues. Each panelist has 20 minutes. The moderator will introduce the panel and take a few minutes following the other two, if we have time. This will leave 15-20 minutes for floor discussion.

The panel is composed of three individuals whose professional careers have collectively covered the entire period since World War II. I have been told that it is obvious that the organizers of this program have concentrated, at one time and place, the three participants most prone to "disturbing the peace" or "telling it like it is whether anyone else likes it or not." I am uncertain if this was done to concentrate and limit the damage or to assure the creation of a disturbance.

I am Jim Bonnen, moderator of this panel and a Michigan State University faculty member in agricultural policy. I covered agriculture for 10 years on the staff of the Council of Economic Advisors in the early 1960's while Willard Cochrane was Director of Agricultural Economics in USDA. Orville Freeman was then Secretary of Agriculture. I have been a participant in commercial agricultural policy, in poverty policy, and in rural development and statistical policy issues.

The other members of the panel are Willard Cochrane and Otto Doering. Willard Cochrane was for many years a University of Minnesota faculty member in agricultural policy. He is alleged to have retired, but empirical verification is still lacking.

Willard is the author of several books in agricultural policy, including the classic, *The Development of American Agriculture*, which belongs on every agricultural economist's bookshelf. He was a participant in a series of debates on agricultural policy with Don Paarlberg in the 1950's and 1960's, signal events burned into the memories of everyone active in policy in those two decades. Willard was also the midwife, or was it the mother, or maybe father and mother, at the birth of ERS. He was Director of Agricultural Economics in USDA from 1961 to 1964.

Otto Doering is a faculty member in Agricultural and Resource Policy at Purdue University. He is a recent recipient of the AAEA Distinguished Policy Award for a 3-4 year classic research and extension education achievement resolving

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A professor in agricultural policy at Michigan State University, James Bonnen was the agricultural economist on the staff of the Council of Economic Advisors, 1963-65.

issues and calming the combatants in a politically inflamed conflict over public utility regulation of electricity in the State of Indiana. As you can see, he came out alive. He is also the recipient of the American Agricultural Economics Association's (AAEA) Extension Economist's Teaching Award and its Quality of Communication Award. Otto was a visiting policy economist in the ERS Policy Analysis Group in 1976-77 and returned as a visiting scholar to ERS in 1990. On these occasions, he worked on the farm bills of 1977 and 1990.

Bonnen's Panel Comments

I wish to make three points. One involves ERS's responsibility and role with respect to the profession. The second is about the profession's responsibility to ERS. Finally I would like to discuss a common problem that both the profession and ERS face today.

ERS's Responsibility to the Profession

I would like to point out three roles of ERS that are taken for granted by the profession. The first is its responsibility to provide the basic data base (along with NASS--the National Agriculture Statistics Service) for the profession. The profession, indeed the agricultural industry, could not function without that data base. ERS and NASS have been major contributors to the AAEA Economic Statistics Committee's efforts to improve the data base and have long worked to that same end on their own. USDA has a primary responsibility to develop and maintain the data base for agricultural decisionmaking. Economic and social statistics for agriculture and rural society are a joint responsibility of ERS and NASS.

A second responsibility of ERS, which began with its predecessor, the Bureau of Agricultural Economics, is that of providing general support for AAEA projects and committee activities. This role has long been essential to the stability and long-term viability of many AAEA activities. ERS has also supported the International Association of Agricultural Economists (IAAE) and its activities over the years. Historically, the profession has been quite dependent on USDA financial and organizational support, especially for activities with substantial start-up or fixed costs.

The third role is ERS's responsibility for research on: (a) large issues involving public-good research products that only USDA has the capacity to organize and execute, and (b) important policy issues facing us as a Nation that are new and not well researched. Recent examples include the globalization of specific agricultural markets, the rising tide of environmental issues involving agriculture, the growing impact of macroeconomic forces and policy on agriculture and the rural economy, and the issues and policy options raised by the Uruguay Round GATT negotiations and its potential impacts. These are major responsibilities, which, while generally taken for granted by the profession, are of great importance and may not be shirked without great damage to the profession.

There are other examples of ERS roles and responsibilities to the profession. One is that of ERS collaboration with universities in research on politically sensitive issues that need good research, but which must be done at a little distance from USDA. The most extreme and successful example of this was the embargo study of a few years ago, which was an exceedingly well-done and very useful effort to answer a question that had been raised repeatedly in Congress. I trust that the question of the impact of embargoes on American

farmers and on the economy has been answered to almost everyone's satisfaction. I think ERS also has a somewhat lower priority, but still important responsibility, to do research on disciplinary and large subject matter issues relevant to agricultural and rural problems that only ERS has the opportunity, resources, and scope to handle.

Another role is that of producing policy analysis and policy education materials for the profession and the public. A good example of this latter activity is the series of popular publications on the basic mechanisms of the U.S., European Community, and Japanese farm policies. These have been extremely useful in a wide range of settings.

It is also worth pointing out that the *Journal of Agricultural Economics Research* speaks to the profession and is a very readable, high-quality journal. These are all examples well outside of ERS's responsibilities to government decisionmakers on current policy issues, which Willard and Otto have already discussed. Most members of the profession do not know the extent of ERS and NASS contributions unless they have served on the AAEA board. We are quite dependent on each other and should be more conscious of our obligations and debts each to the other.

The Profession's Responsibility to ERS

These responsibilities are not widely appreciated and I would particularly like to emphasize them. The first is to be a critic, a supporter, and a watchdog for ERS. ERS is housed in a political environment and periodically, when assaulted, needs protection from its many political masters and from some who imagine they are masters of ERS. This is an important responsibility of the profession. Academics and private sector economists are always happy to be critics, but are often asleep at the switch when ERS and NASS need support or protection.

Another role of the profession involves doing applied research on highly sensitive issues where ERS is clearly constrained to commit too much energy, too visibly. ERS will often be able to do things that go to the Secretary and to ERS files, but that are not publicly available. Indeed, there are some subjects on which ERS's political masters do not want to hear anything. They already have the answer. These are responsibilities of the profession and we must remain alert to them.

The profession also has a responsibility for applied research on the longrun issues of high-policy relevance, irrespective of whether USDA is working on them or not. Replication is part of science and we have that responsibility to each other. Replication validates what USDA does and helps to develop and refine the profession's consensus on issues.

Finally, the profession has a major responsibility to ERS to do the disciplinary research on quantitative methods, economic theory, and data specification that is necessary to improve ERS's (and the profession's) capacity. Data specification especially is overlooked. University academics can play major roles in this area by moving from theory development or model improvements to specifying the nature of the data that need to be developed in order to quantify and test the theory. All of this requires good communication and cooperation which has not always been the case on the part of either ERS or the profession. One could go on, but I will stop with these examples.

A Common Problem Facing the Profession and ERS

Finally, an observation on a very important issue which we share in the profession and in ERS. We seem to have lost our focus as a profession and no longer have a clear answer to important questions such as:

To whom are we responsible?

What kind of output should we provide?

What is the appropriate balance between disciplinary, subject matter, and problem-solving work in ERS and in an agricultural economics department in a university?

I would point out that the answer is different for different institutions because the contexts are different and the demands on the institutions vary. However, maintaining an appropriate balance is still the critical question. You would think economists would be better at recognizing multiple-product/multiple-factor optimization problems.

I have characterized this confusion as a decline in the commitment of the profession to its long empirical tradition that established our original reputation. That empirical tradition involved a balanced and complementary effort investing in theory, in quantitative methods, and in primary data collection. These three investments were focused on the critical institutions of agriculture and the policy issues of the day. We cannot afford to forget that we are and have always been an applied, multidisciplinary field.

With some exceptions, agricultural economics departments now tend to produce Ph.D.'s with a fairly narrow disciplinary focus on axiomatic theory and econometric and statistical methods with little appreciation of primary data collection and its role in analyzing the institutions and issues of agriculture and rural society. This results in young Ph.D.'s who enter the profession believing that the only thing this applied, multidisciplinary field does is disciplinary and a little applied disciplinary analysis and that our only responsibility is to improve the discipline. Most expect to do this without testing their models against primary data collected for that purpose. There is room for a few of us to focus solely on disciplinary issues of importance to those working on practical problems, but if every agricultural economist works only to publish in peer-reviewed journals, we will soon lose our social relevance and societal support.

New Ph.D.'s must be well trained in the discipline of economics, but should understand the nature of the field they have entered and its responsibilities. If they wish to do nothing but disciplinary analysis, they probably should have taken a degree in general economics and gone to work in an economics department. The socialization of young economists into their roles in ERS and in the land-grant universities has become more difficult and very much more important, since this problem must be faced in almost every environment.

ERS and the Profession

Willard W. Cochrane
Director of Agricultural Economics, USDA, 1961-65

In an article published in *Agricultural Economics Research*, April 1983, on the 20th anniversary of ERS, I wrote: "ERS should be viewed as a staff agency to the nation." In that article I outlined the substance of such staff work. I recommend that those of you not familiar with that article get a hold of an April 1983 issue of *Agricultural Economics Research* and read it.

I am still of the view that the proper mission of ERS is that of a staff agency to the nation. But today, I want to elaborate on that view. The staff work of ERS conveniently breaks down into three parts: for the Office of the Secretary, for Congress, and for the interested public.

ERS Clientele

Staff work for the Office of the Secretary is of two basic kinds: the provision of information, data, and analyses relevant to the policy decision process; and the provision of information, data, and analyses to be used in speeches and reports emanating from the Office of the Secretary. I am in no position to appraise the effectiveness of ERS in providing this kind of staff work in 1991. But I can say that it had better be good, because the survival of ERS depends on it being good. The Office of the Secretary is the number one client of ERS.

Staff work for Congress will take many forms, ranging from the provision of instant information on some subject, to a "quickie" 2-day study on some subject, to a major study involving the commitment of a large part of ERS personnel to do it. Again I am not in a position to make a firm appraisal of the effectiveness of ERS staff work for Congress. But I do have some small insight into this part of ERS staff work. I am aware that Congress called upon the Congressional Budget Office, the Food and Agricultural Policy Research Institute, and USDA's Economic Analysis Staff for policy analyses on the 1990 farm bill. However, I am not aware of any direct staff work from ERS. If this is a correct portrayal of ERS staff work, or lack of it, on the 1990 farm bill, ERS had better find a way to improve the effectiveness of its staff work with Congress, and quickly. The survival of ERS depends on providing effective staff work for Congress.

Staff work for the interested public involves primarily the issuance of relevant and reliable information and analyses about institutional changes and economic developments in the food and agricultural sectors of the nation. Such information and analyses may take the form of regular publications or special reports.

Here I am in a position to appraise the effectiveness of ERS staff work, and for the most part I think that it is excellent. Through the many and varied reports issued by ERS, the interested public, in my opinion, is well served. But like every consumer of information and data provided by ERS, I have one suggestion to make to improve the staff work serving us.

Publish once a year, or at least once every 5 years, a Handbook of Historical Trends, in which the time series on key topics (for example the price of wheat, number of farms by sales classes, farm income, productivity) runs back to the very beginning of such series--to the Civil War if the data go back that far. I am continually frustrated by the issuance of data series running back say 5 or 10 years. If I am interested in some development in American agriculture, I want to know what was happening in that subject area prior to, say, 1982.

ERS's Research Mission

I can hear someone saying "doesn't that guy know that ERS is a research agency? When is he going to discuss our research mission?" I am going to discuss it right now.

Staff Work

First, I want to point out that much staff work does involve research. All staff work does not involve providing the Secretary or a Congressman with one number, or a simple table. Much staff work involves the formulation of sophisticated econometric models and the estimation of such coefficients as the elasticity of supply or export demand to provide answers to important questions raised by clients of ERS.

Or that staff work could involve the development of a key index such as the index of agricultural productivity and the resolution of all the difficult conceptual and statistical problems involved in such an endeavor. This is research and the above examples are illustrative of the high quality of research that must be a part of good staff work.

Creative Individual Research

Now I know that any good, enterprising young economist will want to undertake some innovative, creative research of his or her own choosing. There must be room for some of this in ERS. There must be room in ERS to produce another Fred Waugh or John Brewster. The prestige and reputation of ERS, as a first rate research organization, requires that some innovative, creative research be ongoing in the organization. But if by innovative, creative research you have in mind the "rinky-dink" stuff that is regularly published in the *American Journal of Agricultural Economics* (*AJAE*), then I part company with you. I am of the same mind as Donald McCloskey in his invited address to the Association last summer in Vancouver. I invite all of you to read his paper entitled "Agon and Ag. Ec.: Styles of Persuasion in Agricultural Economics" published in the last proceedings issue of the *AJAE*. He describes in beautiful prose the low estate to which the *AJAE* has fallen in recent years.

I deplore the formula research regularly published in our *AJAE*. The formula goes as follows: The young researcher locates some segment of the economy with readily available data. He or she then describes it in undergraduate level mathematical terms. He or she then estimates the coefficient of some of the parameters of the segment by regression analysis. He or she then applies statistical tests of significance to those coefficients to prove that the statistical results did not come about by pure chance. Finally, he or she recommends that more research be done in this area.

The research serves one purpose and one purpose only: to provide the basis for promotion up the academic ladder. It provides no answers to important questions. It has no scientific, or policy, significance. And it is forgotten as soon as the young man or woman receives the coveted promotion.

Research Recommendations for ERS

But there is innovative and creative research in the food and agricultural sector which ERS can and should be doing--research that ERS is uniquely positioned to do. I will suggest four such research efforts that ERS should undertake in the early 1990's (some of this work could now be underway in ERS, but that does not change the logic of my argument).

- Assuming that a North American free trade zone comes into being--how will the agricultural industries of Canada, the United States, and Mexico be affected, and after a period of adjustment, what will the structure and location of agriculture in those countries look like?

- Given the growing urban demand for water in the arid West, and a possible greenhouse effect, what kind of a market could be developed to allocate scarce water supplies more in line with the value of that water?

- With regard to the concept of "a sustainable agriculture," define one, or possibly several, technological levels of a sustainable agriculture and then appraise the economic sustainability of such technological levels for different types of farming areas.

- With the increased emphasis on a market oriented agriculture, and probably less direct price and income support in the commodity programs, undertake a comprehensive study of the commodity markets to determine: (a) If properly used, how much price risk aversion they can provide. (b) What market information problems confront farmers and smaller marketing organizations in trading in those markets and what can be done about it. (c) Is there a need for educational materials to assist farmers and smaller marketing organizations as they operate in those complex markets, so as not to compound their market risks?

In summary, I have suggested four research endeavors that are consistent with the national staff mission of ERS, that provide answers, in part or in full, to important questions that loom ahead in the 1990's, and that will prove challenging to the most creative and innovative researchers on the staff of ERS.

The Economic Research Service, the Public, and the Profession: A Review and Assessment

Otto C. Doering
Purdue University

How Unique Is ERS?

The U.S. Department of Agriculture's (USDA) Economic Research Service (ERS) is a staff organization and also an institution with a history of broad public service and service to applied social sciences. ERS is not really unique in this sense. The Bureau of Labor Statistics (BLS) has had a similar role and tradition of service. The BLS nurtured important advances in applied economics and statistics, served as a source of information and analysis for the Department of Labor (and other agencies) and has been a source of credible information to the public and the media on labor affairs and the state of the industrial economy. At times, it has also been under pressure by its political masters to be less than frank with facts and analysis that might prove embarrassing. Leaders in the economics profession like Leontief, Evans, and Kuznets all participated in the excitement that was the BLS during the development of techniques to measure national economic growth and activity. It is no accident that later on Leontief praised the applied work of agricultural economists--his standards for such praise reflected the public service achievements by him and his contemporaries at the BLS.

In spite of the BLS, we tend to think of ERS as unique. Certainly, the complex position and role of ERS and the sheer number of economists under one roof are not duplicated elsewhere. Both ERS and the few other similar institutions are considered strange and bizarre creatures by most of the rest of government and by many of our citizens.

Clientele Identification--Who for ERS?

Many organizations are distinguished by their clientele. A close identification with clientele can be the source of identity and support for an organization. The breadth of clientele and the schizophrenia necessary to serve several very different clientele is a distinguishing feature of ERS. ERS serves its political masters in the executive branch, but it also serves the general public as a source of data, research, and analysis. It serves the legislative branch, the other professional ranks in USDA, and several applied social science professions. ERS is also supposed to serve, by accurate portrayal, the agricultural and rural social economy it seeks to describe and analyze. Yet, many so served are disappointed that ERS does not stand ready to advocate those causes that rural and agricultural interests hold dear.

There is a standard list to recite in response to the question of who is served by ERS. However, the mere length and diversity of the list sows the

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A professor of agricultural economics, Otto Doering has received the American Agricultural Economics Association's Distinguished Policy Award, Extension Economists Teaching Award, and recognition for Quality of Communication. He was a visiting policy analyst in ERS in 1976-77, and a visiting scholar to ERS in 1990.

seeds of complexity and confusion. The fact that ERS has no clear client base and client service relationship (other than the Secretary of Agriculture) robs it of a definite base of support and the assurance of a stable and safe agenda. Its clientele are going in different directions wanting different things of it. This is at once its burden and its glory.

Setting the Agenda and Carrying It Out

A critical issue for any organization is how its agenda is set. This is often clear and consistent for line agencies, or for staff agencies with a consistent master/servant relationship. Part of the sense of identity and well-being of such agencies stems from having a regularized agenda-setting process. Predictability is an important byproduct of stable client/service responsibilities. ERS does not have it so easy!

The handling of the research and analysis agenda at ERS can vary substantially depending upon such things as the coherence or diversity within the administration, the particular political strategies of Congress and the President, and the interaction and relative power of different players within and without USDA. As an example, there were great differences in the research and analysis agenda, how ERS participated in the decision framework, and who utilized its products in the period leading to the 1977 Food and Agriculture Act as compared with that of the 1990 farm bill. The style of leadership of the Secretary, the position of the administration toward the process, the way the administration chose to promote its goals, the capacities of the various legislative staffs, and the relative powers and responsibilities assumed by the various assistant secretaries were different in 1990 compared with 1977. It is not that one particular mode was better or worse. It is just that there can be no expectation of a particular mode of policy analysis and decision process from the ERS perspective--and this makes life difficult. Line agencies and staff organizations with more defined roles and clientele know what to expect. They are more insulated from impacts of changing style and power. This uncertain world is both an advantage and a danger. In some instances, ERS may exert unusually great influence, and at other times its analytical role may be ignored or subsumed by others with less expertise.

Agendas themselves may be chosen by ERS, thrust on it by others, as well as shaped by the reactions of others to an agenda and their treatment of it. The farm structure issue is one that ERS decided on its own to open up and begin to deal with analytically in the late 1970's. This issue had resurfaced with great intensity during the debate over the 1977 farm legislation. Because ERS took it on, the Senate Committee felt it had to do likewise. Finally, the Secretary decided this was an issue of great importance for him, and another effort was joined, which ERS contributed to but certainly did not direct. Different ERS staff sometimes contributed to all three different efforts with very different goals and objectives. The potential contradictions and conflicts involved that were internal to ERS would not have been tolerated in a line agency. There was definite confusion at times, and even the feeling that ERS was being preempted by the strong beliefs of some of the key players, but ERS was able to be a major actor throughout in the content of the analysis because of its almost monopoly position in hard data and analysis.

Control of the Agenda

ERS never has had full control of its agenda, in fact or in precedent. By precedent and tradition, ERS has a responsibility to respond to an agenda with

balanced analysis and to serve diverse interests in their quests for analysis and information on an issue. At a luncheon in 1977, I was seated next to Carol Tucker Foreman, the Assistant Secretary for Consumer Affairs in the Carter administration. On learning of my acquaintance with Don Paarlberg, she spent much of the luncheon praising ERS as a source of unbiased accurate information that she was able to utilize while leading the Consumer Federation of America. It was almost as if she was less able to get such information from ERS as a competing undersecretary within the administration than she had been able to earlier while leader of an organization not generally sympathetic to the previous administration. Many cannot understand that ERS traditionally acts both to give economic rationalization to administration policy and also to provide data and analysis to others, even those who may be challenging an administration's economic policy. From a line agency perspective, such simultaneous action would be plain dumb! Yet it is a part of the standard ERS has set for itself as a staff agency with a professional responsibility to provide balanced factual information on an open access basis.

The major criterion for release of information that ERS has set is one of quality of data and analysis. This criterion also embroils ERS in disputes over access to information. However, those disputes would not be so heated if the credibility of the ERS product were not so great. The release of any "schlock" would soon make ERS information a non-event, so this standard is essential to preserve the influence of what ERS does release. A recent case in point is the Natural Resource Defense Council freedom of information suit to gain access to uncompleted studies that were undertaken to assess the impacts of chemical bans. There was a rumor in the environmental community that these studies showed little impact from chemical bans, thus supporting some environmentalists' contentions. The work had not been released by ERS on the basis of coverage and defensibility. In fact, some of the results were not too different from other studies that have been released. The question is whether the work should have been released in its early form. There is also the question whether those pushing for its release would have been so active in this respect if they had not believed the results supported their cause. This was a "no win" situation for ERS, but an important example of the constant hard decisionmaking necessary within ERS to maintain the reputation of its product and its usefulness--a process that does not win friends or supporters for ERS and may discourage ERS staff who believe their product warrants release.

The Institutional Setting: How It Determines the ERS Role and Influence

The particular institutional setting of ERS says something about how it operates and the breadth of its service. Remember, in the history of ERS, there have been both Directors of Economics and Assistant Secretaries for Economics. In my view, if ERS wants a broad charge for economic analysis for USDA, the imperative of the institutional structure dictates that ERS behave as if it is led by a Director of Economics responsible to the Secretary rather than being led by just another Assistant Secretary. An Assistant Secretary for Economics may have higher titular status, a more satisfying sense of position, but be more limited in what the purview of his organization's responsibility is by being edged toward a line hierarchy rather than occupying the staff role for the Secretary. A Director of Economics, or someone acting like a Director of Economics, is less likely to want to gain bureaucratic power in USDA, but will be more welcome to undertake economic research and analysis in other functional areas of USDA.

Getting the Most Out of the System

What we are dealing with here is a very important functional issue for the future. For example, if the economic analysis of environmental issues is critically important, what position does ERS have in the decision loop--that of a competing part of USDA or that of the Secretary's (and USDA's) analytical staff for economics? Does the Assistant Secretary for Natural Resources come to ERS for such analysis? Does the Secretary of Agriculture? Does the Environmental Protection Agency?

Commodity policy is seen as the bailiwick of ERS, but is not trade policy, resource policy, and rural policy also within its essential scope? In the *1940 Yearbook of Agriculture*, the Bureau of Agricultural Economics demonstrated its superior talent across this wide spectrum of issues. ERS has superior analytical capacity across this spectrum today, but other Assistant Secretaries consider some of these part of their turf. Are we matching this superb capacity in ERS with the critical task assignments and sufficient product profile in these areas? If we are not, public resources are being underutilized. What we have is a dichotomy of subject matter competence and functional relationships and responsibilities with USDA. I see this as the most critical question for ERS: how to be better utilized in the public's service across the full spectrum of its abilities, not just in those areas that may be left to it by the decisions of those wanting to control their own agendas.

Relationship with the Profession

ERS is so large that it is a good part of the profession. As an institution, it has made institutional contributions as well as being the home of a number of prominent individuals in the profession.

ERS also exhibits the tension between public service and narrow professionalism (for example, being recognized by the rest of the disciplinary profession)--a similar tension to the one in academic institutions between teaching and adult education on the one hand and research on the other. Old-timers from ERS point to the good old days when public service was the dominant ethic, but:

- This was an era of intense public concern about economic policy and making the economy work,
- Jobs were scarce, and
- Clientele demanded service-value for the dollar.

There is nothing comparable today to the sense of urgency, mission, and commitment that pervaded government service in the Depression and immediate post-Depression period.

ERS is especially vulnerable today to those wanting more of a service orientation. This is partially due to the budget crunch, the sense that government is too fat, and the belief by some that many professional activities only serve the narrow interests of the profession. This pressure from the outside is potentially more harmful because of some weakness on the inside. ERS has few supportive clientele relationships, and is further weakened insofar as there may be intradepartmental conflicts between ERS and

USDA line agencies and insofar as ERS is not especially useful to the Secretary and other powerful clientele. If it is any comfort, agricultural economists at land-grant universities are facing similar pressures and questions about usefulness to those who pay the costs. This is not an "either/or" question, but one of balance, and ERS probably should pay more attention to its critically important (and useful) service role.

The Prospects for Survival

ERS is very vulnerable today, and has been so in the past. It has no cheering section of specific clientele. It may have no champion if the Secretary has no special feelings about it or its mission, and if it does not have the small rabid cadres of supporters easily won by being partisan to special causes.

It is precisely the independent standard and the quality of its broad public service that places ERS in such great jeopardy. By all rights it should be dead! One has only to read the debate in the *Journal of Farm Economics* on the demise of the Bureau of Agricultural Economics to appreciate the extent to which the life of an agency like ERS or BLS can hang in the balance.

Amazingly enough, ERS has survived for 30 years performing this death-defying balancing act. Those of us on the outside who recognize the dangers and pitfalls to the organization believe its role and activities are what make it a uniquely valuable resource--all we can do is pray for ERS to survive for another 30 years.

Situation and Outlook

Moderator: George Hoffman
Vice President for Purchasing, Burger King, Miami

ERS was a dominant part of my life for a long time and in many ways my current life in Burger King purchasing in Miami is a major contrast to all my experience in ERS. I am now a vice president for purchasing, and it is quite a cultural experience, an interesting professional experience, and an interesting personal experience.

Miami is a real interesting place for those of you who have never been there. Many international corporations have their headquarters there because Miami is so accessible to the rest of the United States. Many companies in the import and export business are headquartered in Miami, and most of them have an atypical business profile. A lot of them are high cash-flow, low leverage, not very capital-intensive. The balance sheet on most of these companies consists of a short-term lease on a small warehouse, a fast boat, a light airplane, and a big Mercedes with black windows.

Of course, Burger King is not like that. It is a legitimate company. People ask me how Burger King ended up in Miami. It has always been there. That is where it was born and maybe that is why it is as strange as it is. Working in Burger King in the environment there sharply differs from an environment like ERS.

The typical executive at Burger King is about 35 years old and has 20 years experience in the fast food business. I'm among the oldest of the relics around Burger King. They're all type A personalities. They all have high blood pressure, and they work 16 or 18 hours a day. I do not know whether they accomplish anything, but they work at it.

Long-term research in that environment has a whole different meaning. Long-term research in the fast food environment is research that is focused no more than 12 months ahead, but it is research conducted over a period of 2 or 3 weeks.

Short-term research and analysis are the kinds of things we used to call policy and staff analysis, the things that you do this morning for this afternoon's meeting. So it has been interesting working in that environment, having come from an agricultural economics professional background that included ERS and universities.

In the fast food business, forecasts take on a whole new meaning, too. You forecast often, and you remain flexible. Forecasts are interesting but nothing to be taken very seriously. People smile when you talk about the outlook and chuckle to themselves.

Living in South Florida is an interesting experience. The whole perspective on agricultural policy takes on a different light from there. Agricultural policy is viewed rather narrowly and rather negatively. Only two farm

programs really have much meaning to South Florida. One is the dairy program and the other is the sugar program.

The dairy program is a bother to everyone that lives in the southern half of Florida because it promotes the growth of large dairy farms on the north part of Lake Okeechobee and the runoff from these dairy farms pollutes the drinking water supply for South Florida. So it's always a constant source of irritation and problems.

The sugar policy is equally damaging to South Florida. Sugar farms there have four problems. One is the nutrient runoff, which runs into Lake Okeechobee and subsequently into the Everglades, generating all this green algae that pollutes the area. It kills the wildlife and the fish. Tourists no longer have all the wild birds to see.

The barrier to importing sugar into the United States is, of course, a real problem for the population of South Florida, most of whom have relatives in the Caribbean, trying to make a livelihood growing sugar. So, all their relatives do not have this attractive market in the United States to send their sugar to.

Sugar interests have exploited the Haitian refugees, huddled in sugar plantation labor camps, who have no choice or any alternative. Very rarely do you ever read anything in the press about agriculture or farming except in a rather unusual light and mostly in Spanish.

My role at Burger King leads me to many of the things I did 20 years ago in ERS related to livestock and meat supply/price and demand analysis. It has a different connotation, a different perspective now. The main difference is that I am the only user of the research and analysis that I do. So I am my best and only critic.

Whatever I do in the privacy and confines of my office stays there, and if I'm wrong in my forecast, probably nobody will ever know about it except me. And, nobody in the company knows anything about this anyway. It is a kind of a black box, the spooky kind of stuff that they are unwilling to get involved in.

I recognize some old friends in the audience. Having been in ERS for a long time I have a warm spot in my heart for the Agency, and I always will. Many of the folks that I have met here today bring back a lot of good memories.

Panel Discussion: Situation and Outlook

Donald Seaborg
Deputy Director for Situation and Outlook
Commodity Economics Division, ERS, 1987-90

Today we celebrate ERS's 30th birthday. I appreciate the opportunity to take part in the celebration and to offer my views about the situation and outlook (S&O) program. Being part of a panel provides me with an excuse to reflect on the past. Hopefully, my recollections are mostly accurate and will give others who have recently joined the agency a better understanding of the "good old days" at ERS.

First, I want to talk about some of the changes that have taken place in the S&O program since the early days of the agency. Of course, many of the developments also relate to other ongoing activities of ERS. They cannot always be separated from each other. Then I will offer my views about some of the contributions that the ERS S&O program has made for U.S. agriculture. Finally, a brief look at the probable future of the S&O program is in order.

S&O Environment

Those of you who take the time to walk through the ERS building will see a very nice office environment. There are microcomputers everywhere, rugs soften the day-to-day sounds of a busy workplace, private offices are plentiful, and every floor has a conference room that makes it easy for the staff to get together to discuss problems and issues. At first glance, you may not notice the mainframe computer support, the FAX machines, the close and easy interaction of the ERS staff, or the experienced leadership within the agency. But they all add to the capabilities of the S&O program.

This is a much different scene from what you would have observed some 30 years ago. The S&O staff was housed in the middle of the South Building with its long corridors. There were impulse clocks that all moved in unison. Some agencies, not ERS, dismissed employees at exactly 5:30 p.m., as everyone in the department worked a 9 to 5:30 schedule. Messages could be sent to the Administration Building via a system of air tubes. And status was gained every time an office or individual was moved within the building toward Independence Avenue. A rug was a prized possession, as it signified status, no matter how threadbare.

A documentary movie would show secretaries dusting off desks, sharpening pencils, and bringing coffee to the analysts. You would see ditto machines with the smell of stencils and black ink, not copy machines that can readily produce many collated copies of your project. Slide rules were in common use as office machines made a lot of noise because they were mechanical. IBM electric typewriters were typical, but there were still many manual machines in use. Stacks of punch cards filled file drawers because that is how data were entered into the mainframe computers. By the way, the drum-type computer was still in use. The use of computers was carefully monitored and each job

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Don Seaborg served in various situation and outlook positions in the Agency from July 1960 to May 1990.

order had to be justified. It often took several days to run a rather routine analysis.

We also see many changes when we compare the makeup of the S&O staff of today with its counterpart of the early 1960's. Many of the analysts at that time were farm kids trained as agricultural economists at land-grant universities. Most analysts came from the Midwest, West, or South--very few came from the eastern part of the country. The average age of a commodity or senior analyst was probably over 50 years of age. Many had worked in OPA or in other World War II agencies. Today, we see a much wider range of ages working on outlook matters.

At that time, analysts were almost all men. Typically, young analysts worked in research support to senior analysts. They spent much of their efforts on special articles that provided insights into a particular problem. Senior commodity analysts were selected from these young researchers after they had gained experience.

The support staff was hired directly out of high school from rural areas of Virginia, West Virginia, Pennsylvania, and Maryland, which is not too different than recent experience. New secretaries and statistical assistants were assigned to the secretarial pool or stat pool until they had a better understanding of a Federal office. Some became homesick within a short time and returned to their homes and to lower paying jobs. But most stayed for the opportunities provided by the Agency.

In the early 1960's, the ERS organizational structure included a division which had most of the S&O staff. The division had a commodity branch, farm income branch, food economics branch, demand and price branch, analytical research support branch, and a history branch. The commodity branch had 13 senior section heads with their staffs answering to one branch chief. Section heads acted independently much of the time and the S&O staff tended to work more closely with other USDA agencies, such as NASS, AMS, FAS, and ASCS than with other divisions of ERS. Today, outlook activities are more integrated in the total program of ERS, but there is still room for improvement.

In the early 1960's, very few USDA agencies other than ERS could work readily with an economic balance sheet or make an indepth analysis of policy questions. In those days, few businesses employed an agricultural economist, and even fewer had a staff who spent most of their effort evaluating future market conditions. Today you will find agricultural economists in just about every agency within the department and in most large agricultural businesses. Many are ERS alumni.

Efforts to integrate all facets of the outlook were just not as fully developed as they are now. The ERS analytical forecasting system did not ensure that the economic impact of each individual commodity forecast was completely and automatically included in the farm income and food price forecasts. Aggregate forecasts were updated four times each year at most. Such forecasts are now updated monthly. Commodity analysts often made forecasts without complete knowledge of the impact that a single commodity forecast might have on other commodity forecasts or on farm income or retail food prices. Each analyst made forecasts to best suit the needs for a particular commodity.

Most forecasts in the 1960's looked about a year ahead and were limited almost entirely to the domestic outlook. International trade forecasts were made, but were quite aggregative in nature. This contrasts sharply with the current monthly analytical program used by the ERS S&O staff that guarantees complete integration of efforts of all forecasters within the program. And detailed global considerations are now routine.

Even in the early 1960's, ERS had a rather complete array of S&O reports. Reports typically came out four to six times a year. There was no single report about U.S. agriculture, such as *Agricultural Outlook*. However, a general agricultural outlook statement was presented at the annual conference.

At that time, members of the Congress had small staffs and few had any economists. ERS did not receive as many requests for policy analysis directly from the Hill as it does today, but the agency handled many referrals of letters from constituents relating to U.S. agriculture.

Thirty years ago, the Outlook and Situation Board (OSB) was composed of a Chairman, Secretary to the board, who edited all of the S&O reports, Vice Chairman who was also a full-time Deputy Director of the ERS outlook division, and a secretary. At that time, the OSB was the ERS clearance officer for S&O, but did not have the function of reviewing other outlook materials generated in the department. As you know, the OSB now has a small group of well-trained S&O analysts and is supported by an agricultural weather group. It currently has the function of clearance of all outlook materials produced in the department.

The annual national outlook conference held in Washington, DC, was the focal point of much of the S&O program. Extension economists were considered to be the primary beneficiaries of the information provided at the annual conference. During the discussion period, they would offer a regional perspective about important issues. The timing of the conference was set to assist extension economists with their schedule of winter meetings with farmers. The land-grant universities also had strong outlook programs that focused on problems mostly within the State. However, there also were some regional S&O conferences sponsored by the States. ERS has always worked closely with extension economists around the country. For many years, ERS maintained a field staff in many States.

Before going on to talk about other aspects of the S&O program, I want to comment about one of the things that has changed for the worse. Remember the USDA bakery and lunchrooms of the early 1960's when they were operated by the Welfare and Recreation Association of the Department? Meals were inexpensive, portions were generous, and the people that worked on the serving lines were all like part of the USDA family. The pies were as good or better than the ones your grandmother made, and on Friday you could buy German chocolate cake that was tops.

Contributions of the ERS S&O Program

A major strength of ERS is that it provides unbiased forecasts relating to all facets of U.S. agriculture in a world setting. Others can take these forecasts and add regional information or more specific data to suit their requirements. But by providing a benchmark forecast, discussions about the future can begin with an ERS statement that puts each commodity and aggregate forecast in a U.S. and world agriculture perspective.

A significant contribution of the ERS S&O program has been the large number of trained outlook economists provided to universities, private industry, and other government agencies. In the early 1960's, universities did not offer a curriculum for students to become an outlook economist. This is still largely true. ERS hired young well-educated economists who worked as understudies to a senior outlook person until they had gained enough knowledge to take on more responsibility. At that point in their careers, many went on to other positions. As a result, ERS has been a primary training ground for outlook economists and the alumni group is very large and widespread. Although costly for ERS, this has been a wonderful service to the Nation as it has raised the level of economic discussions of agricultural matters.

The Future of ERS S&O

The world around us is becoming more and more complex. One of the biggest reasons this is true is the improved ability to communicate. Technology has made it possible to quickly transfer data or information almost anywhere in the world while personal computers provide analysts with enormous power to look into problems with ease. Analytical procedures that would have taken several months only a few years ago are now accomplished in a matter of days.

The food system has undergone constant change with a shift to bigness, fast food restaurants, more eating out, and more ready-to-eat foods, which resulted in many new choices for the consumer. Health concerns are uppermost in the minds of many consumers, which affects the selection of foods in their diets as well as food preparation.

The ERS outlook program will be affected by all of these developments, but the basics of the program will remain the same. The needs of U.S. Government policy officials, businessmen, and farmers and ranchers have not changed over the past 30 years, and they are not likely to change during the next 30 years. They require reliable data, factual discussion of the situation, analytical rigor, and a view of future developments presented in an easy-to-understand format.

While most businesses are getting bigger, there are still a large number of individuals, small businesses, and farmers who only occasionally need unbiased forecasts to help them think through changing market conditions. ERS will continue to fill these needs with a wide array of commodity and aggregate forecasts made available through both the print and electronic media.

The amount of data and economic intelligence available to those interested in agriculture will continue to increase. There is already a bewildering array of information available. Sorting out the best source for a particular need can be done only by a well-trained and experienced analyst. This could point to ERS becoming more and more a place that filters out the "noise" in the data and can help others focus on the best data or set of information for their particular needs.

In recent years, ERS has been able to increase its workload at a time when the size of the staff has been declining. Adopting new technologies that have replaced some of the support staff and better management are the reason. However, it is becoming more expensive for ERS and others to keep up with changing technology in the workplace and to employ the latest methodology. Perhaps ERS will be one of the few organizations that can afford a competent

staff and effectively utilize the emerging technologies. This could indicate an even greater reliance on ERS forecasts in the future.

ERS provides one-stop shopping for many people interested in agricultural data. No other agency within the Department, or perhaps anywhere in the world, has a data set to compare with the one in daily use in ERS. While ERS does not generate large quantities of data, it compiles and stores data from a lot of originating agencies such as NASS, ASCS, AMS, FAS, BLS, BEA, and the Census. Currently, ERS is working to make it easier for others to access data electronically and data will one day, in the medium future, be accessed from remote places in a matter of minutes.

While the ERS S&O program of the future will not be much different from the current one, it will have to continue to adjust to the changing world around us. Trends toward varied farm production capabilities in this country and others, varied consumption needs, the changing global political environment, demands for more data and data processing capability, and the continued need for well-trained S&O analysts will all affect ERS's S&O program. ERS will doubtless adjust to the changing environment and provide comprehensive forecasts about U.S. agriculture available to all.

The Role of ERS in Situation and Outlook Work

Martin E. Abel
Abel, Daft & Earley

Let me begin with two observations.

First, USDA is the premier public organization in the world doing agricultural situation and outlook work. That work has been strengthened in many ways over the past 30 years including developing a more global perspective for major agricultural commodities, adding an excellent meteorological component to crop estimation, and improving timeliness of information. Almost anyone in the world doing serious commodity analysis work relies heavily on the information developed and released by the World Agricultural Outlook Board, the National Agricultural Statistical Service, the Foreign Agricultural Service, and the Economic Research Service. USDA will continue to be looked upon as the leading situation and outlook organization in the public arena because I do not see any serious competition emerging.

Second, ERS is probably the best economics group within the U.S. government. I know of no other government economic research group that has the combination of size, quality of people, and breadth of work of ERS.

With these comments as background, let me turn to the ERS role in situation and outlook work and specifically the work that deals with commodities. I approach this assessment with the background of having started my professional career with ERS in 1961 and having been a regular user of its research, situation and outlook work, and the other services it offers since I left USDA in 1968. My comments are focused primarily on some areas where ERS can strengthen its role in situation and outlook work. These should be interpreted as constructive suggestions for improving what is still basically a sound program. Also, time does not permit me to go beyond making some general observations which I believe are correct but do not apply equally to all aspects of ERS work related to situation and outlook activities.

Since good situation and outlook work must now be global in scope, it is important to know what is going on in agriculture virtually everywhere in the world. This knowledge requirement goes beyond estimating the size of crops during the growing season. It also requires intimate knowledge of political and economic developments and prospects in individual countries to be able to anticipate the behavior of production, consumption, and trade. In its early years, ERS emphasized developing expertise and a knowledge base at the country or regional level. The emphasis given to this type of work has declined over the years and today ERS has less country or regional expertise than it once did. This represents a significant shortcoming in the ERS outlook and situation work, particularly when major changes in policies, economic conditions, and technology are taking place in many parts of the world and these changes are directly affecting U.S. agriculture.

Martin Abel was an economist in ERS, 1961-67, and Deputy Assistant Secretary, USDA, 1967-68. He is now president of the consulting firm, Abel, Daft, and Earley, in Alexandria, VA.

On the domestic front, USDA's situation and outlook work depends heavily on knowledge of how the structure of production, processing, distribution, and consumption is changing and how these changes affect the behavior of commodity markets and commodity prices. Keeping up with these changes requires a continuous stream of research on the evolution of producer, food industry, and consumer behavior. Universities are doing much less work in these areas than they used to and so too is ERS. An inadequate research base on the ever-changing U.S. food system undermines the quality of situation and outlook work. I recognize that the type of research I am talking about has become expensive because many times it involves surveys to gather new information. The cost, however, should be viewed in relation to the benefits derived and the returns from alternative activities.

A third area where ERS has become progressively weaker is the demise of what I call the "mentor" system. One of the historic strengths of ERS and its predecessor agencies was its great ability to train people internally. It recognized that university graduates, no matter how well trained, had to be groomed to handle the special aspects of work in USDA. In the commodity research and situation and outlook areas, this meant developing a comprehensive and historical knowledge of all respects of commodity markets. Internal training was a hallmark of the BAE, the fragmented organization of economic research in the 1950's, and the early years of ERS. Experienced people devoted a great deal of time and energy to training the next generation of analysts, thereby assuring continuity of quality in research and outlook work.

The mentor system also produced a high degree of interaction among analysts in ERS, and this contributed to strengthening the overall quality of the work. ERS internal training capability of the type I have in mind has declined significantly over time and this has contributed to a more rapid turnover of analysts, less interaction among analysts in various parts of ERS, and less continuity in the research programs needed to support a strong program of situation and outlook work.

My final comment has to do with understanding the data used in commodity research and situation and outlook work. The legendary statistical clerks in ERS have been replaced by automated data handling and processing. Statistical clerks understood the strengths and weaknesses of the data they worked with; computers do not. Also, computers do not train young analysts in the proper uses of data the way good statistical clerks did. Problems associated with uses and abuses of data have been compounded by the fact that universities are doing even less than they did before to train people in understanding data.

In closing, let me compliment ERS for its 30 years of distinguished work. My comments about the evolution of situation and outlook work are intended to identify some areas where additional emphasis could make the next 30 years even more productive.

National and International Dimensions of Situation and Outlook Work Over Time

Abner W. Womack
University of Missouri-Columbia

My work at the University of Missouri in the Food and Agricultural Policy Research Institute (FAPRI) has been heavily influenced by time spent with the Economic Research Service (ERS). Much of my situation and outlook (S&O) work focused on econometric modeling systems designed to evaluate the consequences of alternative farm program options and to assist with outlook activities. My first responsibility as a mathematical statistician was to examine quantitative techniques that could best be utilized to solve simultaneous systems of equations. Jimmy Matthews, head of the Price and Policy Outlook Section of the Economic and Statistical Analysis Division (ESAD), made sure our progress would lead to the development of a comprehensive econometric modeling system for the U.S. agricultural industry. Fortunately for me, he decided that a statistician would fit into his unit.

The 3 years I worked with Matthews and others turned out to be one of the greatest experiences of my professional career. I still maintain in my files some of the original working papers that began the conceptualization of a simultaneous system of equations of the U.S. crops and livestock sector. Matthews, in my opinion, deserves credit for initiating, conceptualizing, and developing the first framework that linked livestock, crops, international trade, and the macroeconomy into one system. Many others were active in this early stage of 1969-72, including David Culver, Dawson Ahalt, Robert Hoffman, Rex Daly, and Dale Heien. Others soon entered the picture via grant work at the University of Minnesota--James Houck, Abraham Subotnik, and Mary Ryan. Their work on the U.S. soybean industry was convincing evidence that larger systems of equations could be utilized to support the outlook-policy process.

Several factors, including the Minnesota modeling effort, contributed to this all-out attempt to quantify the U.S. agricultural industry by using econometric models. A long history of modeling by ERS, beginning in the 1950's, certainly contributed to this decision. Many in ESAD had read publications by Fox, Foote, Waugh, Simon, Meinken, Rojko, King, Gerra, and Cromarty. Most of these studies were either conceptualizations or initiations of small systems of simultaneous equations for specific commodities in both the crops and livestock sectors. These pioneering researchers set the stage for the 1960's where model conceptualization by Stanton, Abel, Breimyer, Harlow, Ahalt, Donald, Mo, and Houck began the important linkage between theory, specification, and estimation. Complete simultaneous systems of equations were estimated for many of the major commodities. No concerted effort existed, however, to combine this work into one comprehensive model.

My entrance into this process began with the 1970's. New players entered with very significant contributions. Among those, in the early 1970's, was Dale

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Abner W. Womack developed econometric modeling systems in ERS from 1969 to 1979. He then joined the Food and Agricultural Policy Research Institute at the University of Missouri-Columbia.

Heien. He produced several working papers, often co-authored with Matthews, on the structure of the U.S. livestock industry. Many of these structural designs can still be found in current specification of the FAPRI modeling system at the University of Missouri and Iowa State University.

Matthews left ERS in 1974 and Wayne Boutwell became head of the modeling unit. He was extremely successful in selling the notion of a modeling system and added substantial resources to this effort, including Rodney Kite and Dick Haidacher, among others. Their efforts carried the livestock model through the first tests of complete simultaneous linkage. Much of this work required new techniques for simultaneous solutions since systems began to expand into and above 150 equations. The Gauss-Seidel solution technique was utilized, a tremendous breakthrough at that time with significant contributions by Kite in programming this rather complex process. Earlier efforts by Heien, Matthews, and me were taken by Kite and pushed over the edge into a user-friendly state. Many others contributed, with Edward Overton eventually devoting an entire year to the simultaneous solution program.

Although many modelers were associated with the unit during Boutwell's tenure, he added a new thrust that has contributed significantly over the years. He brought Don Seaborg into the unit as senior commodity specialist with the added responsibility for generating and directing the ERS outlook process. Kenneth Farrell, ERS Administrator, ensured that modelers and commodity specialists combined their efforts in producing outlook and policy analysis.

Refinement led to the roundtable process. Howard Hjort, during his tenure as Assistant Secretary for Economics, requested a 2-year forecast of U.S. and world agriculture on a monthly basis. The strategy used to ensure simultaneous feedback was to put the outlook into a component sequence with modelers and commodity specialists meeting to hammer out S&O numbers. The process began the first week of the month with a complete assessment of the international sector. Country specialists and modelers would meet on Friday afternoon to iron out differences. If no consensus could be reached, Dewain Rahe, the senior economist, would make the ultimate decision. The second week began with the U.S. sector. The same process prevailed, with a Friday afternoon meeting of modelers and commodity specialists. Don Seaborg gave the final number if no consensus could be reached. The process continued into the third week, with estimates of the food sector, net farm income, and government cost.

I watched with mounting interest as this process unfolded. At first, considerable "turfmanship" prevailed. However, after about three or four rounds of this activity, modelers and commodity specialists began to seek each other out. This dialogue simply pushed analysis to a level that had previously been difficult to achieve. Many analysts plus support staff were brought into a continual process that began to shed light on the simultaneous structure of the U.S. and world agricultural sector. Complete sets of data, ranging from the macroeconomy, U.S. and world policies, and weather assumptions, were available to all participants. As the forecast progressed through the year, new information was introduced and consequences evaluated. All participants had the opportunity to trace the new estimated trade flows, changes in livestock cycles, adjustments in program designs to achieve acreage and stock objectives, and much related information. My awareness of S&O activities accelerated, especially for financial components, farm size, land values, rural development, and natural resources.

This interactive roundtable strategy led to many refinements in the models. Our skills were traditionally more associated with statistics, theory, econometrics, and model design and operation but less with the many important intricacies of each major industry. Since we were thrown into the same bag and shaken up together, so to speak, considerable insight was gained that led to eventual modifications and estimations.

This process, fortunately, also corrected an earlier misdirection. Most support for a large modeling system was sold on the notion of a pushbutton system. Our earlier strategy had been to build and test models before entering the outlook policy process. But, model development took much longer than anyone anticipated. I can remember many cases where models would be working extremely well in isolation, only to blow into unintelligible gibberish when hooked into the simultaneous system. Although we had advertised "great results just around the corner," this bomb would go off in our hands when we hooked models together. This was our first lesson in cross-commodity interaction. We learned the hard way to take these indirect effects more seriously. Checking out the bad apples in a system of 150-200 equations is no easy task. Overnight solutions, desirable and often prayed for, did not occur. This only agitated administrators who had gone out on a limb to support these rather large modeling activities.

Within these constraints, we continued to focus on production of the ultimate pushbutton system. We did not extract ourselves from this dead end until the roundtable process was implemented. If components did not work well, they could be turned off, and composite forecasts from outside sources, namely our own commodity specialists, entered. This, in effect, allowed the modelers to contribute as much as the model could offer at that time, to switch off the questionable equations, and to go back to the drawing board. The next time around everyone expected the modeler's batting average to improve. The modeler was essentially taken off the hook in instantaneously producing the ultimate model, but left in an environment where continual improvement could be tested and eventually added to or implemented in the system.

When I look back on the four decades beginning with the 1950's, I am amazed at how far we have come. But, I am also struck by how slowly the process has evolved. The 1950's introduced the first attempts at simple models and very small simultaneous systems. The 1960's moved things up a notch with stronger theory and models of separate commodities. I was fortunate to be in ERS in the early 1970's when modeling systems were developed and linked together into one rather large system. Our experience taught us that large simultaneous models require considerable time and resources. And, while strict research strategies must prevail, a simultaneous model can always be tilted in the direction of weaker components in the system. In my opinion, one of the strongest discoveries in the use of these large models came from the roundtable process initiated by Farrell and taken to a higher level of refinement by people like Boutwell, Seaborg, and Rahe.

This is a lesson that has not been forgotten by FAPRI modelers. We have a large network of individuals who are continually canvassed for their opinion of the structure and outlook of the agricultural industry. They have been extremely helpful in keeping us on track until we feel that our models and modelers have passed the test of time and experience to take the lead in the process.

Some of our models have been tested and re-estimated over 30 times, spearheading the work with very little outside refinement. However, newer versions may languish on the sidelines until a better track record can be established. Forecast errors are continual feedback for model improvement. This process, along with the lessons learned in my ERS tenure, has helped me and our teams of FAPRI researchers immensely. It was my good fortune to head the ERS Forecast Support Group modeling effort from 1977 until 1979. When I left, about 24 people were employed in the modeling process. I have intentionally not named these accomplished individuals since it simply would take too much space to acknowledge their many contributions.

I feel fortunate to have had the opportunity to work with these outstanding researchers, experiencing the ERS system of S&O and its contribution to the policy process. Preparing this paper has also provided an opportunity to stop and think about how we got where we are. Obviously, ERS has made and continues to make a significant contribution to society in this complex area of food policy and outlook.

The Agency Workplace--Where It's Been, Where It's Going

Moderator: Frankie Swenholt
Panel: Dorothy Washington, Linda Stallard, Don Horton, and Rachel Evans

Dorothy, Linda, and Rachel all began working in ERS in the 1960's, and Rachel is still in the Agency. These three, and members of the audience, related how work was accomplished 20-30 years ago, using electric mechanical calculators, and other tools and procedures. Large paper worksheets have been replaced by electronic spreadsheets, typewriters by word processing software or personal computers, and punch cards by personal computers. Don Horton reviewed the electronic tools available in the workplace today, and spoke of their evolution and possibilities for the future. Discussion ranged from technical support to social roles and work practices, and how these have changed in ERS over the past 30 years.

Agricultural Policy in the 1970's

Moderator: Wayne Boutwell

Without question, the 1970's were probably the most dynamic decade that agriculture has seen in a long time. We finally realized the implication of this global market that we were really operating in.

The oil problems of the early 1970's disrupted supplies and sharply increased petroleum prices. Recycling petrodollars led, in many cases, to very rapid growth rates in some developing countries (up to 6 percent), luring huge loans and accelerated spending on, for example, agricultural products.

At the same time, we had a weak, affordable dollar, so we came to the conclusion that Malthus was right. We had finally reached the point where we were going to be hopelessly short on food supplies for the foreseeable future, while paying a high price for what was available. And, so it was that kind of a decade. To some extent, those high prices with a few embargoes sprinkled in masked the problem that was to occur later in the decade when those supplies began to rebound and prices began to fall.

In 1979, one of my last acts in USDA was to explain to about 800 very mad farmers what the Department was going to do about this cost-price squeeze that agriculture was in.

The decade proved we were not prepared to analyze the world market in the appropriate way. So, we formed groups like the forecast support group with its analytical capability, and spawned the World Board to better organize and coordinate that analytical activity across the Department. Understanding the decade of the 1970's is important in our process of understanding where we need to go in the 1990's and beyond.

The 1970's was, indeed, an exciting, dynamic period, and one in which there was great instability in farm prices, but 1970 and 1971 were not good years. Generally, we had gone back to that pattern of a big buildup of Government stocks. Farm prices were low and there was difficulty there.

I can recall in early 1969, when I first joined the Administration, Secretary Hardin was anxious to get a farm bill out in 1970 that would do some of the things that Richard Nixon had campaigned for. He went to work with the then Chairman of the House Agricultural Committee, Bob Pogue, and with Page Belcher, who was the ranking member, and we had an exercise that was quite unusual. The political appointees at the Department of Agriculture, that is, the Presidential appointees and a few others, met every week for 25 or 26 weeks on Monday night with the members of the House Agricultural Committee, and this was a real experience.

Clifford Hardin would sit between Bob Pogue and Page Belcher, puffing on a pipe. Most of the time the rest of us would sit there and observe considerable bickering on farm policy between these leaders, but nothing was ever really quite settled as was common during that period and throughout the 1970's.

The Secretary of Agriculture had four points that he was trying to get across:

1. Use and depend on free markets for farm income (sounds like the same old stuff),

2. Expand exports (the same old stuff),

3. Reduce government costs (everyone was in favor of that), and

4. Give farmers more flexibility.

That was the pattern we tried in 1970 but we did not succeed, in my view. The forces that came from the commodity organizations and from farmers themselves who wanted to maintain as high an income as they could possibly get prevented the kind of farm bill in 1970 that the new Republican Administration had hoped to get.

The same thing happened in 1973 and, to some extent, again in 1977, but each of the three farm bills tried to adapt to the changing situation. In the fall of 1971, the price of corn dipped below 90 cents a bushel. That was about the time that Secretary of Agriculture Earl Butz was going through the confirmation process, and many people who remember how popular he was as Secretary of Agriculture had forgotten that he had a terrible time getting confirmed. As a matter of fact, it was hard to get his appointment out of committee. And when it got to the floor, a very close vote left the issue in doubt right up to the end. Hearings followed hearings. Earl Butz was sworn in in the White House. I happened to be in the Oval Office for the swearing in, and President Nixon said to him, "Now what are you going to do?" Butz said, "I'm going to spend money on corn like a drunken sailor." You may recall, the price of corn went up very quickly. Butz, if anything, was a good

economist. He knew that the market on corn was about to cost the taxpayers much money, but, by saying that, the price of corn went up sharply.

An interesting sideline to that confirmation involved the ranking Senator, George Aiken, from Vermont, a fine, old gentleman. It was thought that if Senator Aiken would get up on the floor and give a good strong pro-Butz talk, that it would carry the day. I was asked to talk to the Senator and he said, "Sure, I'll do that. You write the speech for me." So we worked on a speech and said that if Earl Butz is made Secretary, he will have a program on agriculture marketing that's second to none, a program that will launch a whole new vigorous period and go after expanded markets.

Well, that helped. He got confirmed. And, after 2 or 3 days, I got a call from George Aiken. He said, "That speech you wrote for me about all this marketing stuff. Now what are you going to do about it?" You may recall, gentlemen, that we started with a lot of help from the Economic Research Service, including some studies on five or so commodities that were in trouble. I remember there was pork, potatoes, canned cling peaches (that had a little to do with my San Joaquin Valley background) and then, I believe, eggs.

We did an intensive market analysis and brought people from all across the Department, a very worthwhile exercise. I think, in looking back at those studies, that we made great progress on increased marketing, and we accomplished a lot, much of it with the help of ERS.

The years brought great change. In 1972, much to our surprise at the Agriculture Department, the Soviets started buying unheard of quantities of grain. Earl Butz went to the Soviet Union in April of that year, but the real buying began in June and July. And, they bought more corn than we had ever anticipated. Although Butz knew more corn purchases were on the way, we were depending upon the Soviets at that time as a major market for wheat.

Exports picked up elsewhere as well, such as in Japan. We were doing some business in China toward the end of that decade, which changed the supply/demand picture completely. So for a while, after the 1977 farm bill, we were talking about forgetting the concerns we'd had earlier about taking land out of production. People said we could plant more, and we did.

It caused some problems toward the end of the 1970's. Then, in 1980, we had dry weather. The new decade brought predictions at the Outlook Conference that no longer would we be plagued with a problem of excess land.

A very well-known economist at that session pointed out that our problem was going to focus on having enough to take care of the demand of the world. I wish that had turned out to be true for all time. One of the things that continued throughout all of this period was the increased productivity of American farmers on almost every commodity.

The increasing productivity of farmers was enough to offset the fact that prices did not go up in the 1950's and the 1960's. It offset inflation. As we got to the end of the 1970's, inflation became a major problem for agriculture in a number of ways, particularly with the cost of petroleum. We began to realize that farmers are major energy users, and the cost of oil changed things.

Other factors affected agriculture, especially the value of land. The inflation and good prices during the middle 1970's stimulated farmers to buy more land which triggered heavy debt. Land values were not capitalized on earnings or earnings projections but were set at what the sales were in the neighborhood. Values got totally out of whack with farmers buying large amounts of additional land and then being unable in subsequent years to make those payments.

This was the beginning of the farm depression of the early 1980's, which was really the result of some of the problems of the 1970's, one of them the food program change. In early 1969, President Nixon asked the Department of Agriculture to do something about feeding the hungry. Hearings around the country by the Select Committee on Hunger, chaired by Senator George McGovern, and a television network documentary received wide attention, and public pressure ensued. I was appointed the chairman of an interagency committee to come up with a recommendation for the President, on how to handle this. I depended very heavily on people from the Economic Research Service because it had the only data available giving any kind of a projection of needs or costs, and even those data were incomplete.

But we had very little time. By March 17, 1969, I was in the White House with Secretary Hardin telling the President and his Cabinet our recommendations. We offered two major alternatives: widen the food stamp program or expand the commodity distribution program. Both programs were running in very modest ways. We needed something that would change the nature of the U.S. food system.

After a tough fight, the President accepted the recommendation of my group that we go for a food stamp program. He asked, "What will it cost?" We were prepared for that. I said that it would cost about $4.5 billion. He and the other people around the table gasped. That represented a lot more money in 1969 than today. And, we were not far off in our projection.

The same program today costs $21-$22 billion, but with the inflation in food prices since then, that original estimate remains valid. In any case, the food stamp program got going and in May 1969 the President announced that we would begin a program that would put an end to poverty-caused hunger and malnutrition in the United States for the first time. And, I would argue that has been done.

Some concerns about the poor not having enough to eat have resurfaced. Some problems do exist, but they are related more to the cost of other things than the cost of food. The food programs have been particularly good. I also would point out that the food programs of the early 1970's made it possible for us to expand our agricultural exports without getting the criticism at home that we're not taking care of our own needy. We had to have those food programs to be able to go ahead with an aggressive export program.

Policy and Policy Analysis in a Global Context

Dale E. Hathaway
Under Secretary for International Affairs and Commodity Programs, 1977-81

In many ways, the decade of the 1970's marked the most dramatic shift in terms of policy issues and the policy analysis needs that had faced economists since the 1930's. Three major economic shifts occurred which threw U.S. agriculture into a global economy. These shifts resulted in changing the policy issues that were crucial to agriculture, in changing the participants in the policy process, and in changing the requirements for policy analysis in a major way.

The shifts I am referring to were:

- A breakdown of the Bretton/Woods Agreement, which had fixed exchange rates between major currencies for the entire post-World War II period and a move to floating exchange rates, which resulted in sharp shifts in the value of the U.S. dollar.

- The shift to a global capital market, which meant that national institutions lost significant control over interest rates as capital flows became crucial in the determination of interest rates.

- A shift to an international market for most agricultural products as the dominant factor in the demand for American farm products. The fact that this occurred at the same time as the other two changes were occurring meant that the three became substantially linked.

I want to spend my time looking at what these shifts meant for policy priorities, how they changed the participants in the policy process, the impact the changes had on the policy analysis, and finally, last but not least, the impact that these changes had upon the institutional structures and interagency relationships within the USDA and between the USDA and other parts of the government.

The major changes that I have suggested had the effect, first, of making domestic farm policies far less important in terms of determining the well-being of farmers than they had been for most of the postwar period. The substantial expansion of foreign demand for U.S. agricultural products allowed a relaxation or complete removal of production controls that had dominated American agriculture during the late 1950's and throughout the 1960's. The level of domestic farm prices became more dependent on changes in international demand than by changes in production controls and/or domestic price support levels. Even though this was true and obvious to most analysts, it was not immediately true and obvious insofar as many U.S. agricultural groups were concerned. It was not until well after the changes had a substantial impact on U.S. agriculture that the domestic policy groups began to understand the importance of some of these changes for them.

Second, for the first time in the post-World War II period, macroeconomics and macroeconomic analysis became important in terms of understanding the well-being of American agriculture and in terms of understanding the policy variables that were having a significant effect upon the U.S. agricultural industry. Most economists who had worked or been trained in the post-World War II period had never had to consider the significant impact of large changes in interest rates, inflation rates, oil prices, or exchange rates on the well-being of American agriculture. These all suddenly became key issues. Policies related to them became of crucial importance to farmers and to the Nation as a whole.

These shifts brought a necessity for understanding the international demand for farm products and dealing with trade and export policies, because these factors increasingly dominated the prices and incomes of U.S. agricultural producers. At the same time, these changes brought new actors into the agricultural policy arena.

By and large, as long as U.S. agriculture was primarily affected by changes in domestic policies and domestic supply and demand factors, most of the rest of the government, apart from the budget officials, paid very little attention to U.S. agricultural policy and U.S. agricultural trade policy. It should be remembered that it was not until well into the 1960's that U.S. agriculture had a positive trade balance. It was not until the 1970's that the favorable trade balance for agriculture became a crucial element in the total U.S. trade balance.

The result of these major shifts, which brought U.S. agriculture into the international trade picture in a big way, also brought other parts of the government interested in international affairs into agricultural policies and programs in a major way. Among the new groups that attempted to exert, and often succeeded in doing so, a major influence on agricultural policies were the National Security Council, the State Department, the Treasury Department, and the newly established U.S. Trade Representative. Most of these agencies had strong opinions about how the rest of the world should be approached and virtually no knowledge of U.S. agriculture in terms of either its policies or its technical and economic structure.

The shift to globalization of American agriculture meant that new policy instruments also became important. Suddenly the issues of domestic demand, food stamps, and special food distribution food programs became less significant in terms of affecting farmers. Issues such as export credit, market development, trade policies, and trade embargoes became of overwhelming importance.

The Impact of the Changes on Policy Analysis

These changes, which were sweeping, required USDA economists to learn or relearn macroeconomic analysis. Several trends had been taking place in the training of agricultural economists in the post-World War II period. Increasingly, a higher and higher proportion of agricultural economists working in the universities and in the various parts of the Federal Government had been trained in the land-grant university system rather than in the private universities, which had played a key role in the 1930's, 40's, and immediate postwar period. The land-grant training tended to emphasize the agricultural part of agricultural economics more heavily and, in many cases, did not provide or require an indepth understanding of macroeconomics,

international trade, and related subjects. Suddenly, however, agricultural economists in USDA and elsewhere were forced to go back to the fundamentals of economics and apply them to the agricultural industry and give up some of the narrower focus that had been put on production economics and demand analysis.

Secondly, USDA economists and analysts throughout the government were forced to learn about the factors that drive foreign demand. For the first time, USDA and parts of USDA outside of its Foreign Agricultural Service were required to understand the economic factors that were crucial in determining the demand in other economies and they had to learn about the foreign policy variables that were of crucial importance in determining the import demand for American farm products.

The period of the 1970's was particularly crucial in this regard on several counts. It was during the 1970's that, not only did international demand become crucial to American agricultural well-being, but the sources of that demand shifted markedly. First, there was the entry of the centrally planned economies, most notably, the Soviet Union and the People's Republic of China, into the international commodities market as major importers. Second, during the 1970's, there was a major shift in the import demand away from Western Europe, which we understood relatively well as analysts, and toward the middle-income developing countries, which were growing at a very rapid pace but which we knew much less well. Thus, the analysts in USDA were forced to acquaint themselves with governments and economic structures that, in many cases, were secretive and difficult to understand and to the economic forces in developing countries that previously had been the domain of development economists. This required the agricultural economics profession to learn a whole new set of facts about parts of the world that had suddenly become important to American agriculture.

Third, the changing nature of the participants in the policy process required USDA analysts suddenly to be able to present and provide analysis to a number of policymakers outside the Department of Agriculture and their traditional agricultural constituency. A good share of the increase in the interest of other agencies in agricultural affairs occurred at a time when it was very difficult to expand the internal size of most agencies of Federal Government on a grand scale. Thus, the new agencies that had an interest in agricultural affairs were not able to rapidly expand their internal expertise on such matters, and they reluctantly were required to depend upon analysis provided by USDA. This meant, however, that USDA had to substantially increase the sophistication of its macro- and international analysis, and it had to stand ready to defend its analysis to outsiders in ways that it had never had to before.

The Impact of These Changes on Institutional Structures Within USDA

The first shift that occurred as the major issues changed and as the participants in the policy process changed was that there was new and increased competition for control of the policies and the policy analysis that supported these policies. First, there was a battle between USDA and all the other agencies of government, sometimes individually and sometimes collectively, over control of U.S. agricultural policies relating to the rest of the world. There are two renowned and well-recorded cases in which the USDA lost that control and the resulting policies were a disaster to the agricultural sector and subsequently to the administrations which had

administered them. The first of these was the famous soybean embargo, imposed primarily for domestic price stability purposes, but which had immense international repercussions and were a significant factor in encouraging the rapid expansion of competitive production in other countries. The second, of course, is the infamous Russian grain embargo of 1980, which was imposed entirely for foreign policy reasons and which has since resounded through domestic politics and agricultural policies for more than a decade.

Even within USDA, there was a significant battle for control of policy. Prior to 1973, the agricultural policies of the Department of Agriculture had originated largely within the ASCS organization or its predecessors and moved directly from them to the Secretary of Agriculture with little or no analysis or interference from other agencies. In fact, the old BAE was abolished in part because it interfered with this process. In the 1970's, this was changed by the creation of, first, the Assistant Secretary for International Affairs and Commodity Programs which brought control of the domestic commodity programs and the international affairs of USDA under a single policy official who was the main focal point for those policies short of the Secretary of Agriculture. Suddenly, domestic agricultural policies that had international implications were being analyzed by others for those international implications, a fact that created major discontent on the part of those responsible for the formulation and execution of domestic programs. However, there was a continuing competition as to where the analysis of these international implications was to occur.

This competition for control over policies also went on within the Congress. Whereas certain kinds of agricultural legislation had been the sole province of the committees on agriculture, suddenly increasingly significant parts of agricultural legislation found that they had to be referred to committees outside of the traditional committees on agriculture. Committees with jurisdiction over foreign affairs and trade began to demand joint jurisdiction.

Finally, these changes also created intense new competition for control over policy analysis. The beginning point of this struggle was the control between those parts of the department that had traditionally had the responsibility for international affairs, namely, the Foreign Agricultural Service and ERS. This struggle had gone on in a mild way for some period of time but as the international policies became more important the international policy analysis also became more important and that struggle intensified.

The second part of the competition for control of analysis basically was between USDA and the rest of the United States Government. This struggle primarily was a struggle between the economic analysis provided by USDA and the political analysis provided by the CIA, the National Security Council, and different parts of the State Department. That struggle continues and is likely to be a major problem in the years ahead as international military competition is reduced and interest in international economic competition increases.

ERS and the Land-Grant Universities

Moderator: B.F. Stanton
Chairman, Department of Agricultural Economics
Cornell University, 1968-76

This session is intended to help us collectively re-examine the longstanding relationships among agricultural economists in the land-grant universities and USDA's Economic Research Service. These relationships can be thought about in terms of: (1) their historical development; (2) the institutional arrangements that have evolved; (3) the intellectual leadership that has grown out of such work; and (4) the nature of cooperative research endeavor as it now exists. We hope this session will stimulate comment about the many interactions that have occurred and will in the future.

My first sabbatic leave in 1960 was spent in Washington, DC, at the Statistical and Historical Research Branch. Harold Breimyer was completing his doctoral dissertation, so I sat at his desk and worked on a project which led to an article in *Agricultural Economics Research*, "The Seasonal Demand for Beef, Pork and Broilers." It was an excellent opportunity to work in Fred Waugh's division, learn about the data series and their development, develop a new series on quarterly disappearance for broilers, and gain the criticism of a staff working on applied econometric problems which was recognized as the national leader in this work.

It was a fine professional experience. Lasting contacts were made with the ERS staff. Insights into the problems of developing and maintaining data series were garnered. An opportunity to work full-time on one research project was realized.

A greater sense of the missions of ERS staff and the complexity of dealing with its many constituencies was obtained. Most professionals from a land-grant university could benefit from such an experience today just as much as from 30 years ago. One wonders if that might not be equally true for ERS staff located for 6 months at a land-grant university!

In the next hour, we have been asked to examine the history and evolution of relationships between ERS and the land-grant universities. This can be approached from the perspective of both the institutions themselves and the individuals who work in them. We will look back on what has changed over time, what has continued, and what we think will occur or should occur in the future. There are many things about these relationships which have been mutually beneficial. We want to think about the things we want to keep alive and foster. We also need to think about the relationships we need to create or develop and the actions or steps that will allow the next decade to be more productive than the last.

We have two well-informed and nationally recognized leaders in the profession to open the discussion and to challenge our thinking. Jim Hildreth will be the first to review some history and create some new perspectives on relationships in this decade. As former assistant director of the Texas A&M experiment station, Jim has been a welcome guest in every land-grant

university in the country and most agencies in USDA. As a former experiment station director and president of AAEA, he brings unique insight and experience to this meeting.

The second stimulus to discussion will come from Burt Sundquist. He has been an administrator in both ERS and the land-grant system. His final assignment in Washington was deputy administrator of ERS, but he started in the field before coming to Washington and subsequently worked as a branch chief and division director. In the 1970's, he moved to the University of Minnesota and ably served as a department chairman for more than a decade. He now simply holds the title of professor, perhaps the best title of all in a land-grant university.

Gentlemen, we all look forward to your insights and suggestions for the decade of the 1990's.

The relationship between the U.S. Department of Agriculture's economic analysis unit and land-grant universities is significant to the general public as well as agricultural economists. This presentation reviews the early history of that relationship, presents some personal observations of the relationship in the 1950's, examines cooperation in regional research, discusses the impact of ERS field staff relocation, and ends with a discussion of future issues.

Early History

Sources of information for this section are: two articles by Henry C. McDean in *Agricultural History*, "Professionalism, Policy, and Farm Economists in the Early Bureau of Agricultural Economics" (1983) and "Professionalism in the Rural Social Sciences, 1896-1919" (1984); an article by Baker and Rasmussen in *Agricultural Economics Research* (1975); and oral history from Joe Ackerman, former Managing Director of the Farm Foundation.

Henry C. Taylor played a major role in the development of economics in USDA. Taylor was named chief of USDA's Office of Farm Management in 1919 after a stint at the University of Wisconsin as head of the first Department of Agricultural Economics. He was replaced as Bureau of Agricultural Economics (BAE) Chief in 1925. In 1932, he became the first managing director of the Farm Foundation.

Taylor and other pioneer farm economists worked to structure a USDA unit staffed with social scientists trained in the Nation's leading institutions of higher education. When Taylor first arrived in 1919, he did not find many professional agricultural economists on the staff. Much of the staff was trained in agronomy. McDean tells the story of Taylor's secret Washington meeting with 26 agricultural economists held to structure the Office of Farm Management and develop plans for recruiting university agricultural economists.

Thus developed a close relationship between the universities and the BAE. BAE employees were recruited through direct contact between Taylor and department chairs, and BAE employees were sent to universities for graduate work. Through this process, the work of the BAE and the universities was well coordinated as they both struggled to establish the field of agricultural economics. Farmers and rural people constituted a majority of the U.S. population and their farms were of similar size and generally low income. The efforts of the university research and extension programs and BAE were focused on these farmers.

It was during this period that the profession of agricultural economics was developed. Under the leadership of George F. Warren of Cornell and Taylor (who often disagreed with each other), the American Farm Economics Association (AFEA) was created in 1919 with membership of persons who considered themselves either rural economists or farm managers. So, we see that the predecessors of ERS played a major role in the birth of agricultural economics along with land-grant university economists.

McDean suggests the early AFEA members held a broad vision of their activities. While they had differing points of view on farm management,

economics, and other social sciences, they were united in a common effort. According to McDean:

> What united them throughout this effort was what had conditioned them to enter professional agricultural work in the first place. For these pioneer social scientists came to believe, as farm boys, that education could be employed to uplift both themselves and the farmer. They were led to believe that they were among a select breed of the farm youth who were chosen, because of their superior abilities, for this purpose. (4, p. 391-2).[1]

McDean recounts how their egotism was not converted into the view held by European radicals that the educated elite should lead citizens to revolution. He states: "Rather, the benevolent, paternalistic, professional side of elitism, seized their minds and their hearts." (4, p. 392). This attitude governed their efforts to improve the well-being of farmers.

Taylor was known as "Red" by his friends, a reference to his quick temper. Tensions and conflict existed between Taylor and USDA officials as well as Taylor and agricultural economics department heads. But, the overriding goal to improve the well-being of farmers and a sense of professionalism ensured progress. As a bit of oral history, Taylor was very proud to have been fired from government and delighted in the reputation it gave him as he worked for the Farm Foundation.

The 1950's, A Personal Observation

I entered the profession in the middle 1950's after graduate work at Iowa State, joining the Department of Agricultural Economics and Rural Sociology at what is now Texas A&M University. There were a number of BAE employees located in Texas. The relationship between BAE employees and faculty members was very good. The BAE people worked with the university people developing information on the various types of Texas farms. Similar relationships existed in other States and the arrangements encouraged a communication from Washington, DC, to the States and from the States to Washington. In fact, some BAE employees appeared to devote more time to State problems than they did to the national and regional problems that were BAE's concern. Often BAE employees in the State were involved in graduate training and had close linkages with extension workers. Their paychecks may have come from a different organization, but what they did and what they thought mirrored the actions and attitudes of the university faculty.

Regional Research Activities

The Research and Marketing Act of 1946 made feasible for the first time a comprehensive program of research on problems that concerned more than one State. There had been a long history of Federal/State cooperative research and a number of regional groups had been created even before the Research and Marketing Act of 1946. The Land Tenure Committees and other informal regional research groups catalyzed by the Farm Foundation are examples.

The informal and formal regional research activities have been and continue to be a significant and useful linkage between the Economic Research Service

[1]Underlined numbers in parentheses cite sources listed in the References at the end of this article.

(ERS) and the land-grant universities. The level of coordination of regional research projects has varied widely, ranging from a minimum of coordination, with project content turning largely on the interest of the individual researchers, to a high level of coordination, with region-wide, uniform questionnaires and methods. For some, regional research is a prestigious activity, while for others, it is to be avoided.

Marshall Harris and I published some reflections on the organization of regional research activities in 1968. We saw regional research and economics at a crossroads and were concerned that if certain organizational problems were not resolved, commitments by administrators and researchers to regional research would decline. We examined some of the problems of regional research and made suggestions for improvement.

The regional research procedure is not all that it could be, but it is a very effective means for coordination and cooperation between the universities and ERS as well as among States. Regional research has enabled ERS and the universities to widen their range of research topics from just farm issues to policy, trade, and rural development issues. Many of the most productive regional research activities have depended upon strong leadership in problem redefinition, methods of analysis, and good implementation by ERS workers. Regional research continues to be a positive and bright spot in the relationship between ERS and the universities.

Relocation of ERS Field Staff

ERS relocated field staff to Washington in 1983. Concern about the ERS field organization had been expressed in memorandums by Nate Koffsky in 1965 and Quentin West in 1973 (1, pp. 67, 69). The issue appeared to be a need for more effective and focused research in ERS. The relocation enabled ERS to more effectively focus on regional and national problems. From the ERS perspective, it was clearly a rational decision.

However, the nature of the relationship between ERS and land-grant universities was significantly affected. Communication, except through regional research and other regional activities, declined. During the early years after the relocation to Washington, many of the former field staff had an institutional memory of the reality of agriculture and rural activities of the States in which they had been based. However, over time, this memory was lost, leaving ERS with diminishing State-level knowledge, which was apparent at the recent AAEA conference on estimating costs of production.

I do not wish to argue that ERS made an error in consolidation of its former field staff or that it should place a large number of staff back at land-grant universities. However, I do think the issue needs attention by both ERS and the universities and some institutional form needs to be found to increase the linkage and levels of knowledge of specific situations between the two groups.

Issues for the Future

I now wish to explore a few issues for the future. No matter how good the linkage and coordination between ERS and the universities, it can always be improved in the service of the citizens of the United States.

The first issue is, "who should be served?" Should ERS serve the policy-makers in Congress and the administration while the universities serve the

firm managers and State policymakers? This would be a logical division of effort. In order for wise and good national policy to be made, the consequences of implementation of national policy by individual firms and groups of firm managers within a State need to be known. The decisions made by firm managers and State policymakers take place within a national, indeed international, context. Sharp divisions between national, State, local, public, or private decisions are not as clear as they once were. Neither ERS nor the land-grant universities can meet the needs of all of the users of their analysis. An agreed-upon division of labor would be useful.

Human capital development for the profession is another issue faced by both groups. Most formal course work occurs in land-grant universities, although some does occur in the USDA graduate school and in other universities. As previously recounted, there was a close linkage in the early days between the BAE and universities in development of human capital for the profession of agricultural economics. Since ERS hires at the Ph.D. level more and more frequently, the issue may appear moot. However, within ERS, there is a need for a wide range of experiences and graduate training.

Would it be useful for ERS to develop a statement of its needs for human capital over the next decade, informing the graduate training faculties? The land-grant universities also benefit greatly from faculty members taking sabbatic or leave programs with ERS. Also, work experience, before terminal degree graduate work, at State universities or ERS has been a useful avenue of human capital development for both ERS and university personnel. The exchange of personnel, formal and informal, could be more organized and better coordinated. ERS participates in department chair committees in all four regions. Perhaps these groups could outline plans for human capital development which serves both ERS and the universities.

Coordination between the Extension Service and ERS is another issue. Much of the coordination is achieved by the work of program leaders in Extension. Also, ERS has representation on some regional extension committees, especially those in public policy education. ERS and Extension could give more thought to means and methods of increased coordination, especially in the areas of farm management, marketing, and community development. Again, there is no great conflict, and coordination is adequate, but could be better.

The last issue is that of funding for agricultural economics research and extension. Very few members of the general public or even of special interest groups know about the benefits and costs of agricultural economics research as the Nation faces emerging problems in farming, the food system, and rural areas. Good research ideas that catch the imagination of agricultural economists are not sufficient. Both ERS and the universities would benefit from a push to educate and recruit a number of publics to enter the political marketplace in support of agricultural economics research and extension.

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Burt Sundquist
Director, Farm Production Economics Division, ERS, 1965-70

Jim Hildreth has provided an excellent historical perspective on ERS-university relationships and I won't try to add to that perspective. Rather, I would like to focus my brief comments on two general questions:

1. What are the chief comparative advantages available to ERS and the land-grant universities in the operation of their professional activities?

   and

2. Are there possibilities for improving the future effectiveness of the professional linkages between the two institutions?

Comparative Advantages of the Two Institutions

Even if my comments on comparative advantage which follow are generally correct, I would not want to suggest that agricultural economists in either ERS or the universities should limit themselves solely to those professional activities for which their institutions have decisive comparative advantages. First, the multiple professional involvements of each of the two institutions are not neatly exclusive of each other, and it is sometimes difficult to draw sharp lines of cutoff. Second, there are many areas in which complementarities and collaborations between the two institutions are very useful even if there is some overlap. Third, neither of the two institutions should excessively curb the activities of their individual professional staff members to engage in creative and/or productive activities of personal interest. With these caveats in mind, I believe there are some activities where both ERS and the land-grant universities have distinct comparative advantages which can help determine and identify the professional priorities for each.

ERS's Comparative Advantages

I see three prominent areas of professional comparative advantage for ERS:

1. Development and publication of economic data and intelligence,
2. Special commodity, input sector, and topical or issue analysis (as in the case of providing situation and outlook analysis and reports), and
3. Special short-term policy analysis on national and regional issues.

Short-term analysis is sometimes referred to as "brushfire" work. But, in an executive agency of government it is important, and ERS personnel have a comparative advantage in the conduct of many such short-term studies. Let me comment briefly on each of these three areas.

Rather clearly, the ability to collect data and economic intelligence on a broad set of topics is a unique capability of ERS. Its proximity to and

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Burt Sundquist was Deputy Administrator, ERS, 1970-71, and Head, Department of Agricultural and Applied Economics, University of Minnesota, 1971-79, where he is currently a professor.

organizational access to NASS, the Bureau of the Census, FAS, and IRS are unique, as is its ability to launch major data collection surveys and to acquire data from other Federal, State, and USDA agencies. In this area of data collection and information development, the professions of agricultural economics and rural sociology are critically dependent on ERS. I could elaborate further but suffice it to say that if ERS didn't do this work, no one else really could. This is a lesson that many young economic researchers in universities learn the hard way.

The comparative advantage of ERS in a second area, that of situation and outlook analysis and related work, is heavily linked to its data access capability, but it is also linked to the Agency's national-level interaction with special interest groups (including, but not limited to, commodity groups), and to almost daily interactions with congressional and executive department personnel and issues. Again, if ERS didn't do much of this work, it could not or would not be done as effectively as it is.

With respect to the third area, short-term policy analysis, ERS is the major source but not the only one. Some demand for this analysis comes directly to ERS from the executive branch of government (primarily the Offices of the Secretary and Assistant Secretaries of Agriculture), from congressional committees, and from other public and private organizations. However, congressional committees, individual congressmen, commodity groups, and other organizations also request such analyses from the universities (FAPRI is a prime example) and in some cases there is effective collaboration of effort between ERS and university analysts.

The Land-Grant Universities' Comparative Advantage

Perhaps because of a desire for symmetry in exposition, I find three areas of professional comparative advantage for the land-grant universities as well. They are:

1. Professional training of economists and other social scientists,

2. Interdisciplinary work (both in problem identification and in the conduct of economic and social impact analysis), and

3. Economic analysis pertaining to State and local policy issues.

An important mission of the land-grant (and other) universities is that of professional training, a major comparative advantage. Without university-level (particularly graduate-level) university training, the level of professional performance in economic research would be much weaker than it is. And though ERS personnel are actively involved in teaching in the USDA Graduate School and in other training activities, they cannot undertake the major training role of the universities. Moreover, the closing out of ERS field staff positions in the 1980's reduced significantly the role of ERS staff in graduate training.

A second area of comparative advantage for universities is in their proximity to and interaction with other disciplines (particularly in the basic, agricultural, and social sciences). This helps provide some of the technical and interdisciplinary framework in which both applied economic analysis and training functions can effectively occur. I expect this area of comparative advantage to take on even greater importance in the future as our profession

necessarily increases its concerns about environmental, distributional, and other externalities of agricultural technologies and policies. Energy and water quality topics are good examples of these externality concerns for which effective inputs are needed from scientists in other technical agricultural (and social science) fields.

Finally, universities have a comparative advantage in their proximity to and frequent interaction with local and State interest groups, including the State legislatures. These interest groups provide a major incentive for the land-grant universities to direct research, education, and extension programs on State and local issues. And, geographical access to the articulators of these more localized issues, and to related data and informational feedback for problem identification and problem resolution, generate a comparative advantage for the local universities to do much of the economic analysis.

Some Common Professional Interests

Priority work in a number of important analysis areas is common to economists and other social scientists in both ERS and the land-grant universities. This includes, but is not limited to, substantive (often long-term) analysis of resource efficiency, technological change, environmental economics, rural economic development, international trade and development, income distribution policy, commodity policy, food safety and nutrition, economics of human resource development and use, tax and investment policy, and intersector economic analysis. I will not undertake to prepare the long list of areas of common interest that link ERS to the land-grant university community. Suffice it to say that the list would be a long and diverse one, which requires effective work by both institutions.

Positive Developments in ERS-University Collaboration

A number of positive collaborative developments have occurred in recent years and I have time to cite only a few examples. These include ERS-university cooperation in the International Agricultural Trade Research Consortium, the recent conference on estimating costs of production, and the efforts of ERS to provide broad access to extensive electronic products including major data sets, software systems, and even a free "finders" program to identify subject matter specialists and available data products in ERS. One could go on to cite many additional examples of positive collaborative developments.

Possible Improvements in ERS-University Relations

It is my feeling that, in general, ERS and the land-grant universities have healthy and congenial working relationships. Thus, my brief suggestions relative to future improvements should be interpreted accordingly.

First, there is still ample room to extend collaboration between ERS and the universities to provide ERS with the specialized commodity and geographical expertise which was reduced substantially when ERS closed out its field staffing operations. Also, there are extensive opportunities for ERS to share its professional expertise with the universities via presentations at seminars and research planning workshops. I personally have found ERS staff to be most cooperative in this regard, but I think more extensive cooperation with some of the smaller (and more isolated) land-grant university departments (including the 1890 institutions) might have strong merit. This probably would typically require a proactive effort by ERS rather than responding to

specific requests for such assistance. At least some initial contacts are necessary, even to generate effective requests for assistance.

One of the recent-year casualties of the increased cost of research is the reduction in acquisition of primary (particularly firm-level) data. ERS still conducts a major "whole farm" statistical survey, but university microlevel data acquisition is pretty much limited to data acquired from existing "farm record" project cooperators. The latter data have both sample and content limitations. This paucity of primary data collection is in sharp contrast to the 1950's and 1960's when most land-grant universities had major data collection activities. Although I do not have space here to elaborate on this topic, I feel ERS and university researchers should make a more substantial effort to collaborate on upgrading the amount and quality of first-level data and on making these data available. Such data are critical for both microeconomic analyses and analyses of a number of key policy issues. Agricultural economics made its name as a profession by its ability to empiricize an available theoretical and analytical base. This is not to downplay the major conceptual and analytical contributions made by agricultural economists.

As the supply of adequate high-quality data has eroded, one sees more and more examples (both in the universities and in ERS) of high-powered analytical tools being applied to poor data and/or to data collected for purposes other than those for which they are used. One consequence is that any managerial or policy inferences coming from the research are of questionable value.

It is likely that many, perhaps most, of the land-grant universities face a future of downsizing their faculties and support services. This will make the universities even more dependent on ERS for access to data, analytical services, and collaborative research support. My personal hope is that USDA administrators will recognize the extent to which the national research program for agricultural economics, and the rural social sciences generally, are highly dependent on ERS for broad-based program support, and will treat kindly the budget needs of ERS. Providing high-priority research and data services for university faculties and other national-level clientele groups is crucial. ERS is a major and vital national (and international) resource for economic data and intelligence and for policy analysis. Its budget and administrative support can be reduced only at a substantial cost to research collaborators and to users of its comprehensive program of professional output.

The International Dimension

ERS's Foreign and International Work

Moderator: Lyle P. Schertz
Deputy Administrator, ERS, 1972-78

As this conference reflects upon the tremendous international and foreign expertise of the Economic Research Service and contemplates the future of the agency, it is useful to recall selected key historical events. They provide perspective for thinking about the future.

I start with the early 1920's. At least as far back as then, information about foreign agricultural conditions was recognized as important to the work of the U.S. Government. At that time, foreign agricultural information was the focus of disputes between USDA and the Department of Commerce. Henry C. Taylor, Chief of the Bureau of Agricultural Economics (BAE), and then-Secretary of Agriculture Henry C. Wallace believed that USDA and the BAE should have the major responsibility, if not the sole responsibility, for collecting information about agriculture in foreign countries. Taylor's first budget request identified work of the agency in four categories: (1) farm management and farm practices, (2) cost of production and distribution, (3) marketing and distribution, and (4) foreign production and distribution. In contrast, in the Department of Commerce, an individual named Herbert Hoover, with significant experiences in Europe, believed that Commerce should have the responsibility for the collection of information about agriculture in foreign countries.

These early turf battles foreshadowed later organizational adjustments among the Federal agencies--such as whether agricultural attaches should be part of the State Department or part of USDA. These disputes also portended turf disagreements within USDA, such as the division of labor between the Foreign Agricultural Service and the Economic Research Service.

I surmise that the 1920's was an uneasy period regarding "foreign"-oriented work in the BAE. For a time at least, the conflict between Commerce and USDA over information about agriculture in foreign countries was probably held in check by Secretary Wallace's close relationship with President Harding.

However, President Harding died in 1923. Thus, the Bureau lost the easy access to the White House that the Harding-Wallace relationship had provided. Coolidge, a person with whom Hoover had a close relationship, became President. And then Wallace died in the fall of 1924. Later, of course, Mr. Hoover became President. Even so, it was during Hoover's Administration (in

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Lyle P. Schertz is Editor, *CHOICES, The Magazine of Food, Farm, and Resource Issues*. He was Chief, International Monetary and Trade Research Branch, ERS, 1964-67; Deputy Administrator, International Agricultural Development Service, 1967-72; Deputy Administrator, Economic Research Service, 1972-78.

1930) that a division of Foreign Agricultural Service was established within the Bureau of Agricultural Economics. Perhaps as an early indicator of things to come, this division was transferred in 1938 to the Office of the Secretary and named the Office of Foreign Agricultural Relations (OFAR).

With the reorganization in 1939 of the BAE, under then Chief Howard R. Tolley, the bureau had 12 divisions, none of them foreign or international. Thus, when it came time to abolish and carve up the BAE in the fall of 1953, there was no BAE foreign division to distribute to other bureaus.

However, in 1953, the Office of Foreign Agricultural Relations was given agency status as the Foreign Agricultural Service. Romeo E. Short was its first Administrator.

The re-establishment of the BAE as the Economic Research Service on April 3, 1961, ushered in many changes in the economics-oriented work of the Department, including the work focused on foreign agriculture. The Foreign Development and Trade Division (FDTD) and the Foreign Regional Analysis Division (FRAD), composed of FAS personnel, were initiated in the newly formed Economic Research Service. Wilhelm Anderson, who had long experience in OFAR and then in FAS and had substantial loyalties to those organizations, became Director of FRAD. Lois Bacon, who had also been in FAS, became Deputy Division Director. It was in this division that Quentin West later served as Deputy Director and then Director.

By 1963, the Foreign Development and Trade Division was headed by Kenneth L. Bachman as Director and Ray Christenson as his Deputy. Both had long experience in economic research that focused on U.S. domestic agricultural issues.

Agency for International Development (AID) contracts had become important to the financial support of FRAD. Similarly, FDTD was heavily dependent on AID contracts. AID-sponsored research focused on agricultural productivity in underdeveloped countries and differences in agricultural productivities among countries.

The division also included a branch called the International Monetary and Trade Research Branch, one that had been part of OFAR in the 1950's. It was the branch with which I became associated in 1965. My first major challenge in the branch was to negotiate a contract with Dale Hathaway to conduct research on the European Economic Community and its Common Agricultural Policy (CAP). That activity eventually involved Ed Rossmiller, Michel Petit, Vern Sorenson, and Fred Mangum among others.

In the early 1960's, Secretary Freeman established the International Agricultural Development Service (IADS) with responsibilities to coordinate USDA's technical assistance and international training activities. Matthew Drosdoff was its first Administrator and Gerald Tichenor its Deputy Administrator. In 1967, Lester Brown was named Administrator, and I joined it as Deputy Administrator.

IADS, as well as the related technical assistance and training work of other USDA agencies, was almost totally supported by AID. The training work had a long history. It placed participants at land-grant institutions and sponsored nonacademic training experiences in the United States.

Technical assistance activities were conducted by USDA personnel throughout the developing countries. Much of it was financed by AID, such as in Brazil, Ecuador, Tunisia, India, and Vietnam. Other efforts were financed by the host country, such as in Iran and Saudi Arabia.

When IADS was abolished in 1972, these activities were included in FAS for a temporary period and then for a short period designated as the Foreign Economic Development Service. Then, in 1972, when Quentin West was named as Administrator of ERS, the technical assistance and international training work were brought into ERS as the Foreign Development Division only to be spun out again in 1978 as the Office of International Cooperation and Development (OICD).

It was in the fall of 1972 that the earlier Foreign Regional Analysis Division became the Foreign Demand and Competition Division. Joe Willett was designated as Director and Harry Walters as his Deputy.

When Joe Willett retired in 1980, T. Kelley White became the Director of the division with the new division name "International Economics Division." When Kelley left in the fall of 1990, B.H. Robinson became Director. In the meantime (1987), the division's name was changed to the Agriculture and Trade Analysis Division.

As I reflect on the foreign and international history of ERS, I am impressed with the transformation of the "domestic" focus and the "foreign" focus of the agency into an "international" focus, and with the tremendous progress that has been made in the analytical capacity of the agency to deal with international issues.

When I first joined the Foreign Agricultural Service in 1962, it was unusual for issues to be considered in an international dimension. Issues were mostly viewed as domestic or foreign, but not international, that is, with both foreign and domestic elements. Admittedly, issues such as those related to export subsidies and other trade questions, such as Section 32 quotas, had their domestic elements. But, by and large, even on trade questions, the issues were cast in domestic terms or in foreign terms, not both. I recall emphasizing in one of the first publications with which I was involved in FAS that domestic policies had substantial relevance to international trade. That notion received only passing notice, if any.

Thus, it was quite logical when ERS was organized to name one of the divisions the Foreign Regional Analysis Division. Its major program focus was on what was happening beyond the boundaries of the United States. U.S. domestic production and marketing were the turf of other division directors. For certain, Quentin West and others in the Agency recognized the international dimension, the linking together of the foreign and the domestic. But, they were the exception. For the most part, information requests and research questions were posed, at that time, in a foreign or domestic context rather than a combination of the two.

True, the agency had an International Monetary and Trade Research Branch. But, it struggled for funds, but was called upon when numbers were needed for what was then called a "Gold Report" or when the system wanted to justify particular terms for specific P.L. 480 agreements.

Today the international focus in ERS is clear and growing as, in my opinion, it should be. ERS commodity experts are challenged to know as much about developments in foreign countries as they are challenged to know about U.S. conditions. Events in other countries are, today, so important to prospective U.S. commodity markets that U.S. commodity analysts simply must be internationalists in their work.

Similarly, ERS experts concerned with poor people in rural America cannot just look at conditions in the United States any longer in understanding the situation of these Americans and in contributing effectively to U.S. policy decisions related to U.S. rural people and rural communities.

The reality is that effective U.S. policy decisions in practically every area of interest to ERS--commodities, food safety, rural people, rural communities, natural resources, environment, credit, and investment--require knowledge about conditions and experiences in foreign countries and the international dimensions of these conditions.

The setting is relatively simple and has been stated many times. The world figuratively has shrunk drastically. Everything is, as it always has been, connected to everything else. In the past few decades, the coefficients of those linkages have become larger and more significant. In addition, the transmission of effects has become quicker. The international dimensions of policies and situations in foreign countries, as well as in the United States, have become increasingly evident. ERS has changed accordingly, albeit sometimes slowly.

I salute all those who have labored, sometimes without special notice, in developing the data systems related to foreign countries and those who have expertly developed the analytical systems that reflect foreign and international relationships, which are important to understanding the past and gaining insights about the future.

I recall three experiences that underscore my admiration for the progress that has been made. The first was a personal impression during the first year I was in USDA. I was disappointed with the lack of information about prices in other countries and in some cases in international markets. There was attention to production and trade. But pursuit of price information was an orphan.

The second relates to a charge given to me when I was in FAS and working in support of the Kennedy Round Trade negotiations. The task was to estimate the international effects of changes in policy by a particular agricultural exporting country that competed with the United States. An approach to ERS drew the response, "There is no way to answer that question with the tools now available. Given this situation, no respectable economist would attempt to give a response."

The third involved Tony Rojko, a person many of you knew. I had been approached by two university economists for best guesses of demand and supply elasticities for cereals by regions of the entire world to be used in an innovative undertaking to build a world grain model. Such a matrix of coefficients was not available until we (mostly Tony) placed numbers in a matrix one afternoon in his office.

Contrast what these three happenings say about the state of the "international" arts in ERS in the early and middle 1960's as compared to the capabilities that exist today. The information system is much more adequate and many models are now available to help people think about international relationships. My congratulations to all of you who have labored so faithfully in the vineyard with a faith in the benefits associated with improved information (including price information) and analytical capabilities focused on international relationships.

The time is fast approaching when practically all of the issues confronting the United States will be affected in one way or another by events in other countries and in international markets. These developments will represent a continuation of trends that have been accelerating in the past decades as U.S. product and factor markets have become increasingly internationalized.

Most, if not all, of the "domestic" divisions will find it necessary to give close attention to foreign developments and their international effects. The implications for the ERS's international division are twofold. First, the domestic divisions will find it increasingly advantageous to conduct internationally oriented investigations. Second, the increased number of internationally oriented studies will place increased demands on the international-related division to provide country-specific economic, cultural, and political information.

Thus, what we know today as the Agriculture and Trade Analysis Division may again be a "foreign division"--the division of the agency with primary responsibility to identify and to recall intelligence about conditions, institutions, and relationships within foreign countries. This organizational division of labor would mean that the agency's international expertise on, say, environmental issues, would probably be part of the Agency's division with natural resource and environmental responsibilities. People in that division would not only know U.S. domestic environmental conditions but would be expected to understand foreign and international environmental conditions as well.

A transition to an agency with a division again having a foreign orientation and all other divisions having an international focus will not be easily accomplished. There are many implications for management skills, research orientation, and knowledge. However, we can rejoice that the Agency is already moving in this direction. I expect that external forces will dictate that ERS adjust in these ways even faster than before.

Thirty Years of ERS--The International Dimension: Meeting the Challenge of World Food Problems

Quentin M. West
ERS Administrator, 1972-77

There are several international programs of ERS that we could talk about today: support of commercial agricultural trade, support of food aid and alleviation of hunger, agricultural development and technical assistance to developing countries, and analysis of the current and future world food situation. I would like to spend my time this morning reviewing the ERS contribution to the analysis of world food problems and some of our problems in making these analyses.

The World Food Budget

When ERS was established 30 years ago, the foreign economic analysis work was transferred from the Foreign Agricultural Service. The first assignment given the Foreign Regional Analysis Division by Willard Cochrane, the first Director of Agricultural Economics, was to make a study of world food deficits and to prepare a World Food Budget for 1962 and 1966. The first report, "a first approximation," was produced in less than a month, and was followed by a second report, which gave a more detailed analysis, country by country, of the world food deficit in order to develop "a realistic world food budget for the next year and the 5 years ahead" (1).[1] The annual World Food Situation was also started that year.

These reports were followed 2 years later by *The World Food Budget 1970*, the most comprehensive attempt to include in one analysis all the countries and territories of the world and the production, consumption, trade, nonfood use, and changes in stocks of all food commodities of the world. It was our first and last attempt. But, the World Food Budget served its purpose as "a first step in a program to expand consumption of American agricultural products abroad and to help provide an adequate, healthful, balanced diet for the world's people" (1). This was certainly a noble objective. It also served another objective: the first step in an intensive ERS program to project into the future the world food situation. And it was fortunate that we became prepared to meet the challenges ahead.

The food budget analysis was based on country food balances that had been prepared by USDA for several years. These were of varying quality depending on the availability of accurate data. Let me mention three examples.

When I first came to USDA, I was covering some countries in Africa. I looked up the food balance for Angola. The introduction said that since there is no data on food production in Angola, we will assume that the per capita consumption of food items in Angola is similar to that in the Belgian Congo. Then, multiplying by an estimate for population and adjusting for trade and nonfood uses, we can arrive at an estimate of food production in Angola. I was almost afraid to look at the Belgian Congo food balance for fear it would

[1]Underscored numbers in parentheses refer to sources listed in the References at the end of this presentation.

start with Angola per capita food consumption as a basis for production estimates in Belgian Congo. We have surely come a long way from this type of estimating.

When we were preparing for the second world food budget, we made a great effort to make the food balances more complete. In South Asia and the Far East, we estimated all food items, including even milk production in India. When we finished, we had unbelievable results, with India, for example, with a higher per capita caloric intake than Japan. We followed the admonition of Fred Waugh who in 1963 warned against "the empty use of statistical data; making projections for the sake of projections, and the overuse of mechanical devices to the exclusion of expert opinion and even common sense" (2). Riley Kirby and I sat down with the country experts, lined up the countries according to common sense caloric consumption levels, and adjusted the other data accordingly.

Bob Moncure made a yeoman effort to rationally estimate the consumption of root crops in all the countries of Africa. A couple of years after we published these food balances, the Food and Agricultural Organization came out with its first food balances for Africa. I thought now we can improve our production estimates for Africa. But, we came to find out, FAO had simply copied our estimates, country by country--a sort of circular legitimization process.

World Food Crises

There has been a long period of almost constant world food crises, alternating between concern that there was overproduction, with low farm income and costly government programs, and fear that the world was losing its capacity to feed itself. As far back as 1923, the USDA Yearbook concluded that "the nation, although it might achieve some increase in productivity, would find it necessary to reduce per capita consumption of food." Despite this prediction, within a decade we had a depression, agricultural surpluses, and were killing little pigs and plowing under corn.

Following World War II, with an upward revision of population estimates, a small food scare was generated. There was concern whether there would be sufficient food produced to fill a "fifth plate," the 25-percent increase in the U.S. population expected by 1960. In 1952, the Administrator of the Agricultural Research Service predicted that, unless a marked increase in productivity was realized, the United States would run out of cropland before 1975 (2).

But, instead of a shortage, agricultural surpluses began to pile up in the 1950's. PL-480 was enacted in 1954 to move our agricultural surpluses abroad and help feed the hungry world. The World Food Budget was part of this effort. The 1960's saw a reversal in the world food situation. The USSR and China became grain importers. India had poor crops and massive shipments of food under PL-480 were required to prevent famine. World grain stocks were cut in half. Thomas Malthus was resurrected and the doomsday prophets captured public attention.

These prophets had not foreseen the Green Revolution just then getting underway. World food production expanded. In 2 years, grain stocks increased 50 percent and the three major wheat-exporting countries reduced area from 45 to 29 million hectares. Les Brown, who had said in 1964 that "the less

developed world is losing the capacity to feed itself," in 1968 said, "...the world has recently entered a new agricultural era.... The old era ended in 1966 and the new began in 1967.... The agricultural revolution in Asia should not, therefore, be viewed as an event but as the beginning of a process--the eventual modernization of Asia" (3).

Again, a world crop shortfall in 1972 and huge USSR grain purchases--the so-called great Russian grain robbery--depleted world stocks and prices skyrocketed. Secretary Butz urged farmers to plant "from fencerow to fencerow." American farmers' exports reached record levels, as did farm income. For the first time in history, farm family income exceeded nonfarm family income.

History repeats itself. The 1980's brought agricultural surpluses, reduced exports, and lower farm prices and income, plus a financial crisis growing out of overinvestment in the 1970's. There has not been much prophecy about the world running out of food since 1975. The environment seems to have inherited center stage.

Studies and Conferences

World food crises, based on shortages, always attract many interested observers: writers, government agencies, international organizations, universities, and other institutions looking for an agenda for a conference. The number of my speeches was closely correlated with the cycle of people's concern that the world was going to run out of food.

World food surpluses are mainly crises to farmers and the USDA budget. To the poor and needy of the world, including many in this very neighborhood, food is a daily crisis. But that is another story.

Several major studies were requested by U.S. Presidents on the world food situation and substantial reports were written. Some of the most important were:

- *The World Food Problem, a Report of the President's Science Advisory Committee*, May 1987, the PSAC report,
- *World Food and Nutrition Study*, National Academy of Sciences, June 1977,
- *The Global 2000 Report to the President*, Council on Environmental Quality and the Department of State, 1978, and
- *Overcoming World Hunger: The Challenge Ahead*, Report of the Commission on World Hunger, March 1980.

FAO held food conferences in 1963, 1970, and the most significant in 1974. It was essential that these studies and conferences have reliable data on the world food situation with the best sets of projections possible.

Analysis of the World Food Situation

FAO was doing a great deal of work on the world food situation and making projections such as the Indicative World Plan. However, FAO's data were not the best since it had to use country statistics that were often inaccurate. Also, the FAO annual per capita food production index was always biased

downward. It included current population estimates, but many previous year production estimates. These were then revised upward as production statistics came in, so the new year was always lower. Thus, it was very critical during this period of great public and private concern over world food problems that USDA obtain and maintain the most accurate data possible on world food production, consumption, and trade. And at any given time, using the best information available, make projections of the most likely future world food situation.

When the foreign economic analysis was transferred from FAS to the new ERS, there was some confusion on the responsibility for commodity analysis. Nate Koffsky, the new administrator of ERS, and Bob Tetro, administrator of FAS, signed a Memorandum of Understanding in October 1961, which stated, "It is recognized that both Services are concerned with development of commodity information as it affects trade, although from different viewpoints: ERS from the viewpoint of research; FAS from the viewpoint of operations. Cooperative work on commodities, therefore, is likely to be desirable in many instances." With this foggy division of labor, we have been struggling to cooperate ever since. However, the ERS responsibility and preeminence in foreign country analysis has never been challenged. When the chips were down, it was this strength that made ERS analysis prevail. I hope this will always be the case.

ERS had its own problem of division of responsibility in foreign information, between the Foreign Regional Analysis Division and the Development and Trade Analysis Division. I resolved this problem the first day I was Administrator by making one division of two.

Improving Information on the World Food Situation

Beginning with the work on the World Food Budget, ERS set out to improve the information available on production and consumption of food worldwide, and improve the methodology for making projections under different scenarios. Using foreign currencies available under PL-480, ERS contracted with research institutions in the major food-producing and food-consuming countries to study the supply and demand for the major food commodities in the country and project the most likely scenarios for 10 and 15 years ahead. Where useful information was not available on patterns of consumption, the studies frequently included consumption surveys. Thirty-two studies were successfully completed. They provided an information resource never before available and have been the backbone of the food projection work of ERS and other institutions concerned with the world food situation.

During this same period, the Agency for International Development contracted with ERS to make a series of studies on "Demand Prospects for Agricultural Products of Less Developed Countries." These covered the major export commodities of the developing world and were published in a series of documents such as "World Demand Prospects for Grain in 1980, with Emphasis on Trade by the Less Developed Countries." These studies provided excellent companions to the country studies, giving world projections commodity by commodity to go with the country by country projections. ERS also did a benchmark study for AID in 26 developing countries, identifying critical factors affecting development and linking economic progress with increased agricultural imports.

Work was also progressing on methodology. The first World Food Budget was strictly a straight-line trend projection; plus some seat-of-the-pants

guesses. In the second food budget, we made use of the above studies underway and improved food balances for 92 countries. We also formalized our projection equations and tried to include the impact of income growth on consumption. But our real progress on modeling the future food situation began when Tony Rojko took over our projection work. His pioneering work on developing a world grain-oilseed-livestock (GOL) model remains the basis for USDA baseline projections.

The conceptional framework for food projections also changed. The food budget compared projected grain import needs of the less developed countries, calculated on the basis of certain nutritional targets, with projected production in the United States alone. More useful was to show how food consumption rises as population and income increase, and relate this to world production and trade trends.

Two good examples of how all this improved information and methodology were used by ERS are: Abel and Rojko, *World Food Situation: Prospects for World Grain Production, Consumption, and Trade (1970 & 1980)*, published in September 1967; and Willett and others, *The World Food Situation and Prospects to 1985*, published in December 1974. And, of course, there were the annual *World Agricultural Situation* reports, and reports at several of the annual outlook conferences.

This improved information and methodology, and especially the projections themselves, have provided a vital service to the many people and organizations, public and private, national and international, who have been concerned with the world food problem during this period.

It is interesting to note that, at the first FAO World Food Conference held in Washington in 1963, all the statistics on the world food situation were from FAO. There was nothing from USDA. For the 1974 FAO World Food Conference held in Rome, Don Paarlberg carried the latest ERS world food statistics and projections to Rome to the first preparatory meeting and Dale Hathaway (on the conference staff) incorporated them into all the world food situation analyses used for the conference.

In 1967, the President's Science Advisory Committee had a very pessimistic view of the world food situation: that the world was losing its capacity to feed itself. Ken Bachman and I were on the subpanel for "Projected Trends of Trade in Agricultural Products," along with Paarlberg and Hathaway (not then with USDA). We were able to convince the chairman, Lowell Hardin, that the situation was not that bad and that world per capita food production would continue to increase. This changed considerably the tone of the PSAC report.

It is not easy to take the calm, middle road. The public is interested in the polar views, whether pessimistic or optimistic. But, projections based on facts will prevail. I remember when Les Brown (then Administrator of USDA's International Agricultural Development Service) and I were called into John Schnittker's office (then Under Secretary) to decide whether ERS world food production trends, showing continued improvement in per capita production, or IADS trends, breaking downward from 1965, would be the official USDA statistics. I said there was no way a statistician could show such a break in the trend. Les said an analyst could determine a break in the trend due to the depletion of new farmland and no outlook for yield increases. The ERS trends, based on hard data and proven methodology, prevailed in Schnittker's office and thereafter.

Where Do We Go From Here?

ERS is not publishing many official projections of the world food situation today. But, then, we haven't had a real world food crisis (the shortage kind) since the early 1970's. ERS economists did present a paper at the International Conference of Agricultural Economists in 1988 on their views on the "Agricultural Outlook for the Year 2000, Some Alternatives." Also, FAO, the World Bank, and the International Food Policy Research Institute have published projections of the world food situation to the year 2000.

The emphasis today is on saving the environment. Les Brown has shifted from food to the environment. He states in his latest *World Watch* magazine, "Few magazines seek to change the course of history. This one does. Our goal is to help reverse the environmental trends that are undermining the human prospect." I think Les is providing the world a tremendous service with his new magazine and his very successful annual *State of the World*.

I support the concern for the environment. But here again, as with food, it is not as bad as some would picture it. The last issue of *Readers Digest* reported a bet made 10 years ago between Paul Ehrlich, one of the first doomsday prophets with his book in 1968, *The Population Bomb*, and Julian Simon, professor at the University of Maryland, who believes that human ingenuity could indefinitely expand the planet's carrying capacity. Simon bet that the real price of five key metals would be lower in 1990 than 1980. Ehrlich claimed that population pressures would create shortages and high prices. Real prices are lower and Ehrlich had to pay off.

Yet at Earth Day in Washington last year, Ehrlich, who has a new book, *The Population Explosion*, spoke to a crowd of 100,000 who applauded after he told them that population growth could produce a world in which their grandchildren would endure food riots in the streets of America. The same day, a block away, Simon said population growth was a victory over disease and death, and we should be jumping with joy instead of lamenting that so many people are alive. Only 16 people were there to hear this message.

In the April issue of *National Geographic* there is an article, "The World's Food Supply at Risk." Does this sound familiar? Let me quote a few sentences: "The diversity of our genetic resources stands between us and starvation on a scale we cannot imagine... It is estimated that by the middle of the next century, one-quarter of the world's 250,000 plant species may vanish, victims of deforestation, the shift to monocultures, overgrazing, water-control projects, and urbanization... Since plant breeders now manipulate germ plasm to produce few "improved" varieties, it has become essential to rediscover and protect the old strains. Their vigor and genetic diversity help provide insurance for the future of our food supply... By relying on a few crop strains instead of many, farmers open themselves to disaster." Yet, at the same time, the author says, "In more than a hundred countries, gene banks maintained by the stations of the Consultative Group on International Agricultural Research, national governments, seed companies and others form a network dedicated to preserving genetic diversity for world agriculture."

There is a message here for ERS. Pessimism still sways the public. Keep your powder dry. Continue to improve your ability to present a balanced picture of the world food situation so that you can keep a cool head whatever world food problem may arise.

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The International Dimension(s) of ERS Programs

Alex F. McCalla
University of California, Davis

It is indeed an honor to have been asked to participate in this 30th Anniversary Celebration of ERS. Let me start with a personal note. I have been a fellow traveler of ERS almost since its inception in 1961. As a graduate student of Elmer Learn's at Minnesota (1963-66), I was supported by an ERS cooperative agreement. The World Wheat Market Duopoly paper, which some people still cite, came from my dissertation produced with ERS support. As a young Assistant Professor at Davis, I was invited by Walter Wilcox in 1967 to consult on Tokyo Round GATT issues and prepared a "thought piece" for John Schnittker. Since a stint as Dean at Davis, I have received support from ERS more or less continuously in training several graduate students. The most notable, I believe, interaction with ERS (then ESCS) was from the inception of the International Agricultural Trade Research Consortium (IATRC) in 1979-80 through its maturation into a widely respected international association of trade economists. The Trade Consortium was the vehicle for my most intense interaction with ERS while completing the famous or infamous Embargo Study in 1985-86. I recount these connections only to hopefully establish potential credibility for the comments that follow.

Let me start by saying that I am a strong supporter of the existence of a national economic research and analysis capacity in agricultural economics and agricultural policy. An organization such as ERS plays a crucial national role in terms of data, analysis, modeling, and the evaluation of policy alternatives that no other organization can play. Thus to Willard Cochrane and his colleagues who re-created such an entity, goes much credit. Further to their credit was their insistence that such an organization must be concerned with international dimensions as well as more traditional domestic issues. In this sense, ERS is a more complete organization than its famous parent (one generation removed), the BAE. It is on the international dimension that I wish to concentrate.

Most of us do not realize that 1962 was the first year, since before the Depression, that U.S. agricultural exports exceeded agricultural imports. Or stated otherwise, prior to 1962 the United States was a net agricultural importer. It was not until another decade had passed (1972) that exports exceeded imports in value by more than $1 billion. All too often we remember only the recent glories, that is, 1981 with a trade surplus of $26 billion. Thus, the fact that from the beginning ERS had a built-in role in doing international trade analysis was foresightful and certainly was decades ahead of sustained interests in all but a very few U.S. land-grant universities. Further, what was going on then at places like Minnesota and Michigan State was stimulated by ERS support. As noted, my first involvement came on such an agreement, which was addressed to the implications for U.S. agriculture of the development of a Common Agricultural Policy in the European Community (EC).

A professor and former Dean of the College of Agricultural and Environmental Sciences, Alex McCalla has specialized in international trade policy.

The formation of the EC and its development over the period 1962-68 of a Common Agricultural Policy (CAP) was a major economic event that has had major impacts on agricultural trade. The CAP has switched the countries that now make up the EC from the world's largest importers of agricultural products to the second largest exporter. In less than the 30 years of ERS's existence, this major transformation has occurred. From the beginning, a steady program of research has been pursued, which has highlighted emerging trends, even if it did not alter Europe's basically protectionist course.

Since 1961, there have been four GATT negotiating Rounds--Dillon (in progress in 1961), Kennedy, Tokyo, and Uruguay (yet unfinished). In each successive one, the role of ERS has been expanded. The work done for the Uruguay Round was clearly prodigious and of high quality. It was objective and managed to produce results which policymakers did not like. Yet, despite apparent attempts to manage the flow of information, the results seeped out and contributed to the debate. Whether or not there is a conclusion to the Uruguay Round, the overall value of ERS work on measuring PSE's and CSE's, modeling alternatives, and country analysis will stand as permanent parts of the professional literature of agricultural economics.

The capacity of ERS to make these contributions follows from three essential characteristics of an applied economic research organization--continuity, a critical mass of competent researchers, and strong financial and staff support. All three of these characteristics are illustrated in the pioneering work of ERS in international projections and trade modeling. From the early work of Tony Rojko and his colleagues in building the GOL model through the current version, which I believe is still called SWOPSIM, there has been continuity, talent, and resources devoted to the steady improvement of the U.S. capacity to explore the ramifications of foreign policy change and possible GATT outcomes. Many models have been built and have atrophied because no individual or university has the sustained capacity to maintain them. While we can all criticize models, we still must realize that they allow us to simultaneously consider many more commodities, countries, and policies than the mind or the graphic model can.

That ERS has a comparative, if not absolute, advantage in doing this work should be obvious. No other institution in the world (and I include OECD and FAO) has the current knowledge of national agricultural policies in developed, developing, and centrally planned economies that ERS has. No agency has the access to current data and information as does ERS. And no agency has had the sustained capacity--both human and electronic--to model the interactions between domestic policies and international markets. It is the combination of these resources that makes ERS a national resource which needs to be sustained even when the Uruguay Round is passed.

In addition to building and sustaining this in-house research and analysis capacity, ERS has played at least three other important roles which deserve note. The first is the persistence which the international analysts have shown in pressing domestic policymakers to understand that U.S. agriculture is highly interdependent with global markets.

Because of our history of self-sufficiency and inward-looking domestic policies, both stemming from the 1930's, U.S. policy has often tended to give inadequate attention to international realities. While the shift to a two-price system in 1965 recognized that setting the loan rate at a level necessary to support domestic farm income, priced us out of international

markets, the United States still persists in attempting to manage supply and raise prices by reducing acreage. It is the analysis of ERS and others that shows clearly that in an international market, the benefits of supply control go as much or more to foreign producers, who incidentally bear none of the costs. This is but one example of where steady policy analysis in an open economy setting has prevented the United States from getting into more trouble than it has.

The second point is the support the ERS has provided to agricultural economists pursuing international research in the land grant universities. While the particular form of this sometimes uneasy partnership has varied, the continued availability of research funds has been invaluable to us in the hinterland. At a time when many State legislatures frowned on, if not forbade, international research and travel, ERS provided support for lonely economists who perceived international market analysis as being as important as the cost of producing hard tomatoes in Yolo County, California. In addition, these support mechanisms allowed for the training of the next generation of trade policy analysts who populate the land grants and ERS itself. There is a high degree of complementarity between ERS and the academic community. All too often, we academics fail to acknowledge the important role played by your organization. Let me say simply that without the support of ERS, there would be many fewer people capable of doing trade and international research.

The third area is the role of ERS in institutional development. Here I talk of the absolutely crucial role ERS has played in the evolution of the International Agricultural Trade Research Consortium. In 1978, a small group of West Coast agricultural economists, interested in agricultural trade, secured a Ford Foundation Grant to prepare a set of papers on the state of agricultural trade research. These papers were presented in a small seminar at Stanford in 1979. One of the people who attended was Ken Farrell. When we went to Ken later with the idea of starting regular meetings of interested agricultural economists, he was supportive and provided the original support in 1980. FAS and Agriculture Canada subsequently joined in supporting the IATRC. One of the explicit purposes was to provide a professional forum where people from universities and government research agencies could interact. The IATRC now has a membership in excess of 120 in more than 10 countries. The Consortium has published five volumes of papers from its organized symposia plus many other outputs including much valuable work relevant to the Uruguay Round. Finally, the existence of the Consortium allowed ERS to share the experience of doing the Embargo Study. In my clearly biased judgment, the IATRC is a very valuable professional mechanism for agricultural trade economists. Without the sustained support of ERS, it would not have persisted and prospered for now 11 years.

Well, I have rambled long enough. We came together today to celebrate the 30th Birthday of the Economic Research Service. Birthday celebrations are supposed to be events where we celebrate the past and look to the future. I chose to reflect, largely from personal experience, on some of the contributions ERS has made to the international policy environment. The record is innovative and strong. In a world of global interdependence, U.S. agriculture can never return to the relative security of the domestic market. Therefore, there will continue to be a need for competent, sustained, and objective analysis on a scale that no single individual or State institution can provide. Thus, I look forward to the future with an increasingly complex set of international issues to be addressed and the role that ERS must play.

In a world of domestic agricultural policy intervention and growing international markets, there will always be a demand for those of us who choose to put our toes in the ocean.

The History of BAE/ERS

Moderator: Walter W. Wilcox
Director of Agricultural Economics, 1967-69

As moderator of this session on the history of BAE/ERS and the agricultural economics profession, I hope to gain new insights on the period of my own professional activities, for I joined the BAE in January 1930.

I would like to call your attention to some of the developments which preceded the organization of the Bureau of Agricultural Economics in 1921-22. For this purpose, I turned to H.C. Taylor's monumental (1,000 pages) *The Story of Agricultural Economics*, covering the years 1840 to 1933, published in 1952. His report on the 1890's indicates that politicians and professionals already at that time were attempting to find remedies for the disproportionate drop in farm prices relative to nonfarm prices. A Senate committee investigated and reported on farmers' problems in 1894.

David Lubin, a California merchant and agriculturist, was convinced that export subsidies were the solution. I was surprised to learn that he offered prizes at the Universities of Wisconsin and Michigan for the best essays on "Protection and the Farmer." They were won by two students from Michigan who found little merit in export subsidies. Lubin continued his interest in farmers' problems and in 1905 was a leader in creating an International Institute of Agriculture to collect and publish national agricultural data.

I found that W.J. Spillman started work in farm management in the Bureau of Plant Industry in 1902. H.C. Taylor began teaching a course in agricultural economics at Wisconsin in 1902-03 and Hibbard was teaching a similar course at Iowa State in 1904. T.N. Carver was teaching a course in Economics of American Agriculture at Harvard in those years, and George F. Warren began teaching his course in farm management at Cornell University in 1907.

The American Farm Economics Association, now the American Agricultural Economics Association, was organized in 1910. A Division of Statistics was created in the Department of Agriculture as early as 1863 and a Section of Foreign Markets in 1894.

A Crop Reporting Board was created in 1905. Monthly reports on farm prices were started in 1910, and an Office of Farm Management was created in the Secretary's Office in 1915. A Bureau of Crop Estimates was created in 1914 and a Bureau of Markets in 1917. During the period from 1902 to 1921, substantial teaching and research programs in farm management and agricultural economics were developed at State agricultural colleges and universities in each of the 48 States.

By the time the Bureau of Agricultural Economics was established, there was widespread agreement among agricultural economists that much more could and should be done in the adjustment of farm production to market demands.

The Profession and the Public: Agricultural Economics and Public Service, 1920's and 1930's

Joel Kunze
Upper Iowa University

At the Second International Conference of Agricultural Economists held in 1930, E.G. Nourse of the Brookings Institute reminded his colleagues of their profession's "truly remarkable" growth during the previous decade. This discipline, "hardly beyond its infancy" just prior to the First World War, had matured rapidly due to an unprecedented expansion in "interest, funds, and activity." Explaining this development proved an easy task for Nourse. He related an anecdote about a friend of his who repeatedly volunteered to calculate the correlation between "the index of agricultural depression" and the number of agricultural economists. Nourse had no doubt that there would have been a high correlation. However, he reassured the audience that such a result "would not necessarily prove" that the growing number of agricultural economists was in fact the cause of the agricultural depression (6, p. 321).[1]

As implied in Nourse's remarks, the professional well-being of agricultural economics is intertwined with the health of the rural economy. This fact burdens agricultural economists with dual responsibilities that can be either complementary or contradictory. Agricultural economists have, of course, a responsibility to their constituency or clients. Those interested in the broadly construed economic sector of production, distribution, processing, and consumption of food and fiber utilize and, to varying degrees, depend on the services and expertise of agricultural economists. In addition to this service aspect, there is a duty to agricultural economics as a profession and as an academic discipline. That these responsibilities come into conflict should be obvious. It is, after all, a major reason we are commemorating 30 years of the Economic Research Service and not 70 years of the Bureau of Agricultural Economics.

The key to success for any profession lies in its ability to maintain the confidence, support, and patronage of its constituency. This was especially true for agricultural economists in the 1920's and 1930's. With few exceptions, agricultural economists were either on the faculty of a land-grant college, working at a State agricultural station, or working within the U.S. Department of Agriculture. Their individual livelihoods and that of the profession as a whole therefore depended upon public support, which translated into appropriations from State legislatures and from Congress. That the new profession "hardly beyond its infancy" had the confidence of its constituency is evidenced by the record of accomplishments during the 1920's. Developments at the Federal level include:

1. 1919--The Office of Farm Management was reorganized and its scope expanded. It was renamed the Office of Farm Management and Farm Economics to reflect the changes.

Joel Kunze teaches history and has done extensive research on the early history of the agricultural economics profession.

[1]Underscored numbers in parentheses refer to sources listed in the References at the end of the presentation.

2. 1922--The establishment of the Bureau of Agricultural Economics achieved through the merger of the Bureau of Markets and Crop Markets and the Office of Farm Management and Farm Economics. While developing programs to alleviate the problems of agriculture, the BAE quickly became the premier economic research agency in the world and a leader in the development of quantitative analysis techniques.

3. 1925--Passage of the Purnell Act which increased appropriations to agricultural experiment stations for new lines of investigation, most notably the economics of agriculture. In 1927, for example, the Purnell appropriations constituted 90 percent or more of the available funds for agricultural economic research in 21 States.

The profession grew in other ways as well. In 1922, there were 82 graduate students (62 master degree level, 21 doctorate level) in agricultural economics areas in U.S. colleges. In 1930, this number had grown to 352 students (196 master degree level, 156 doctorate level). From 1927 to 1930, the number of agricultural economics graduate students increased 20-25 percent each year. Agricultural economics was growing also as a profession:

1. 1919--Formation of the American Farm Economic Association and the beginning of publication of a professional journal, the Journal of Farm Economics.

2. The profession's ability to secure private funding to develop itself. Most significant was the Advisory Committee on Social and Economic Research in Agriculture of the Social Science Research Council. The Advisory Committee was established in 1926 with funds from the Laura Spelman Rockefeller Memorial. The Advisory Committee administered several major projects:

   a. A comprehensive survey of agricultural economics research being conducted at the experiment stations.

   b. Publishing a "research handbook" to illustrate proper methodology and technique.

   c. Publishing 21 volumes on the subfields of the discipline.

   d. Establishing a Committee on Fellowships in 1928 for 5 years, budgeted with $150,000 to fund 107 fellowships for graduate education in agricultural economics and rural sociology.

All of this support for such a young profession did not go unnoticed. Dr. John R. Commons of the University of Wisconsin remarked in 1931:

> So I would say that the Agricultural Economists have made far greater progress than has been made by any other branch of economists by the simple fact that you are in all the States, that you have financial support, that you realize more than I find in any other group of economists the importance of actually working with farmers or what I call your constituents and feel that you must work with them and you are working with them (1).

Why was such a relatively new profession able to secure for itself such a commitment of resources? The answer is clear. Agricultural economists were

viewed as having the potential to remedy the economic problems of agriculture. But along with this manifested "hope" of aid came complaints that the agricultural economists were not doing what had been expected of them. If agricultural economists have the special knowledge to solve the problems, why haven't they? This was the question that was being asked repeatedly in the 1920's. Agricultural economists were characterized as "Buddhas contemplating their respective navels." Henry A. Wallace divided the profession into two groups: those who thought and those who didn't. In his opinion, most members belonged to the latter group (2).

Agricultural economists were not only criticized for their apparent inactivity. They were pilloried for questioning the practicality of farm relief plans advocated by others. A common example of these hostile feelings is a 1923 editorial from The Prairie Farmer titled "The Counsel of the Timid:"

> They have no solution for the farmer's difficulties. They are content to pick flaws in other people's solutions. It must have been an agricultural economist who said that "a certain number of fleas are good for a dog. They keep him from forgetting that he is a dog." By the same token low prices are good for a farmer. Otherwise he might forget that he is a tiller of the soil and buy a Cadillac. (8)

Criticism of the profession led some agricultural economists to try and insulate themselves from the political aspects of the farm relief debates, especially when the criticism threatened "scientific inquiry" and the freedom to speak one's mind. About 1927, George F. Warren of Cornell University drew up plans for an institute of graduate studies in agricultural economics. It would have been funded from an endowment from private sources. Warren hoped to make the institute financially independent of State funds so faculty and students could freely address questions that would possibly lead to political problems.

The BAE since its establishment was in the midst of political debates and struggles of power over the direction of farm relief in the 1920's. The early years of the BAE were marked by a battle between Secretary of Commerce Herbert Hoover on one side and Secretary of Agriculture Henry C. Wallace and the BAE's first chief, Henry C. Taylor, on the other. Hoover would prove victorious following the death of Wallace when a person more in line with his approach, William M. Jardine, was appointed Secretary of Agriculture and Taylor was forced out of the BAE. Taylor knew this was going to happen.

Shortly after the death of Wallace in the Fall of 1924, Taylor began putting out feelers for employment outside of government. But he also tried to continue the development of the BAE's staff as a means to insulate it as much as possible. In a letter to the future Secretary of Agriculture Henry A. Wallace, Henry C. Wallace's son, Taylor remarked how he hoped to staff the BAE with men of the caliber of Howard Tolley and Mordecai Ezekiel in order to build a staff "that will continue through a long period of years to render valuable service regardless of what may happen to the Secretary of Agriculture or to the chief of the Bureau" (9).

One trend of the economics profession and of agricultural economics in particular during the 1920's was a growing quantitative sophistication. This advancement in technique was an outgrowth of the dual responsibilities of the profession. Agricultural economists became concerned about the usefulness of their research and a movement began to make it more scientific--to standardize

quantitative techniques. Even more crucial was the service aspect. The BAE initiated the outlook program to supply timely economic information to farmers so they could make rational adjustments. To meet this demand for information, quantitative techniques had to be developed to yield the necessary forecasts and estimates. The growing mathematical and statistical sophistication of the BAE and of the profession brought about a new problem: communicating the validity of their estimates and forecasts to the public.

This problem of credibility was not a new one. During the First World War the Office of Farm Management came under congressional scrutiny when administrators had to admit that the results of a recent survey of the cost of production of wheat were totally worthless due to inappropriate survey techniques. From that point until the New Deal, every appropriation bill carried a limit on the amount of funds the Office of Farm Management and the BAE could spend on cost of production surveys.

USDA, in November 1926, issued Department Bulletin No. 1340, "Factors Affecting the Price of Hogs" by George C. Haas and Mordecai Ezekiel. Haas and Ezekiel had developed a formula for forecasting live hog prices using futures market prices. On November 27, 1926, the Washington Post ridiculed the bulletin in an editorial titled "Einstein and Hog Prices." The mathematical complexity was the focus of concern. As the editorial stated, all a farmer needs to know to predict the price of hogs is a "thorough knowledge of logarithms, Euclid, the rule of three and the Einstein Theory." In two subsequent editorials in December, the Washington Post provided an explanation for the massive increases in USDA appropriations. They were due to the "great strides in hog astronomy" (11).

Others thought the BAE's outlook was too well received and far too influential in determining market prices. In April 1925, Henry C. Taylor received the following telegram from a potato growers association: "We will be much obliged to you if you will keep your mouth shut about the potato acreage for 1925."

The BAE received the most flak concerning its estimates and forecasts of cotton crops and marketings. There were several congressional investigations during the 1920's, each trying to ascertain the impact of USDA's cotton reports on prices. Generally, the service deemed necessary by the BAE to help the cotton producer was viewed as harmful by cotton exchanges and southern politicians. Because of this hostility to the cotton reports, laws were enacted limiting and prohibiting certain types of cotton forecasts and estimates. During the Hoover administration, there was a moratorium on making forecasts public to prevent a further depression of farm prices. Only those with a "need to know" would be notified of the BAE's forecasts of the economic future of agriculture.

The service aspect of the profession sometimes led some members astray. To meet the demands for farm relief, some agricultural economists rushed research projects resulting in hasty, ill-conceived collections of unanalyzed numbers. It was a temptation to conduct a quick survey of farm costs and issue it as an experiment station bulletin and say you had fulfilled your obligation as an agricultural economist to provide meaningful help. John D. Black believed this was an all too prevalent problem that needed correcting. His solution called for a greater emphasis on research that would be of lasting importance to the profession and contribute to a growing body of economic theory. He

urged his colleagues to ignore the pressures to slap together some research that would be meaningless as soon as it was published.

This tension between the "service" aspect of the profession and the responsibility to the discipline itself created an ironic situation. In their desire to aid the farm public, to respond to calls for action, agricultural economists hurried research or carried out poorly planned projects. By trying to produce immediately useful results, the future of the profession was jeopardized. If it continued, the public's trust would be betrayed and agricultural economists could lose their support. Too much emphasis on developing a theoretical base, however, was just as dangerous. By devoting little attention to the immediate problems of farmers, agricultural economists also would jeopardize public support. What was necessary was carefully guiding research so as to meet the immediate demands of the farm public and produce results that would contribute to the lasting knowledge base of the discipline.

The concern for establishing a theoretical base of agricultural economics was symptomatic of a larger debate within all of economics during the 1920's. The fear existed that quantitative analysis was becoming so dominant that theory was being totally ignored. This debate even found its way into the pages of the *New Republic*. In an unsigned article, "The Confessions of an Economist," the author predicted a bleak future for economics because no one was trying to develop grand theories to unify all of economics. There was no longer any consistent body of principles. Instead, the emphasis was on aiding business to find profits: "Instead of fingering the philosophic flute we sway the seductive saxophone in the jazz band of big business" (5).

At a 1931 "Conference on Economic Policy for American Agriculture" one question dominated the proceedings: Why haven't agricultural economists played a greater role in leading agricultural policy? The question, while challenging the progress of the discipline, actually attests to the development of the profession. The fact that agricultural economists assumed that they should play a leading role illustrates the progress the profession had made when just a decade earlier it was "hardly beyond its infancy."

With 60 years of hindsight, we now know that the profession, which had matured into adolescence during the 1920's, would be forced by the circumstances of the 1930's to mature even more rapidly. The depression and the new responses to ameliorate and solve the great difficulties thrust even greater responsibility upon the members of the agricultural economics profession. While the particular circumstances were more critical and the urgency greater, agricultural economics faced the same set of issues it had in the previous decade. There still were the tensions and conflicts created by the sometimes conflicting responsibilities to the public and to the profession itself. Describing agricultural economics in the 1930's brings to mind a very applicable adage: the more things change, the more they stay the same.

The profession made great progress during the New Deal. It acquired a sense of self-confidence fostered by the New Deal's climate of experimentation, of making a difference, and of being able to do more than just make never-implemented plans. New programs were tried: some were successful, some were not. There were new organizations like the Agricultural Adjustment Administration, the Soil Conservation Service, and the Farm Security Administration (AAA) to name a few. Each one had its own objective and

particular set of concerns providing challenges, opportunities, and headaches for the growing numbers of agricultural economists.

The increased support and encouragement were beneficial for the profession. But there were also some drawbacks. One example is the issue of jurisdictional boundaries between the BAE and the AAA. Which agency should do which type of economic research? Should the BAE do all the research for both agencies or should it do only long-term studies, leaving the immediate, emergency type of research to the AAA? AAA officials wanted to be able to do their own research independently of the BAE. Nils A. Olsen, chief of the BAE until April 1935, wanted all research to be conducted by his agency and he wanted increased resources to meet the increased demand. Olsen felt threatened by what he deemed encroachment by the AAA, as evidenced by his description of the introductory remarks made at a meeting with AAA officials:

> I greeted them by asking them to put all firearms on the large table, but that if it came to using machine guns I wanted real action and wanted to make sure there was no jamming of guns. (4)

Agricultural economists continued to ask the same questions about their profession and about their responsibilities to it and to the public. A.G. Black concluded in 1936 that agricultural economists had made little actual contribution to agricultural policy. He believed it was still too soon to expect such leadership, it was too young. Not until the profession had aged to a suitable degree and had developed a "baseline" of economic theory could agricultural economists fully influence policy. Three years later C.E. Ladd believed the profession had made some progress toward the developing of a knowledge base:

> As economists we have been subject to the usual whims and transitory programs but in spite of these have built slowly and consistently towards a larger and broader fund of factual material and new principles of economics to guide us in this field. (3)

This disciplinary progress had come, in Ladd's opinion, not without some drawbacks:

> We have done our part to clutter up the language with new so-called scientific terms or jargon of the profession. Many of these are intelligible to the scientist and of little value in making our statements more definitive. (3)

To show how little the profession had come with dealing with its most fundamental conflict one can turn to the 1941 remarks of Horace Porter of the BAE:

> Every worker in the field of agricultural economics has an opportunity to develop individually and to contribute to the future course of his science. These are his privileges, but like all privileges they are accompanied by responsibilities which in this case include remaining ever alert, making the most of every opportunity to develop the work of agricultural economics, and in so doing effectively resisting all pitfalls. (7)

What were the pitfalls? "Playing up to the whims of the public." "Yielding to pressure to expand work and hire unqualified persons." The pitfalls were

the jeopardizing of professional standards while attempting to serve the public.

While the profession was criticized both by the public and by its own members for not doing enough during the 1930's, most complimented agricultural economists for moving in the right direction, for taking a more active role than they had in the 1920's. The Secretary of Agriculture praised the USDA's agricultural economists. He called them "truly extraordinary individuals" with a "practical and developed sense of balance." At the same time, Wallace urged them to push forward to reform economic life because, as he phrased it, we all "must serve some deeper end in human life" (10).

Ultimately, it was the attempts to make Wallace's urging a reality that brought about the fragmentation and demise of the BAE. As professionals, agricultural economists display confidence in their expertise and in the potential for change if they fully marshal their knowledge in the cause for reform. By the end of the 1930's, the BAE was heading in this direction. Secretary Wallace in 1938 made the BAE the overall planning agency within the USDA.

The BAE began a nationwide program to develop long-range planning options using thousands of local planning committees. The objective was to formulate plans for fundamental changes in the agricultural economy to ensure an adequate supply of food and fiber while guaranteeing a higher standard of living for rural Americans. But these plans for permanent agricultural reform were stopped because of the basic conflict between service to the public and professional responsibilities. Influential public groups felt threatened by what the agricultural economists were trying to do. The public did not want the kind of help the experts were offering. The public turned against the professional expertise of agricultural economists and halted them, leading to the demise of the BAE in 1953.

Agricultural economics had matured. Perhaps it had matured too rapidly. The traumatic conditions in rural America following the First World War pressured the recently born profession to do something. Conditions, of course, would only get far worse a decade later. Dealing with the dual responsibilities to profession and to public is difficult at any time but especially during a time of crisis and even more so for a profession that was confronting the issues for the first time. In the end, the balancing act between the responsibilities, for those in the BAE, would shift to the public who demanded that agricultural economists listen to them.

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The Economic Research Service: Thirty Years of Research and Service

Wayne D. Rasmussen
Chief Historian, USDA, 1954-86

During the past 30 years, the Economic Research Service has had five administrators who have served under nine Secretaries of Agriculture and nine Directors or Assistant Secretaries for Economics. Appropriated funds have increased from $9.4 million in 1962 to $54.4 million in 1991, but the staff has decreased from 1,140 to 730 persons. The agency has undergone several reorganizations, three of which might be considered major, and it has been housed in three separate buildings.

The first administrator of ERS, Nathan Koffsky, stated early in his administration that the Agency's programs were "directed toward finding answers to current and emerging problems of agricultural production, marketing and distribution." In 1991, administrator John E. Lee, Jr., stated that the mission of ERS was "to provide economic and other social science information and analysis for improving the performance of agriculture and rural America." This paper is confined to a discussion of the structure and organization of the Economic Research Service.

The Economic Research Service was established on April 3, 1961, by Secretary's Memorandum 1446, Supplement 1. The action was taken in large part because of the interest of Willard W. Cochrane, Director of Agricultural Economics under Secretary Orville L. Freeman. Cochrane, early in his career, had worked for the Bureau of Agricultural Economics and had later opposed its abolition.

Secretary Freeman saw the new agency helping "the Department develop a food budget that will give hard figures on normal needs of food and fiber for our own people, supplemental needs for distribution to the needy, and overseas needs in terms of our foreign economic program." Cochrane also was an advocate of using surplus agricultural products to meet needs, while taking strong measures to curtail the production of unneeded surpluses.

The new Economic Research Service differed from the Bureau of Agricultural Economics in two vital respects. First, the administrator reported to the Director of Agricultural Economics rather than to the Secretary of Agriculture. This meant that the Director of Agricultural Economics, later renamed the Assistant Secretary for Economics, could take an active part in managing the Economic Research Service. This has not happened, perhaps because the directors and assistant secretaries have been true professionals and because they have had a full-time job in the policy area. Second, the collection of crop and livestock estimates became the responsibility of the new Statistical Reporting Service. In addition, a Staff Economists Group was established to take the responsibility for policy analysis and for the economic and statistical review of program actions. Thus, the ERS administrator, unlike early BAE leaders, stood two steps away from the Secretary of Agriculture and was insulated, to a degree, from controversial recommendations for political action. As for crop and livestock estimates, the administrator could ask that certain things be done. The BAE chief could have directed that they be done.

The Agency included work previously assigned to the Agricultural Marketing Service, Agricultural Research Service, and Foreign Agricultural Service. The transfer of economic research from the Foreign Agricultural Service met with some resistance from FAS and from some of the people transferred.

The ERS administrator, Nathan M. Koffsky, a career civil servant, had joined the staff of the Bureau of Agricultural Economics in 1934 and had moved up steadily in rank. After BAE was abolished, he became deputy administrator for economics and statistics of the Agricultural Marketing Service.

Koffsky organized ERS under a deputy administrator for agricultural economics and a deputy administrator for foreign agriculture. The deputy administrator for foreign agriculture was responsible for two divisions: agricultural regional analysis and development and trade analysis. After some shifting from the original organization plan had taken place, the deputy administrator for agricultural economics had three divisions: economic and statistical analysis, farm economics, and marketing economics. On December 4, 1962, Koffsky announced the establishment of the Resource Development Economics Division to conduct economic research and service work related to "institutional and group activity in the use, development, conservation, and management of rural resources. This will include economic development, rural renewal, river basin and watershed programs, and resource policy." The new division consisted of two branches from the Farm Economics Division, which was renamed the Farm Production Economics Division.

Koffsky was a "hands-on" administrator. His distinguished work in the farm income field and subsequent assignments had given him a wide knowledge of most of the lines of work, with the possible exception of the foreign economic research, which permitted him to take an active part in the programs of the new ERS. His insights were particularly valuable in the "bread and butter" work of the agency--outlook and situation.

When the Economic Research Service was established, the only new task specifically assigned to it was the development of a "food budget." The *1962 World Agricultural Situation* was issued on September 18, 1961, and was followed by *The World Food Budget, 1962-66* in October. These documents supported and gave direction to a policy decision which had already been made--to greatly increase the overseas shipments of American agricultural surpluses. The praise which the *World Agricultural Situation* received led to its regular issuance.

Koffsky was only marginally successful in securing increased appropriations for the agency, even as it was assigned new duties. Nevertheless, he was more successful than some of his successors.

Perhaps the problem is that economics has never been particularly appreciated in Congress, particularly by Jamie L. Whitten of Mississippi, chairman of the House Appropriations Committee and the person largely responsible for the demise of the Bureau of Agricultural Economics. As Whitten has put it more than once: "You insist on having a Bureau of Agricultural Economics. It is my judgment it costs you about a million or a million and a half dollars a year to carry that title, because it is hard to sell."

During the 1960's, ERS was called upon for background and backup material for programs to upgrade the rural environment, provide for rural development, and overcome poverty in rural America as agriculture's part of President Lyndon B.

Johnson's goal of establishing a "Great Society." Much-expanded programs were developed within the Department of Agriculture with the help of ERS, but these were subsequently postponed by President Johnson until the United States "won the war in Vietnam." However, both the Great Society and wartime programs put enough pressure on the agency that Koffsky called for a balanced program of fundamental and applied research. He also stated that the time was coming when the staff must concentrate its people and its facilities to improve the quality of research, hinting that something would be done about the field organization.

In 1965, Koffsky became Director of Agricultural Economics and M.L. Upchurch became administrator of ERS. Upchurch had had a long career in ERS and its predecessor agencies, working mainly in the area of farm production economics. Shortly after becoming administrator, Upchurch called a conference at Front Royal, VA, to consider the report of a program evaluation committee and to propose any needed changes in organization. As a result, the Economic Development Division was created on August 13, 1965. The major part of the new division came from the Resource Development Economics Division, renamed the Natural Resources Economics Division. The Development and Trade Analysis Division was renamed the Foreign Development and Trade Division.

Upchurch continued to give emphasis to farm economics and emphasized the problem-oriented approach to research. He was quite successful in obtaining funds from other Department agencies to finance certain lines of work, particularly in the foreign, natural resources, and economic development areas. Such funds provided for 128 man-years of employment in 1968. However, there was some danger in relying on such funds--they could be, and sometimes were, cut off or decreased with little advance notice. Funds from the Agency for International Development (AID) financed a spectacularly successful report, "Changes in Agriculture in 26 Developing Nations," which appeared late in 1965. Its success meant that AID continued to fund foreign research in ERS for several years.

In 1967, Upchurch called ERS the economic intelligence arm of the Department, apparently the first use of what has become a very widely used term. He listed eight areas that he considered of most importance for ERS research: fundamental structural changes in farming, changes in commercial farming, farm finance, income position of the family farmer, decline in use of farm labor, employment of land and water resources, rural welfare, and export markets. When Upchurch left ERS early in 1972, the Agency seemed to have three functions; supply basic economic data, evaluate policy as required, and provide prompt answers to pressing economic questions.

Although Upchurch held a civil service position, as have all administrators of ERS, he resigned shortly after a change in the political parties in the White House. It might be noted no administrator of either the Bureau of Agricultural Economics or the Economic Research Service has long survived a change in political parties heading the administration.

The appointment of Quentin M. West as successor to M.L. Upchurch on January 9, 1972, led to the consolidation on February 6 of the Foreign Economic Development Service (FEDS) into the Economic Research Service as the Foreign Development Division. West had been administrator of FEDS when he was named to head ERS.

West was one of the most successful administrators of ERS in securing additional appropriations from Congress. Sometimes he received funds he really did not want. For several years, for example, Congress appropriated small sums to study the economics of predator control. On the other hand, West asked for and after a year received funds for the economic analysis of programs relating to agriculture being considered by the Environmental Protection Agency.

On July 8, 1973, a major reorganization of the Service became official. Planning had been underway for about a year and various proposals had been the subject of study by agency and advisory committees and of a broadly representative ERS conference. Work was divided into two groups: food and fiber economics, and resource and development economics. The divisions of farm production economics, marketing economics, and economic and statistical analysis were abolished and their functions assigned to two new divisions called commodity economics and national economic analysis. These, together with the Foreign Demand and Competition Division, made up the food and fiber economics group. The resource and development economics group included the community and human resources, natural resource economics, and foreign development divisions.

The reorganization also saw the abolition of the traditional branches and sections and their replacement by "program areas" and "projects." Assignments of personnel were to be fluid, changing as circumstances warranted. Distinctions between the headquarters and field staff were to be done away with, and a few program area leaders were appointed to work outside Washington. The new structure did not fit traditional civil service concepts, and ERS had problems getting what it considered to be the proper grades assigned to positions. Many staff members objected to the fluid assignment concept, which included working with task forces and so-called matrix groups. Such aspects of the reorganization had an unfortunate effect upon morale within the Agency.

Other changes also took place in 1973. The Economic Development Division was transferred to the Rural Development Service and back again, reflecting perhaps the continuing ambivalent attitude toward economic development shown by the Department over three decades. Market research functions were transferred to ERS from the Statistical Reporting Service and a new Division of Information was established in ERS. During the next several years, task forces reviewed several of the major functions of the Agency, but no major changes took place.

In 1977, the new administration established the Office of International Cooperation and Development with West as administrator. He was succeeded as administrator of ERS by Kenneth R. Farrell, who had had several years of experience in ERS but in 1977 was with the Giannini Foundation of the University of California. Farrell was well known in the agricultural economics profession and was able to strengthen the relationship of ERS with the land-grant universities. While not a hands-on administrator, Farrell was determined to improve the quality of research in ERS, particularly in outlook and situation work and in farm income analysis. However, he was soon caught up in a major reorganization, the results of which demanded his attention for most of his term as administrator.

When Jimmy Carter was inaugurated as President on January 20, 1977, he entered office with a pledge to reduce the number of government agencies, a pledge

which led to some ill-considered and virtually unworkable changes in organization within the Department of Agriculture. On December 23, 1977, the Economic Research Service was combined with the Statistical Reporting Service and the Farmer Cooperatives Service to form the Economics, Statistics, and Cooperatives Service. The work previously carried on by ERS was continued under a Deputy Administrator for Economics. That position was filled by J.B. Penn. The work was carried out by the five divisions previously established: Commodity Economics, National Economic Analysis, Foreign Demand and Competition, and Economic Development. The Foreign Development Division had ended with the transfer of many of its functions to the new Office of International Cooperation and Development.

Farrell was an experienced administrator and he was determined to make the new organization succeed. From a historical viewpoint, the chances of success should have been good because all three of the agencies had been together earlier in the old Bureau of Agricultural Economics. However, the two smaller agencies had each built up strong constituencies. The Statistical Reporting Service worked closely in each State with a State statistician and, indeed, financed part of the State statistical work. The Farmer Cooperatives Service was supported by cooperative organizations and by individual cooperatives as the one agency in the Federal Government concerned with the well-being of cooperatives. Combining the agencies moved each of them one more step away from direct contact with the Secretary of Agriculture.

Secretary of Agriculture Bob Bergland received floods of letters protesting the reorganization. He and Assistant Secretary for Economics Howard Hjort also had to answer pointed questions from Congress about its wisdom. First the Farmer Cooperatives Service broke away and was reorganized as the Agricultural Cooperatives Service. The entire ill-fated reorganization came to an end on September 30, 1981, with the separation of the Statistical Reporting Service and the reconstitution of the Economic Research Service. Farrell resigned and returned to the University of California system as vice-president for agricultural affairs.

With the resignation of Farrell, John E. Lee, Jr., was appointed acting administrator by the new administration. The administration moved rather slowly in filling vacancies, but after some months Lee was appointed administrator. He has held that post longer than any other administrator either of ERS or the old BAE. Lee had spent virtually his entire career in ERS, joining the staff shortly after the Agency was organized. He worked first in agricultural finance and production economics, but acquired experience in many aspects of the Agency's work. Perhaps because he knew the Agency so well, Lee, for the most part, delegated the direction of research and the conduct of service work to his division directors. He was then able to give attention to strengthening the Agency with other agencies of the Department and the Federal Government, the agricultural economics profession, and the land-grant universities. At the same time, he was available to staff members and knew virtually every member of the staff of 850 permanent full-time and 80 part-time employees assigned to the Agency in 1982.

Lee saw ERS as having a broad function. As he put it shortly after becoming administrator, "the principal function of ERS is to serve the critical need for timely and reliable agricultural economic information (research, forecasts of major agricultural economic indicators, policy analysis, and data) that addresses the multitude of economic concerns and the decision-making needs of farmers, extension workers, private analysts, processors, marketers, input

suppliers, and policy officials in the Federal Government, Congress, and State and local governments." He emphasized the need for ERS to carry out its responsibilities in cooperation with other agencies and institutions.

When Lee became administrator, he kept in place the four divisions existing when ERS was reconstituted as a separate agency. They were: National Economics, International Economics, Natural Resource Economics, and Economic Development. He reached a decision in 1982 to conduct an orderly closeout of the field staff, offering field personnel an opportunity to move to Washington. This was a controversial decision that was debated in the Agency, the Congress, and the land-grant universities.
Among arguments in favor of closing the field offices were: such field offices were often identified with local problems and local institutions and offered little in the way of research and data useful to developing the national picture for which ERS was responsible; staff members gave most of their attention to the institutions to which they were attached rather than to ERS; and ERS could no longer devote attention to such local problems as farm finance and farm management, but could safely leave them to the land-grant institutions.

Arguments against closing the offices included the idea that it was necessary to have people on the staff who were actually in touch with farmers and their problems, that cooperative projects with the land-grant institutions could be developed and carried out most effectively when ERS had staff members at the institutions or at least in the region, and that local staffs brought support for ERS and its programs. However, the field staffs were closed out, a step that is still sometimes debated. The type of work dealing with local problems, including farm management, that Lee saw as being picked up by departments of agricultural economics, has been left to the agricultural extension economists, who, incidentally, may be doing a better job than was done previously.

In 1987, Lee undertook a major reorganization of ERS. After it took place, the Agency still had four divisions: Commodity Economics, Agriculture and Trade Analysis, Agriculture and Rural Economy, and Resources and Technology. There was a limited shifting, renaming, and abolishing of branches. The unique feature of the reorganization, though, was that staff members were permitted to apply for any position for which they were qualified and in which they felt they could make a greater contribution to ERS. A number of people were shifted, but most were not. Nevertheless, this unusual approach stimulated many staff members to take a closer look at ERS and their jobs. Some were pleased with this approach, others were confused. Perhaps one saving grace was in the sentiment expressed by one person but probably felt by many: "I don't care what fancy name they give the office. I know my job and I just go ahead and do it the best I can."

As noted earlier, in 1991 the mission of the Economic Research Service was "to provide economic and other social science information and analysis" to those needing it. This information was being provided to the public through research monographs, reports, and such highly regarded journals as *The Journal of Agricultural Economics Research, Agricultural Outlook, Farmline, National Food Review*, and *Rural Development Perspectives*. Staff members also were presenting scholarly papers at national conferences and were working with radio, television, and newspaper reporters.

Over a period of 30 years, the Economic Research Service has truly been the economic intelligence arm of the Department. During that period of time, it has been a national leader in developing computer technology as a tool for research and analysis, something taken for granted in 1991, but far from certain 30 years earlier. Analytic models developed in ERS have been widely adopted. These models permit researchers to examine the national and world agricultural economies in ways that were hardly dreamed of 30 years ago. There have been marked improvements in the entire data system and ERS has been truly innovative in disseminating this data.

ERS has earned a reputation for presenting accurate and impartial economic analyses of proposed policies and programs and of the results of USDA programs. It has continued to carry forward at least a modest program of work in rural development since it began such work in 1954, even though Congress and the Department have vacillated widely in the support given it. While most of the work by ERS is economic, there has been a substantive increase in work in the other social science disciplines, particularly during the past 10 years.

There have been, of course, continuing problems. ERS has not been completely successful in persuading either the Office of Management and Budget or the Congress of the value of its work. While work in the social sciences has increased, it is not clear that it has had an impact on other ERS programs. ERS has lost its capacity for substantive foreign country economic analysis even as it is called upon for more foreign trade analysis. But none of these matters are cause for weeping. Rather, they remind the leadership and staff that there is work to be done. Much has been done; much more can be done. The five administrators can be proud of their accomplishments just as we who have worked with them are proud of them.

The five administrators have accomplished much in the past 30 years, but we should remember that they would have accomplished little without the dedicated service of the thousands of staff members who have worked in ERS during that time. Let me just mention a few from the past who contributed for many years and let them stand for you and me and all of the others who have served or are serving in the Economic Research Service.

Frederick V. Waugh was a man for all seasons. He not only developed the theoretical base for much of our work in analytical statistics and modeling, but he also proposed the food stamp program. John M. Brewster was a distinguished philosopher whose studies relating to agriculture are still read and, at the same time, an award-winning expert on fats and oils. Lazar Volin was quiet and unassuming, but he was the Nation's outstanding authority on Russian agriculture. Gladys L. Baker advised Secretaries and Assistant Secretaries of Agriculture on departmental organization while working with many graduate students in agricultural history. Alma Holland was an outstanding secretary and administrative assistant and, like Catherine Heberle, who was first a secretary and then an administrative assistant, helped keep ERS functioning.

Anthony Rojko and Allan Paul had something in common. They were both able researchers, but they were also persons their colleagues turned to when they needed advice on solving particularly complex statistical and modeling problems. Kyle Randall made farm income statistics a useful tool for policy analysis; when he said that they were right, they were right. Gladys Bowles brought some of the techniques and insights of sociology to bear on current

problems at a time when sociology wasn't "cool." Sherman Johnson was an across-the-board agricultural economist who was the first to forecast the impacts of new technologies on farm production after World War II. Royal Thompson was an administrative assistant whose attitude, when presented with a problem, was "I think we can do something about that." Burl Back was working with problems of land use and the environment when many of those now excited about them were still infants. Millie Jones and Frances Schwartz were key statistical assistants whose abilities contributed mightily to outlook and situation work. And we all remember Don Seaborg and his contributions to outlook and situation. Finally, some people retire and then do even more important things. I am thinking of Lyle Schertz and his editing of *Choices*.

Who have I left out? Literally, hundreds of people. Look around you and you will see some of them, look in a mirror and you will see another. I am proud that I have known so many of you and I am proud that I have been a part of the Economic Research Service. I hope that you are too.

Luncheon Presentations

Edward Madigan
Secretary of Agriculture

I just came back from about 2-1/2 days in California on the mother of all agriculture tours. We started out in Palm Springs, and wound up clear up north in San Francisco, and I got to see a lot of California agriculture in a hurry. I've had several occasions to be out there before, but this was not the happiest of trips because of both the freeze damage last winter and the drought that they're experiencing now.

So, I am back, trying to get into all the things that I have to get caught up with today and I apologize for not being able to spend more time with you. This is a busy job, and it is a fun job. I get to write a letter to the President every Friday. Last Friday I closed my letter saying, "Nice car, nice office, long hours, fun job." It is a fun job.

One of the experiences that I've enjoyed the most so far was the President getting upset about the Japanese threatening to arrest somebody from the American Embassy because this person had the temerity, the unmitigated gall, to display a package of American rice at a Japanese food fair. The President was a little exercised about that so he wrote me a note and he said, "I want you to do something about this."

So I wrote a letter to the Japanese agricultural minister and I said, "A lot of these rice farmers in the United States are driving Toyota and Isuzu pickup trucks. Two of my daughters drive Japanese cars. We have a Japanese television set, a Japanese radio, and a Japanese VCR. In fact, one of the telephones in our house is Japanese and this very day that you are threatening to arrest our American Embassy official, my wife is out buying a Panasonic vacuum cleaner."

Eureka vacuum cleaners are made in the district that I represented for 15 years. She went out and bought a Panasonic vacuum cleaner. It's a good thing I don't have to stand for re-election again out there.

But, I put all that in the letter and I said, "What's the message here, Mr. Minister? Should these farmers all quit buying these Japanese trucks or are we in favor of free trade?" And Gary Blumenthal, who has to be the greatest chief of staff that any Secretary of Agriculture could ever hope to have, said, "Maybe you don't want to send this letter. This is a pretty strong letter." He said, "Foreign Agricultural Service people will write a letter for you." I said, "No, this is my letter. I'm going to send this letter."

And I sent it, and I sent a copy of it to the President and the President wrote on the margin, "Outstanding letter," and sent it back to me. So I gave that back to Gary Blumenthal. I said, "Circulate this through the Foreign Agricultural Service." Well, we're here not to make fun of them. They're a group of wonderful people and they do yeoman work as does the Economic Research Service.

I have to tell you about Bruce Gardner. Bruce Gardner has gotten me out of trouble at least three times already in my short tenure and probably before the day is over he's going to get me out of trouble again. And he is the nicest guy in the world because he goes places with me and lets me make him the brunt of my bad jokes. He's not only a great economist, he's a great straight man. I'm told I'm not supposed to tell any jokes about economists today because I might not be able to get out of the room. Somebody said there were 500 of you in here.

I have to tell you just one story. I had Jack Kemp out in Illinois with me one time. And he had this grand proposal that he had been talking about for 3 weeks and every economist in the United States was criticizing it. And Jack was mad about that, and he got up to make this speech in Bloomington, Illinois, the same place that they make the vacuum cleaners.

He was speaking extemporaneously and he was getting ahead of himself. He said, "If you took every economist in the world and laid them end to end, . . ." There was this long pause and then finally he said in a soft voice, "Wouldn't that be wonderful?" Well, you are a wonderful bunch of people and you do wonderful work for this government.

Orville Freeman, I want to congratulate you for starting this whole process 30 years ago and I want to congratulate Dick Lyng and Jack Block and the other fine predecessors of mine who carried it on and I want to assure you of my commitment to the Economic Research Service. Kelly Shipp, who's standing over here, and also gets me out of trouble about twice a day, is another one of those wonderful USDA people.

She gave me some notes about things that I might talk about and she said, "You might recall when you were a student in high school and it was spring and you were in the math class and you were sitting looking out the window when you should have been listening to the teacher and the warm sunshine was pouring through the window and you were looking at the flowers in bloom." And I said, "You know, that's a true experience." I can remember that happening, only I wasn't looking at the trees and flowers. I was looking at the girls' physical education class that was out in the park across the street. That was a terrible distraction. Math lost out to girls.

So I am not very good at this economist stuff, but Bruce is and all of you are. We depend on you, and we are going to depend on you. You have had a great 30 years under Orville's leadership, under Dick and Jack and the other people who have been here, and I look forward to working with you in the future and wish you the very best for the next 30 years.

Again, I apologize because I can't stay any longer, but I'm playing catchup ball today, and I hope by the end of the day that my affairs will be in a little better order. It is very nice of you to ask me to come over and be with you. I wish that I could stay longer. Thirty years from now we'll spend a little more time together. Thank you and God bless you.

Introductory Remarks

Nathan M. Koffsky
Administrator, ERS, 1961-65
Director of Agricultural Economics, USDA, 1965-66

I was present at the birth of ERS, and I was here when Governor Freeman and his outriders came to Washington. Willard Cochrane was riding shotgun at that time. Governor Freeman came with great credentials and you can read some of them here in the program notes. After Governor Freeman became Secretary of Agriculture, the first Executive Order signed by President Kennedy was to expand the food distribution program for the poor. When ERS was pulled together from the Agriculture Marketing Service and the Agricultural Research Service and the Foreign Agricultural Service, it was the foreign part that he gave particular attention to.

Early on, there was the World Food Congress and the World Food Budget, which projected increasing food needs in developing countries. Now this type of projection became a kind of a cottage industry in all of the international organizations that were dealing with developing countries. A new Division was established in ERS to do research on the factors that made for success in agricultural development, and that also set a standard for that kind of research elsewhere.

The other part of the international interest was the Secretary's efforts to reduce trade barriers in U.S. farm products. The to-do in GATT at this point is only an extension of the "chicken war" that the Secretary waged 25 years ago with the European Community. Now these same elements--world hunger, agricultural development, freer trade--have dominated the Secretary's post-agriculture afterlife. There are some two dozen enterprises and organizations with which he has been involved and most of these relate to these three elements.

I sense that Freeman and ERS had something to do with the opening of the beef and citrus markets in Japan recently, and I hope you have better luck on rice. Freeman supported and built up ERS and best of all he knew how to use it. ERS had the capacity to work on any problem or issue, whether it was broom corn in Indiana or the threat of famine in India. I was proud of ERS, and I am proud to have been associated with the Secretary in its beginnings.

Keynote Address

Economic Research Service: Guide to the Future

Orville L. Freeman
Secretary of Agriculture, 1961-69

This is a very special occasion. It brings back to me warm recollections of the privilege I have enjoyed working with ERS, and with many of you personally, over the last 30 years. I can't remember speaking to as much brain power packed into one room as has come together here today.

I attended several of the sessions this morning. Without exception, they were outstanding.

The challenge I face in addressing you reminds me a little of a favorite story Adlai Stevenson told on himself repeatedly during the campaign of 1952, when Jane and I spent a good deal of time on the campaign trail with him. It seems that he was addressing a distinguished group of business leaders in the City of Chicago reviewing a very tough Governor's budget he had sent to the Illinois legislature.

The presentation went well and he received a standing ovation. He remained at the podium receiving compliments, some suggestions, and best wishes from a number of people. He noticed, as the group around him dwindled, a diminutive elderly lady, very shy, off to his right. She seemed to be waiting to speak to him so he went over to greet her. She looked up at him with adoring eyes and said, "Governor Stevenson your speech was absolutely superfluous." He looked at her a bit startled and then said, "Well, madam, thank you very much." She then hastened to add, "I hope you will have it published very soon." He responded promptly, "Yes, madam, posthumously." "Please do be sure that it comes out quickly," she replied.

When John Lee invited me to address you today, he was kind enough to suggest some topics I might address. Inasmuch as this occasion commemorates 30 years of service to the USDA, the Nation, and, indeed, the world by ERS, he suggested I review the circumstances when it was reassembled 30 years ago, its contribution during the 8 years I was Secretary, and to this day, working with the seven Secretaries in both Republican and Democratic administrations who have led the Department since I departed in January of 1969.

He also suggested some comment on the role of ERS today and in the future. Let me then seek to respond to his suggestions looking both retrospectively and also with a quick peek into the future by responding to a question I often get, "What would you do by way of policy direction if you were Secretary of Agriculture today?" I will be very short answering the last query I can assure you.

A couple of days after I received a letter from John, following up his telephone invitation, I had a call from his office from a charming lady, Sara Wampler, who asked me a question that many of you have gotten when you have agreed to make presentations around the country and around the world. That question was "What is the title of your address going to be?" I was stumped, I couldn't answer the question. I hadn't thought very much at that point about what I might say. I didn't come up with an answer. She gently pressed me pointing out the importance of promotion and I agreed to do some hard thinking.

The following weekend, Jane and I were driving to our place at Bryce Mountain Resort for some skiing. I discussed with her what might be the title of my address today, how might the title reflect my experience with and my evaluation of ERS. We came up with the title that Nate mentioned introducing me, "Economic Research Service: Guide To The Future." That is what ERS has been over the last 30 years, a meaningful guide to the future where American agriculture and the Nation's and world economies are concerned.

I served as Secretary of Agriculture 8 long-short years, under two great Presidents, John Fitzgerald Kennedy and Lyndon Baines Johnson (1961-69). Looking back, I can say quite candidly that hardly a week went by, and I might even say hardly a day went by, when I didn't confer with and or review material from ERS professionals which provided me very important guideposts along the decisionmaking path.

You all know the history of ERS and its predecessor, the Bureau of Agricultural Economics. Gladys L. Baker and Wayne D. Rasmussen wrote an excellent article titled "Economic Research in the Department of Agriculture: A Historical Perspective." It appeared in the July-October 1975 issue of *Agricultural Economics Research* magazine. In the April 1983 issue, Willard Cochrane also had some important things to say about ERS in an article titled "The Economic Research Service 22 Years Later."

Needless to say, at 4 years of age I wasn't around when the Bureau of Agricultural Economics was first established in 1922 by Secretary Henry C. Wallace, sometimes called Henry the First. He was a great Secretary of Agriculture, and those were challenging times. Secretary Wallace saw early the need for a first-rate aggregation of economists in the USDA. He challenged the agricultural economists of that day. These were his exact words "to give up the detached seats of observation to provide records, and instead turn to research with a definite objective of helping struggling farmers work out their problems, for their benefit and to benefit the nation."

Two years later in 1924, he declared that setting up the Bureau of Agricultural Economics was the most important accomplishment during his first year in the Cabinet.

In retrospect, and I never thought it quite that way until I recently read what he said, I would say that was also my most important accomplishment during my first hectic year some 30 years ago.

Most of us recall that in 1953 BAE was dissolved. Economic research was divided between three USDA agencies and largely removed from policy planning. Perhaps it is better to say that for the next 8 years it was no longer the guide that it had been to policy decisionmaking during the days of the major

New Deal programs and policies of the thirties, and during World War II years, when it served war agencies as well as the USDA.

The political climate changed very sharply in the 1950's. The so-called "intervention into the marketplace" of early years was discouraged by the Eisenhower administration, and in the new climate the USDA had no place for the BAE.

Let me respond at this point to the first question John asked me in his letter, "Why was ERS assembled originally and why you and your advisors thought it was important to have a source of economic analysis independent of the operating agencies?" In order to respond to that inquiry, a little background on the re-establishment of the Bureau of Agricultural Economics with a new title "Economic Research Service" is in order.

My knowledge of agriculture, and agricultural economics was mostly macro, learned in political combat, until I became Secretary Designate on December 20, 1960. From the day President Kennedy announced my designation on his front porch in the midst of a snowstorm on that cold wintry day in December 1960, I was compelled to stretch myself to meet the challenge of becoming a fast learner.

The year 1960 marked the sixth successive time that I had run for statewide political office in the State of Minnesota. Minnesota is still a farming State but it was even more so in the 1950's when I ran for office.

The agricultural policy political breakdown in the decade of the 1950's was quite clear. Farm price supports with supply management was the basic Democratic position. The Eisenhower policy, carried forward, resolutely, by Ezra Taft Benson, was "clear the market." Low price supports and no supply management was the policy line. Secretary of Agriculture Benson could not prevent Congress from voting relatively high price supports, but he did succeed in blocking any meaningful supply management programs.

By 1960, agriculture in this Nation was in a real mess. Heavy carryover from preceding good production years filled all available storage. Even the mothball fleet was full of grain. Farm income was down, there was widespread economic hardship throughout rural America. Everywhere you turned there were policy deadlocks. Instead of congratulating me on being named to the President's cabinet, almost without exception my friends said, "Why in the hell have you taken that job? It is impossible, there is no answer." Therein lies a story that I have never related publicly before, why did I take the job and how does the launching of ERS fit into the picture.

First, I want to assure you that Ted Sorensen's comment about how I came to be Secretary of Agriculture was only partially true. Ted, who, you will remember, was John F. Kennedy's closest adviser, was asked on one occasion how come Freeman was named Secretary. His response was "because Harvard doesn't have a farm school."

It was my great honor and privilege, as many of you may remember, to nominate then Senator John F. Kennedy for President at the Democratic National Convention in Los Angeles in 1960 and to campaign with him throughout the fall. Actually, Minnesota put him over with a 50.4 percent majority. Running for a fourth term as Governor, I got 49.9 percent of the vote, losing by almost the same narrow margin that Kennedy won, 0.1 percent.

Agriculture wasn't the big issue that cost me the election. The big issue, believe it or not, and this seems impossible when one looks back, was the Catholic issue. Minnesota is a strong Scandinavian Lutheran State. Many Minnesotans were deeply concerned that the Catholic church would dominate the President's office, or as some people put it, "if there is a Catholic president, the Pope will run the country."

You can't imagine the amount of hate mail that I received during the 1960 campaign. It shocked and alienated me. It made me furious! I overreacted and, in effect, lectured the voters of Minnesota in very strong terms, challenging the religious intolerance that I found. In the process, I alienated many of my Scandinavian Lutheran voters. They had gone along with me in 1958 when I got 58 percent of the votes and Gene McCarthy was elected to the United States Senate. But the prospect of a Catholic president was just too much.

The new president was a very thoughtful and generous man. Early morning, the day following the election, he called to thank me for what I had done in the campaign to help him and the Democratic party. In the course of our conversation, he said he hoped I would join him in the new administration. Believe it or not my response was, "Mr. President, I would like nothing better, anything except U.S. Secretary of Agriculture." He laughed and said, "Well, we'll see."

Initially, I meant what I said to him. I knew that American agriculture was in a miserable state of affairs. I knew also that there was no simple answer and that it was very controversial. Clearly there was no solution as such. To strengthen agriculture's position in the Nation's economy was bound to be a long, bitter, and controversial process. Having just gone through three terms as Governor fighting to survive in a desperate spend-and-tax struggle, I had little desire to jump from the frying pan into the fire by taking on the even more difficult farm crisis.

Also, I was deeply disappointed. Losing in that election of 1960 was perhaps the lowest point in my life. Humphrey won re-election to the Senate going away. My campaign manager, a young lawyer whom I appointed as State Attorney General in the midst of the campaign, by the name of Walter Mondale, also won. Most of the State ticket won, and I lost.

Fortunately, Jane and I had planned a fall Latin American trip with a group of Governors following the election. We made that trip and spent the 3 weeks following the election touring Latin America. We had time to think, we had time to talk. As we looked to the future and discussed what we might do that would be useful, the paradox of a world full of food and at the same time hungry people came to mind more and more. I had been concerned with this paradox for some time, spending many hours discussing it with Hubert Humphrey who, as you know, sponsored very important legislation, including P.L. 480, to make possible use of our excess production capacity to meet human needs and to further economic development in so-called Third World countries around the world. Although I was running for Governor of an insular State, this challenge came frequently into my campaign presentations and discussions around the State of Minnesota as one of the meaningful ways to use our agricultural abundance constructively rather than cutting back production arbitrarily. The more we thought about it, the clearer it became that the U.S. Secretary of Agriculture, with a supportive President, would be in a position to do more to accomplish full use of our food abundance than perhaps

anyone else in the world. It was at that time I coined a phrase, a very simple one, that many of you have heard me use again and again over the years; that is, to call for a "full use policy."

Consequently, before our tour of Latin America was completed, I sent word up the line to the President-elect that I was available. For what seemed like a long time I got no response. I had just about given up when, early one morning, the telephone rang. The operator asked if I was Governor Freeman and when I responded affirmatively she said President-elect John F. Kennedy wished to speak with me.

That familiar voice came on the phone and as usual got right to the point. "Orville, what about the Secretary of Agriculture?" I said, "Mr. President I am ready." "How soon can you get here or would you prefer to have me announce it from here without you?" "No, Mr. President, I am going to have enough trouble getting constructive attention to agriculture, both within the administration and with the public, without being downgraded in the beginning by not being announced directly by you with me there as was the case with the others named to the Cabinet." "OK," he said, "How soon can you get here?" I said, "I hope to be there by noon, but the weather is very bad." "Be here as soon as you can." He hung up. I bounced out of bed, called the National Guard and directed them to have an airplane ready to take me to Duluth where I could pick up a fighter jet airplane which would get me to Washington in less than 2 hours. We fought the weather to get into the Duluth Airport and almost didn't make it. We went to very high altitudes to reach Andrews Air Force, landing in a blizzard. John Blatnik, Minnesota Congressman from the 8th District, then Chairman of the Public Works Committee in the House, met me with his associate Lud Andolsek, who some of you may remember as Chairman of the U.S. Civil Service Commission.

We drove to the President-elect's home in Georgetown, entering through a back door and working our way through a crowded room to the parlor, where the President was engaged in some serious conversations. As soon as he saw me, he got up and came over and said, "The press is waiting, we don't have much time. I want to have a brief word with you in private." He led me into the bathroom. As I recall he sat on the stool and I sat on the edge of the bath tub. He had only one point to make, that was that members of Congress in the south were, as he put it, "...giving me hell. They want the Secretary of Agriculture to be from the South. We are going to have to have an Under Secretary from the South."

I said, "Mr. President, I couldn't agree with you more." We stepped out on his front porch where there was a microphone. The press gathered around and he said a very few words, which was often his way. They are stamped in my memory, I had them in mind constantly for the next 8 years. He said to the people of this country that "the number one economic problem in the Nation is rural America, low farm prices, and economic hardship throughout the countryside." And he added, "the greatest paradox in the world is a world full of food and full of hungry people." Then he turned to me and said, "I expect the Secretary of Agriculture to provide leadership in meeting both of those problems; they are intertwined." So I had my marching orders.

I flew home the next day and immediately went to work preparing myself for the great challenge I had undertaken. The first person I talked to was Dr. Willard Cochrane. Willard had been a source of advice and guidance for me on agricultural matters since 1948 when I became Chairman of the Minnesota

Democratic party. I still remember Willard's first recommendation, it was to reassemble the old Bureau of Agricultural Economics. "What was that?" I asked, "and why recreate it?" You can bet that I got an earful.

About a week later, I got a call from St. Louis from another agricultural economist, John Kenneth Galbraith, who was visiting in the Midwest. He asked if he could come to see me. He stated that the President-elect had asked him to find out "how much Freeman really knows about agriculture and tell him not to make any commitments before he gets to Washington." Ken Galbraith and I spent most of an afternoon together. We were already good friends from service on the National Democratic Advisory Committee and he had much useful advice. But, and this won't surprise anyone here I am sure, like Willard Cochrane, his first recommendation was to reconstitute the old Bureau of Agricultural Economics. With that kind of advice from professionals I knew and respected, I quickly gave reconstituting the Bureau of Agricultural Economics a high priority on my action agenda.

Years later, Ken Galbraith became U.S. Ambassador to India. We visited him there several times. He was in a little hot water with the State Department at the time of one of our visits for, as I heard it, he had sent a wire to the President labeled "eyes only" that had strayed to the State Department. The cable read "communicating with you through the State Department is like trying to fornicate through a foam rubber mattress."

Reconstituting the Bureau of Agricultural Economics was not the first thing I did as Secretary of Agriculture. The first was to prepare an Executive Order for the President that expanded the number of items available for direct food distribution to hungry people in this country from 6 to 16. This he signed on the first day in office. Further, he directed me to do something to reinstitute the Food Stamp program, which had faltered badly from loose administration in pre-World War II years.

It wasn't very long, however, before I turned my attention to the establishment within the department of an organization of economists that I could call on for policy guidance. It proved to be more difficult to do this than I had expected. Department economists had been working for some years within different agencies and services of the USDA. Turf struggles were inevitable. So I set up a task force headed by Dr. George Selke, who had been my Conservation Commissioner in Minnesota. George was a senior person, a very thoughtful, very strong, and very tactful gentleman. He commanded both affection and respect and proceeded working with Willard Cochrane who had joined me as a consultant to start the process of putting the Bureau of Agricultural Economics back together.

The final organization, many of you will recall, was somewhat different from the old BAE, but it served our purposes very well. Willard Cochrane became Director of Agriculture. He assembled a special staff economics group. The administrator of ERS (which is what we named the new consolidation) was Nate Koffsky, who reported directly to Willard. However, we were not fussy about lines of authority and virtually every member of that first ERS economist group was in my office repeatedly, sometimes with Nate and Willard and sometimes by themselves.

The guiding function that I referred to in the title of this presentation was a very real one from the first day in office. Here is what I said in the Secretary's memorandum 1446 dated April 3, 1961, which launched ERS. "They

will put renewed vigor into providing better information to U.S. farmers, ranchers, and consumers, and to foreign countries on agriculture needs both in the United States and abroad. They also will help the Department to develop a food budget that will give hard figures on normal needs of food and fiber for our own people, supplemental needs for distribution to the needy, and overseas needs to be met by our foreign economic program."

The next day I called Willard in and asked him for a memo on the world food picture. What was the situation worldwide in terms of hunger, food availability, and productivity? In effect, I asked for a World Food Budget. His response was to say there was no such thing, no research had been done on the overseas global food and people balance question. I could hardly believe that. As I recall, I exploded on the spot from frustration. Willard went on to calm me down saying that he knew my interest in that area and my deep concern about the people-food international balance and that he already had several task forces working on both domestic and foreign food fronts.

By March of 1961, the international task force of the new ERS put out a report titled *World Food Deficit--A First Approximation*. In October of 1961, the *World Food Budget 1962-1966* came out. Other analyses and reports from ERS led the way for the entire world in appraising for the first time the world hunger and nutrition picture.

Let me repeat what I have already said several times. From the very first, I was reaching for what can best be described as a Full Use Policy, use of our great food production potential to feed hungry people, work it into programs that will stimulate the economy of Third World countries where most of the world's people live. I was confident that in the process we would build commercial markets for our food production as the economy in those countries progressed and they were able to buy the food they needed.

A lot of people said that this was pie in the sky stuff. Some still do despite the great advances made in countries like Korea, Thailand, Taiwan, Hong Kong, and others we reached with food assistance in the 1960's when they were still "basket cases."

During the first months of 1961, while ERS was gathering and evaluating the data we needed to shape a meaningful international program, domestic circumstances forced primary attention, 20 hours a day, on the farm crisis at home. Long discussion sessions and detailed analysis took place as we searched for answers and reached toward a farm program that would relieve the surplus pressures and balance, at least relatively, supply and demand with fair prices for the farmer. In all of these discussions, ERS played a prominent guiding role.

My watch tells me that at this point I have spoken about long enough, but permit me one more recitation of what took place in launching a new commodity farm program, which I don't think has been historically reported. It may be of interest here since many of you were involved.

As we searched for a new domestic farm program, one of the things we examined carefully was marketing order programs, examining carefully how they worked. We noted that specialty crops seldom suffered from oversupply and depressed prices. Using producer-elected advisory committees, they seemed to be able to manage their production and roughly match demand, adjusting to market forces as private industry does when the economy expands or contracts. Why not then

draw on their experience and manage production levels under the direction of cooperatively elected managers. Why not apply the marketing order system to the major crops, that is to say wheat, corn, soybeans, and other products produced in heavy volume.

Such an approach seemed to make sense. We gave it a lot of thought, much discussion, and drafted a memorandum. I discussed it with the President and with the Chairman of the Senate and House Agriculture Committees. They were not very comfortable with the prospect, but everyone was seeking solutions and this seemed to be as good a possibility as any. Without great enthusiasm, the Agriculture Committee Chairman in both houses agreed to go along, and so did the President. A bill was drafted and an appropriate message prepared. In discussing with the President how to proceed, he suggested that it would be useful to talk to the Speaker. Harold Cooley, then Chairman of the House Agriculture Committee, and Alan Ellender, the Senate Agriculture Committee Chairman, accompanied me as we called on Sam Rayburn, the Speaker of the House of Representatives.

We had a cordial reception and a nice visit. Then I outlined the proposal. He looked at me searchingly until I finished. Then he shook his head and said, "It won't work." It was that simple. The Speaker killed it right there in his office. Ellender and Cooley were relieved. What was to have been a new farm program initiative didn't even get off the table. The Speaker in the House of Representatives killed it then and there.

Basic domestic farm program development and using food for international economic development were two early major initiatives. ERS was deeply involved with both from the very beginning. ERS was also deeply involved in a third major program initiative, rural development. The massive movement of people from rural America to the big cities was underway in the 1960's. The Nation was dumping more and more people on less and less space. It didn't make sense to most Americans.

It became clear to me, and ERS contributed strongly to this conclusion, that to keep people in the countryside, rural areas must compete with the cities and provide reasonable amenities. So we programmed to do that as best we could. Central water systems in small towns became available with Farmers Home Administration (FHA) loans, so did golf courses in communities that could support them, and in many areas USDA's Rural Electrification Administration (REA) financed ski slopes and vacation home developments. By 1967, Technical Action Panels spearheaded by Department of Agriculture programs were going forward in cooperation with local leaders in over 1,500 counties in the United States, making plans to improve their communities. Here again, ERS was deeply involved in developing these programs and evaluating them.

Another major initiative took place on the domestic food front. I always felt very deeply that if we were forced to balance supply and demand through the medium of restricting production, every effort must be taken to feed hungry people. As I have said, President Kennedy's first Executive Order was to increase the food items in the direct distribution system. Next he called for a Food Stamp program, a much more efficient way of making food available to the poor. It soon became clear that Congress had major reservations. There were political problems between South and North and there was the excuse that such a program was not manageable, recalling pre-World War II difficulties.

What then could we do to at least make a beginning? Here again, a guiding light came from ERS. They called to my attention that funds were available without the need for an additional appropriation under authority of "Section 32." This was a section of the Act of August 24, 1935, under which 30 percent of customs' receipts from imports of agricultural commodities would be automatically appropriated to USDA each year to expand domestic and foreign markets.

Working with the legal department, we developed a theory that Section 32 funds could be used to finance a model Food Stamp plan without congressional appropriation so long as the food commodities purchased were selling in the marketplace for less than 90 percent of parity. That covered almost everything at the supermarket. The legality of this interpretation was never challenged. So here again, by exercising a little ingenuity, we were able to experiment and measure the Food Stamp method of getting food to the poor without going to Congress at all. It wasn't until August 31, 1964, more than 3 years later, that President Johnson signed the Food Stamp Bill into law in the cabinet room at the White House at 11:59 p.m., 1 minute before it would have been pocket-vetoed. Some of you were there! Therein lies another story, but we don't have time today.

Now for a few quick looks to the future. First let me respond to John Lee's query "the role of ERS, now and in the future." Then, I will make a few brief comments on the future direction of basic food and agriculture policy.

The mission and role of ERS in the future, I confidently forecast, will be more of the same. ERS has firmly established itself in the timely and important role of Guide for the Future. It has demonstrated that it understands its role, not to make policy, not to urge a particular policy, but rather to guide the development of policy by focusing the best information and professional analysis on the decisionmaking process and then to monitor, interpret, evaluate, and report results without fear or favor or political bias. To my knowledge, no one today advocates returning ERS to the operating agencies as was done in the case of BAE almost 40 years ago.

What policies would I seek to carry forward if I were Secretary of Agriculture today? I could write a book on that, but very briefly a few highlights:

- Where commodity programs are concerned, continue the Secretary's power to manage supply. Agriculture is different than industry. Farmers can't respond as promptly to the signals of the marketplace as industry. Production exploding under favorable circumstances can devastate farm prices. Our magnificent production capacity must not be undermined by price collapses. It is too important to this country and the world.

- Hunger and malnutrition should be battled on every front, at home and around the world. A world without hunger is possible. The goal set at the 1974 World Food Conference that "no child should go to bed hungry" is attainable.

- We should strive to put in place a full use policy rather than cutting back production. Food can and should be used for economic development, infrastructure, and market building. That's a way to build large commercial markets in Third World countries where population is exploding.

- A free trade policy should be vigorously pursued. Such is in the interest of everyone. The current administration, to its credit, has given the highest priority to liberalizing agriculture in the ongoing Uruguay GATT negotiations. Agriculture could hardly get to the table in 1962!

- Environment and food production must complement each other. The conservation and land use programs, launched in the 1965 and 1985 farm bills and expanded in the 1990 farm bill, add up to significant advances.

However, in our enthusiasm to husband the environment, we must not undermine our productive capacity. An exploding world population together with climbing standards of living will soon make greater demands on the world's food production capacity than ever in history. Biotechnology holds great promise and should be given strong support, but it is a long trip from the laboratory to the dinner table.

American agriculture is the greatest production miracle in the history of mankind. That 2 percent of our people on the land can produce at a level to feed the American people better and at a lower real cost than anywhere else in the world and still have almost 40 percent of our production capacity available for commercial and concessional export is almost unbelievable. This land has indeed been blessed. We are charged to make the most of this blessing, to use it well in the interest of all mankind.

I am reminded in closing of a popular admonition. The Lord created us with two ends. One to sit on and one to think with. The future of the world depends on which we choose, heads we win and tails we loose.

Agricultural Policy in the 1980's

Moderator: Keith Collins
Director, Economic Analysis Staff, USDA

Today's final session examining agricultural policy by decade looks at the 1980's. We are fortunate to have two speakers who have first-hand involvement in the policy process, both inside and outside the government. We look forward to their remarks and the audience reactions to them.

Our speakers have the task of attempting to explain the significant policy events of the 1980's and the role of economics, if any, in these events. In earlier decades, we saw cycles of rising protectionism in U.S. farm policy followed by disarray in markets--loss of exports, mounting surpluses, and low prices which were followed by attempts at policy reform. The 1980's, in a unique way, have followed that cycle.

While working in ERS at the start of the 1980's, I remember helping to construct the ERS "baseline"--our view of commodity markets and agriculture in general for the 1980's. ERS, like many others around the country, was bitten by the export euphoria and inflationary expectations of the late 1970's. That baseline, completed as the Agriculture and Food Act of 1981 was being written, forecast a blissful future for U.S. agriculture. The index of prices received for crops was to rise 75 percent between 1980 and 1989, and real net farm income was projected to increase 50 percent. The 1980's was going to be a turning point, with rising real farm prices, strongly growing real farm income, negligible government payments, and commodity programs serving in a safety-net role.

Of course, most of that did not happen, in what proved to be a stern lesson for ERS forecasters as well as for policymakers who embraced forecast-dependent farm programs in the 1981 Act. The experience demonstrated, among other things, that "inch by inch forecasting may be a cinch, but yard by yard, it's damn hard."

While we carefully projected what would not happen in the 1980's, what did happen was a series of emerging concerns that changed some policy objectives, the policy process, and the very nature and level of government protection of U.S. agriculture. Most of these changes followed the model of crisis, and then reform. Some examples include:

- Busting of agricultural budgets. The 1981 Act was expected to cost less than $10 billion over its life. It wound up costing nearly $60 billion. Program spending became a constraint in the 1980's, which ultimately led to lower levels of protection by the end of the decade.

- Learning the limits of unilateral supply control. Record idling of acreage in the early 1980's--while competitors increased

production--made unilateral supply control highly dubious in our more internationally dependent world. The supply control controversy peaked with the decoupling versus mandatory controls debate of the 1985 Farm Act.

- Seeing the high costs of declining farm exports. The tremendous gap between expected exports and actual exports in the mid-1980's changed public policy on price support levels, led to export subsidies, challenged the policy of assisting agriculture in developing countries, and spurred the U.S. position in the Uruguay Round of GATT.

- Witnessing the emergence of an effective environmental movement. After being completely ignored in the 1981 Act, the environmental community became a full participant in the farm policy process by the mid-to-late 1980's. The influence of environmentalists reflected the trend of an increasingly fragmented policy process, with ever more interest groups, congressional subcommittees, and government agencies vying for a slice of the farm policy pie.

As we reflect on this recent history, a couple of questions occur, which our speakers may want to address. Did the balance change for farmers in the 1980's from reliance on the market to reliance on government subsidies? Was the 1980's a turning point, and will the declining level of protection implemented for some major commodities continue and spread to others? What will the 1990's hold for U.S. agriculture and ERS in particular?

To answer these questions and others, we have two notable people.

Bill Lesher is a native of Indiana, with degrees from Purdue, Oregon State, and Cornell. He has served on the faculty at Cornell, was Senator Richard Lugar's agricultural legislative assistant during the mid-1970's, and was chief economist of the Senate Agriculture Committee in the late 1970's. He was USDA's Assistant Secretary of Agriculture for Economics from 1981-85. Today, Bill is principal in the firm of Lesher & Russell, located in Washington, DC.

Jim Webster is a distinguished agricultural journalist who has many career accomplishments. He has been an editor of magazines, a daily newspaper, worked for UPI, and RFD-TV. He was public relations director for the American Public Power Association, Chief Clerk of the Senate Agriculture Committee, and USDA's Assistant Secretary for Governmental and Public Affairs for 4 years during the late 1970's. In 1981, he founded "The Food and Fiber Letter" and published it for the last decade. Today, Jim is Vice President for Communications of Sparks Commodities, Inc., where he continues to produce "The Food and Fiber Letter."

William Lesher
Assistant Secretary of Agricultural Economics, 1981-85

I appreciate coming back and speaking to this group. I always appreciated the association with ERS and its people. I know that sometimes we would not agree on various issues and approaches. But, in the end, I always had utmost respect for the economics agencies--ERS, SRS--now renamed NASS--and the World Agricultural Outlook Board.

I am going to talk about agricultural policy in the 1980's and the role that ERS and others had to play in the development of those policies. I will conclude that the role of ERS and the role of economics in the policy process really depends on many different things, but I think of three in particular.

One is the economic times. The times you are in have a lot to say about what ERS is going to be doing, the policies you're going to be working on and really, in many ways, the impact that you're going to have. A case in point, ERS has recently done much work on the benefits and cost of freer global trade. This work was done in response to the GATT negotiations. After they are completed, the focus will shift to something else. Second, I think much has to do with the people, too--whether it's the Secretary of Agriculture or the Assistant Secretary of Agriculture or the Administrator--they have much influence on the direction and focus of the research and other areas of work that ERS gets involved with. The ultimate boss is the Secretary of Agriculture with great influence from the Congress. Their priorities get reflected in the work that ERS does. And, the third, sometimes economics doesn't matter so the role or impact of ERS in certain instances is limited. One can do the research and analysis and know what is right from an economic perspective. And, it is shared with the Secretary or Congress or to whomever--but sometimes it just doesn't matter. In some cases, politics or other things matter more. I'm not saying that it's wasted effort. It's really not. Everyone needs to know the tradeoffs. But, at times, the facts don't matter. This is hard for economists to accept. I've been in Washington, DC, for 15 years, and it is still difficult for me to appreciate our political process at times.

To be more precise about the role that ERS had during 1981-85, I will start from 1981 and work forward. I think the first year was, for me, the toughest. Secretary Lyng and I were the first two to appear the day after inauguration in January 1981. Obviously we were not yet confirmed. The first thing that he had directed me to do as deputy secretary was to try to get a group together and see what needed to be done to lift the grain embargo. There was a grain embargo on at that time, which was not very well liked by the farm community. President Reagan had pledged to take it off, so that was one of the first things we did.

The second thing we were trying to do was develop a 1981 farm bill, and the third thing was trying to deal with some of the agency issues. One that comes to mind was the organizational structure. At that time it was not ERS, it was ESCS. I know this was a small matter to some, but it was a big matter to those in SRS and ERS at the time--a very big matter. And there were some other issues that we were dealing with.

The Reagan administration was a very market-oriented administration, and we tried to adopt a farm bill that followed that philosophy. It was not well

received in Congress, and Congress developed a very different bill. At that time, interest rates were about 19 percent, the inflation rate was about 11 or 12 percent, and we were not successful in selling cuts in farm program support with that bill. We worked hard at trying to get as much of a market-oriented bill as we could get.

Farm programs are entitlement programs. And, some in Congress really wanted to index this entitlement program to cost of production. They wanted to base the loan rates and the target prices on what ERS or someone else was going to calculate as the average cost of production. Many of us in the Department really fought against that. Why? Well, approximately 50 percent of the budget is entitlement programs, 20 percent is defense, and 15 percent is for interest and payment of the national debt. So, entitlement programs are the largest part of the budget and indexing them didn't seem like a good idea to me.

However, there was leadership in Congress at the time that really liked the idea. I know Congressman Foley and many others said, "Look, this is the way to go. You've got a high inflation rate. We'll ebb and flow with whatever the inflation rate is." Some of us argued that we cannot get into indexing entitlement programs that way. I viewed it as a new form of a parity index. The average cost of production suggests that about 50 percent of the producers have higher costs, while others have lower costs. Those with lower than average costs of production are going to be encouraged to expand.

So we established target prices that would escalate 3 or 4 percent a year. This was all assuming that we were going to have double-digit inflation. Also, at that time we were worried about feeding the world. J.B. Penn and I had our first go-around over an ERS report that said the issue of the 1980's was going to be feeding the world. I did not agree with it, although I think most did. Since most were worried about feeding the world in early 1981, our policy was predicated on that.

We ended up with a bill that escalated target prices about 3 or 4 percent a year and contained fairly high loan rates. Then things really went sour. Everything that could have gone wrong did go wrong, given the 1981 farm bill we had just adopted. Inflation rates came down, the value of the dollar moved up, exports declined, a recession set in around the globe and we were challenged about what to do about the future.

My, how things can change in a hurry. In 1981, most were worried about feeding the world. Some had speculated in the late 1970's that the Federal Government should be coming up with some kind of distribution program for food. But, by the fall of 1982, USDA was forecasting the largest surplus in the history of the United States.

Simply put, we were in a jam. Farm income was down, farm prices were low, and farm bankruptcies were escalating. We were spending lots of money we had not expected to spend, and we could not get Congress to amend the statute. OMB did not want us to spend more money. But most others wanted us to do something. So, we came up with the infamous PIK program which took about 78 million acres out of production, the largest acreage reduction program in the history of the United States, paid for by CCC-owned commodities. This was put in place by an administration that included people who, like me, didn't believe in supply control and still don't.

We needed to take a lot more acreage out of production if this strategy was going to work. I remember when we got all the economists together, like in a lockup, and we looked at the probabilities of corn stocks going below a billion bushels if we accepted all whole farm bids. Based on our historical data, the chances were 1 in 25. The Secretary of Agriculture decided to accept all whole farm bids. Unfortunately, we carried out 720-730 million bushels of ending stocks that year because of the drought. Sometimes you can work as hard as you can and do the best analysis possible and it still doesn't work out.

Anyway, we embarked upon that supply-control strategy out of desperation. I never will forget the Deputy Secretary who gave me some good advice about that PIK program and how to run it. He said, "Whatever you do, make it generous." It could have been run a lot better, but it was carried off with the idea that if we ever got the burdensome stocks down, maybe we could talk Congress into reducing the escalating target prices and loan rates in the bill.

We tried to get the target prices changed and couldn't. We had all kinds of groups to come in to try to convince Congress that there were problems, but we were not successful. Several suggested that a PIK program would not have been necessary if we would have managed the set-aside programs better. I know a lot of people criticized our efforts. You should have had supply control much earlier, they said. Maybe so. I don't know. What I do believe is that the farm policy that we had in place for the last 50 years was not going to fit the new times. It was not going to work, no matter how well run and fine-tuned the program.

I listened to Orville Freeman, the Secretary for 8 years in the early 1960's, about his efforts to establish high loan levels and supply controls. Well, perhaps that type of policy made some sense during that period of time. However, political pressures always raise price supports too high. I mean, that's just the way it works. That's the political process. Subsidized producers overproduce, you have a surplus, and you have supply controls. If you are an island, maybe that works okay as you insulate your producers from world markets. In 1970, we were exporting only $7 billion worth of products, not the $41, $42, $43 billion of today. So, those policies may have made some sense before 1970. In the early 1980's, however, there was a realization, after the go-go years of the 1970's, that we could never go back to that kind of policymaking because of the international interdependence of our markets and of our whole economy.

So, I view the 1985 farm bill as a turning point, although many experts don't agree with me. I think that we, as a society, decided that the government would no longer be the price-maker for farm commodities. We were going to set loan rates at market-clearing levels, and we were going to let the market determine prices. Then politics came into play. The farmers couldn't stand that kind of a jolt from a farm income perspective, and so it was decided to give them direct cash payments.

In 1984, the Secretary and the Deputy Secretary and others were working on a proposal we moved through the interagency process. It didn't come out so well. What we sent up to the Congress from the Administration was dead on arrival. I think we had payment limitations going down to $5,000/$10,000 per farm. The Congress considered it for about 5 seconds. The Administration didn't show much leadership with this bill--thanks to OMB.

Internally, writes the USDA, we had a better bill, but it never saw the light of day. I don't often do this, but here I give Congress a lot of credit. I think they decided that we no longer could take another 1981 farm bill. We had to change direction and approach, and we came out with the 1985 farm bill.

I think it has worked well, and I am encouraged about the 1990 farm bill. I think that if you had asked farmers what they wanted, they would have said extend the 1985 farm bill without a change. However, society was not willing to spend that kind of money. In 1990, we had to decide whether to go back to the ways of the past with supply management and try to get costs down or try a quasi-decoupling approach, if you will, that I call a triple base--that is, paying on a portion of the production, not all of it. We decided to let the market forces work and adopted triple base. With this decision, I think that farm policy has changed very significantly. I doubt we will return to the failed policies of the past, high loan rates and significant supply controls.

ERS played a significant role throughout this period though it developed some deep political trouble in the early 1980's. I remember one of the Senators had an amendment on the 1981 farm bill that was going to reduce the economists in ERS by about 100 or 200 persons. That was a live option we had to defeat.

At that point, I realized that ERS may have had some problems that needed to be addressed. The reasons for the problems? Who knows for sure. ERS had spent a lot of time on farm structure in the 1970's. I'm not getting into the merits of whether farm structure research was a good use of resources or not. All I know is that it was not a popular issue. Also, a lot of analysis was coming out saying the embargo didn't hurt. I'm not going to get into that argument either, but it was not a popular position either.

No matter what all of the reasons were, ERS was in a situation where it had a few big-time detractors on Capitol Hill, and people were willing to cut those 100 or 200 economists out of the agency--the largest group of agricultural economists in the world.

So, ERS was under siege, and so we worked real hard to assuage its detractors. ERS provided a lot of information, but sometimes it was in an unusable form. Back then I used to talk about the analogy of ERS with a college campus. But, ERS cannot function like a college campus and survive and get the budget levels it needs.

We also worked on the field staff issue. I know a lot of people are not going to agree with this, but I think changing the policy on the field staff was the right decision and helped ERS in the long term. The agreement was that we'd have a sabbatical program rather than an extended stay of ERS personnel stationed in the land-grant system. I think it was the right way to go, especially under tight budget conditions.

I think another perception of that time was that the kind of information ERS provided was not useful. I think the Economic Analysis Group helped enormously in providing good-quality information to filter into the decisionmaking process, affirming its usefulness. Transforming the enormous amounts of information and analysis into a usable form for the Secretary of Agriculture is important. I believe the EAS staff helps ERS maintain its support.

Another accomplishment during that time was keeping ERS from being relocated to Buzzard's Point from the GHI building. First of all, I'm sorry that ERS ever had to leave the South Building. But the GHI building wasn't bad. Once the lease ran out and GSA said you had to move to Buzzard's Point, I became quite concerned. I thought, okay, Congress is pressing to cut economists out of ERS, so the political support isn't that great. And, now they want to take ERS to Buzzard's Point. It seemed like the death knell for ERS to me.

If you allow ERS physically to go that far away from the Administration Building, it becomes out of sight, out of mind. So I talked to the Deputy Secretary and I talked to the Secretary. They kind of laughed and snickered and knew I was in a real pinch, but they were really supportive. The decision to go to New York Avenue, where you are now, went to the President of the United States to decide. It had to go that far. We had to overrule the Administrator of GSA to keep ERS within some kind of reasonable distance to the Administration Building and to the South Building. Only the President had that authority. Thank goodness he made the right decision.

I'm going to quit now, but I want to say this. I didn't come the normal route, from a university to assistant secretary of economics. I came from Capitol Hill where I started with Senator Lugar and later became the Chief Economist for the Senate Committee on Agriculture, Nutrition, and Forestry. I was fairly young and I think most people viewed me with some skepticism. I had much to learn and still do. But, in my view, I find ERS to be a more relevant agency than I've seen in a long time. The things that you're doing for the GATT negotiations could not have been done anywhere else. The same could be said for the analysis that you brought to bear on the conservation reserve program, and now the environmental issues that are coming up such as water quality and pesticides. It seems like you are working together well with other agencies, which wasn't the case when I first came. There were lots of interrivalries among the agencies then. I'm sure there are still some, but they don't seem as sharp.

I compliment those that followed me because I think they have done a great job. I believe you are a much stronger agency for it. I view you as a better agency than when I first got here. And, I think a lot of the improvements came after I left.

You must continue to do the things that are relevant on issues that are important to the policymakers, to the Secretary of Agriculture, and to Congress. I compliment all of you on the terrific job you are doing. As long as you continue along the path you are now on, you will be going on to your 50th anniversary, and someone can wheel me in to enjoy it with you.

Agricultural Policy in the 1980's

James C. Webster
Editor, The Food & Fiber Letter
Sparks Companies, Inc.

We began the 1980's on a high note with record agricultural exports, despite the grain embargo against the Soviet Union, and with generally healthy farm prices, in part due to government assistance to ameliorate the effects of the embargo. Congress wrote a 1981 farm bill in that environment, increasing target prices and loan rates, based on the assumption that export markets would continue to grow and production costs would continue to increase at a rapid rate. It was an example of how, in agricultural policymaking, too often the latest plateau becomes the new norm.

A lot of people staked their fortunes and their futures on an ever-expanding agriculture. People listened to the farm magazines, the land-grant universities, the bankers, and USDA and went on an expansion spree. Farm operators bought land, they bought machinery. Farm businesses expanded to meet the growing demand. Some people even began new agricultural newsletters at the beginning of the decade. But the 1980's were not very old before the peaks came crashing down into the valleys. And those of us who had turned from government to reporting had a lot to report--farm bankruptcies, farm bank failures, and lost export markets.

The 1980's began innocently enough, with the publication of a USDA document called "A Time to Choose," the report of the project on the Structure of Agriculture. That one project, in which ERS played a major role, had a profound impact on the agricultural policy debate throughout the 1980's and, I predict, will continue to have a major influence in the 1990's and perhaps beyond. The structure question was not a universally popular one to examine. It was not at all the favorite of those who were fully aware of its implications, those who were the beneficiaries of the existing structure. A newsletter of the American Cotton Shippers Association called the inquiry "the re-structuring of American agriculture." It was, of course, never intended by its sponsors to be anything more than an information-gathering effort, an analytical exercise to provide the basis for informed policy decisionmaking.

But, the structure project did focus public attention for the first time on the nature of the immediate beneficiaries of Federal farm programs--programs that cost in the neighborhood of $2-$3 billion a year at the time. The structure project and work at ERS and elsewhere since its completion have contributed further. Structural information, especially on the distribution of farm program benefits, has infused the debates over the 1985 and 1991 farm bills and found its way into the President's budget messages and the President's economic reports from time to time, not a bad contribution by a Democratic Administration to succeeding Republican Administrations, I might add.

It may turn out that the 1980's were when liberals and conservatives came closer together, thanks to better information about farm structure, in their approaches to farm programs. Conservatives can find plenty to criticize in farm programs because of their overall cost and because of the level of

government intrusion in the marketplace that they require. Liberals may complain because they transfer money from middle-income taxpayers to high-income producers while so many other social needs go unmet. Conservatives and liberals can agree on a common distaste for government intervention as heavy as it has been in recent years--the massive idling of land in the PIK program, record farm program spending, and multi-million dollar export subsidies.

I submit that an accurate profile of American agriculture is critically important to taking part in, reporting, or even just understanding, the debate over farm policy. Of all the work that ERS and NASS do that relates to farm policy, none is more important than developing an accurate profile of the financial health and wealth, or lack of it, of farms and ranches by size and ownership.

Often when I hear a member of one of the agriculture committees proclaiming the problems of farming in his or her home area, or whenever I see a national television network or news magazine reporting the plight of agriculture, I wonder whether it would be useful to have a pocket card that summarizes the latest *Economic Indicators of the Farm Sector*.

The latest, the 1989 series, points out that 314,000 farms--14 percent of the total--earned 80 percent of the net farm income for an average net income of more than $100,000 per farm. Those are figures we can't repeat too many times, that should be kept in mind whenever someone proposes to increase the milk price by another $3 per hundredweight or to make more subsidized credit or disaster assistance available for agriculture. I am not suggesting that *Agricultural Outlook* become an unwieldy compendium of all agricultural fact, but I feel that it might be expanded by half a page to include a monthly table showing the latest data on distribution of farm size and farm program benefits.

In this general context, I also want to call attention to another line of inquiry which, I believe, should become a more important element of the policy debate. I commend a recent report by the Center for National Policy, to which my new colleague and your former colleague, J.B. Penn, contributed. Titled *U.S. Agriculture: Myth, Reality and National Policy*, the report shows that relatively few rural counties depend very much on agriculture for their income, and that many of those agricultural counties have relatively high incomes while many other rural counties continue to have low incomes. The obvious conclusion from this data must be that farm programs are not a very good way of providing a broad economic stimulus to rural America.

Tom Foley, Speaker of the House of Representatives, claims Foley's first law of politics as perception is reality. Sad but true, too often, Washington does confuse perception with reality, but that should not stop either policymakers or analysts from trying to change that until the day arrives that reality is reality and that we make policy choices based on reality. I hope that this kind of information and other information yet to be developed will help the agricultural policy debates in the 1990's to be based on better information than the debate carried out in the 1980's. The information will be valuable in assessing the implications of such likely developments as a new world trade agreement in the Uruguay Round of GATT negotiations.

Valuable also is the kind of work ERS has been doing on the potential effects of liberalized trade on U.S. agriculture. I wish that ERS work that I have read on trade liberalization could have been more specific in estimating the

most likely effects, and I wish that policymakers would take better advantage of what you have done already.

The 1980's, and now the beginning of the 1990's, have made it clear to me that we need more and better analysis of a whole range of topics, well beyond agricultural economics, that are affecting agricultural policy. We may need to call on new disciplines, so that policymakers can better cope with questions like water quality, food safety, biotechnology, and marketing. Perhaps the 1990's should see a new mission, or even a new name, for ERS after these 30 years. Perhaps "AAS" for "Agricultural Analysis Service," to incorporate the new disciplines we must tap.

Resource Economics

Resource Economics: Introduction and Context

Moderator: Larry Libby
Chairman, Department of Food and Resource Economics
University of Florida

The basic theme for the conference is retrospective but we all are familiar with the saying about past as prologue. This 1-day meeting serves a significant networking function as well. The importance of the professional give and take that always occurs at such a session should not be underestimated. Collegial interaction helps to reinforce the linkages among organizations, individuals, and knowledge about important problems, all of which are important to our profession.

My own experience with the Economic Research Service encompasses at least 25 of its 30 years. That in itself has been a sobering realization! I had the opportunity during my M.S. program at Cornell University to work on rural development issues, drawing liberally from work by Tom Hady, Bill Motes, and others. I worked on farmland tax issues and agricultural zoning drawing on work by Gene Wunderlich and Mel Cotner. ERS was clearly the source for current experience in the economic definition of rural resource problems and the related policy issues.

At Michigan State University from 1970 to 1987, I worked frequently with the ERS outpost at East Lansing, led admirably by Tony Grano. Included were Carmen Sandretto, John Sutton, Dave Carvey, and several others. There were a number of graduate students who were ERS employees that I had the opportunity to work with, including Lee Christensen, Dan Kugler, Leon Perkinson, and Doug Lewis. The great callback to the motherland in 1983 broke things up at East Lansing, as elsewhere in the system. I talked with many individuals about their options and professional choices. In many ways, this was an unfortunate time. It was disruptive and unsettling, but perhaps a necessary stage in the evolution of this organization. The spirit of collaboration that existed between university and ERS professionals in those days can be sustained with attention to the terms and purposes of cooperative agreement. We must be sure that collaboration is genuine as it had been before, not just the acquisition of specific talent on specific questions as we find under contracts and consultantships. If that is all there is to cooperative agreements, we have truly lost the most important professional ties between the university and ERS.

When I came to Washington in 1974 to work for Marion Clawson on national forestland policy, I visited ERS frequently at the GHI Office Building. Mel Cotner invited me for seminars on several occasions and I frequently met members of the staff. I also had the opportunity to chair a review team for the small watershed program somewhere there in the mid-1980's.

By far the most intensive dose of contact with ERS professionals was my year as Coordinator of Land, Air, Water and Solid Waste for the Secretary's office in USDA. I challenge anyone to find a more impressive title than that! All should realize that coordinating land, air, water and solid waste is a challenging task, requiring a true renaissance professional! Despite the somewhat pretentious title, the immediate task for Rupe Cutler, who was Assistant Secretary of Agriculture at that time, was to bring "true religion" to USDA in the form of genuine attention to the environment. That was the beginning of the great era of accountability for natural resource and environmental programs in USDA, with economists centrally involved.

Under the Office of Environmental Quality in USDA, there were dozens of task groups created with ERS involvement, focused on the implementation of environmental and natural resource statutes and administrative rules. The biggest one for me, if not for ERS, was the Soil and Water Resources Conservation Act of 1977 (RCA) with all of its ramifications. The legislation basically says "to go forth and do good things on behalf of soil and water, be sure that it makes a difference, and be sure the public is consulted." As is often the case in large-scale legislation, intentions were golden but instructions very few. It fell upon the agencies to define the rules for implementation consistent with the overall intent of Congress. No longer could the natural resource agencies, including the Soil Conservation Service and ASCS, assume that a budget would be forthcoming for longstanding programs. There was a mandate for accountability, to be certain that dollars spent for reducing erosion were spent appropriately and had some impact.

The other major accountability thrust of that period was the review of the Extension Service mandated in the 1977 farm bill. There was also a required review of the Resource Conservation and Development program, the Senate Oversight Committee on Soil and Water Conservation, the Resource Planning Act requiring accountability for public funds spent on the national forests, the President's water initiative that included review of the Principles and Standards for project approval, and the pesticide registration process established under Rebuttable Presumption Against Registration (RPAR). The whole decision impact statement requirement established under public participation rules in Executive Order 12044 came at the same time. Economic concepts, ideas, and analytical tools became much more prominent in natural resource management and environmental policy beginning in the late 1970's. ERS was front and center in that whole process.

A general conclusion reinforced by my brief experience in Washington in 1978-79 is that the greatest contribution of economics as a discipline is as a way of organizing complex information about choices. The techniques and methodology of economics are important for more specific detail, and they add an air of mystery to the discipline to keep the riffraff off balance. But the basic contributions of economics may be summarized as organized common sense, nested in the concepts of opportunity cost, marginality, effective demand, and comparative advantage. These are the real meat of economics, the real contribution of our discipline to public decisionmaking in Washington and at other levels as well.

Basic economic literacy is the greatest need for policymakers who often have real frustration with the language and style of those who use economics as a filter for budget action. Many in responsible positions in the bureaucracy are totally mystified by the behavior and the language of the examiners from the Office of Management and the Budget (OMB) and by their counterparts at the

department level. The organization was called the Office of Budget Planning and Evaluation (OBP&E) when I was in USDA in 1978. My role in the Secretary's office was essentially to become an interpreter for the Assistant Secretary and others in the natural resource area to seek a better understanding of the accountability requirements being imposed by legislation and by Presidential edict.

As an aside, it would be useful to have a workshop on the role of economists in natural resource policy. Economists function in many different ways as participants in policy design and implementation. Understanding the relationship between the discipline and the mission of certain agencies, such as the Corps of Engineers, Soil Conservation Service, the Audubon Society, and even ERS, would be useful.

Another important lesson for me from that period was the tyranny or at least the power of the gatekeeper in national policy. Political Scientist David Easton has developed a structural model of the political process in his book *A Systems Analysis of Political Life*. My experience in natural resource policy in USDA gave vivid credence to that formulation. Decisions on the validity of a given decision impact-statement, a public participation plan, or even an identification of significant regulations was made in OBP&E in the person of Assistant Secretary Howard Hjort. In a system of Assistant Secretaries of Agriculture with equal status, Howard was significantly more equal than the others. His authority in the decision process was immense. Nothing got to Secretary Bergland without his approval. His authority was subsequently delegated to a GS-12 who intimidated the Assistant Secretaries, held them hostage for certain purposes, and exercised enormous power over major decisions. That situation may have been a bit dangerous for the individual involved but must have given him significant satisfaction at the time. He performed very effectively in that role. Understanding the decision process and the role played by various guardians of steps along the way was an important set of insights.

In brief conclusion, past experience in working with ERS suggests a crucial mission for the future for the organization. ERS must be the conscience of USDA, to ask the "yes but" questions about policies or initiatives that may be grounded on good intentions but have serious unmeasured consequences. ERS must continue its status as an independent and professional organization with the capability and the integrity to question popular causes. Further, it must be supported in this mission. It is an absolutely essential mission in government. ERS played that role with the National Agricultural Land Study that came out in the early 1980's. The policy momentum was enormous for "saving" farmland under the banner of running out of land and food and losing the ability to feed ourselves. ERS did some important analysis of that movement and offered valuable critiques. There was also the study of the benefits and costs of soil conservation effort, asking whether there was a productivity payoff to investments in soil conservation. This question is still being debated and I do not intend to take sides here. The point is that ERS raised important questions and had an impact on evolution of policy in those areas. The analysts took some chances. They did solid work and were supported by the system in those efforts.

This is an important mission for the future too. We need a reservoir of professional talent that can clarify the so-what aspects of great ideas, to preach the gospel of opportunity cost.

ERS Resource Economics Work--The First 30 Years

Melvin L. Cotner and William H. Heneberry

We welcomed this opportunity to reflect on the past work of ERS in the resource economics area. But, as we started on the assignment by reviewing earlier work relating to the history of the Bureau of Agricultural Economics (BAE) and the AAEA-sponsored review of the post-WWII resource economics literature, two reservations came to mind. First, we doubted our capability to do a masterful job like L.C. Gray in reciting the history of land economics work in the BAE or our ability to trace the resource economics literature and intellectual foundations as did Emery Castle, Maurice Kelso, Joe Stevens, and Herb Stoevener in 1974.[1] Secondly, even if we had the capability, the task would be impossible to perform in a 20-minute presentation here. Hence, our objective in the time allotted is very circumscribed.

Our purpose will be to briefly describe and summarize the resource economics work during the first three decades of the ERS organization. First, we will describe the lineage of resource economics work to the present with some reference to earlier work in BAE and the Agricultural Research Service. Then we will cover the general nature of the work and the laws and policies that, in many cases, guided the resource work in ERS. Finally, we will make some observations about contributions and working relationships.

Organizational Lineage of Resource Economics Work in USDA

Our focus today is on the resource economics organizational arrangements of the past three decades, but we will start with a brief review of our ancestry prior to 1961--to give a backdrop for the ERS era.

Resource economics work (referred to as land economics in the earlier period) had an organizational identity before World War I (chart 1). It was part of the Office of Farm Management in the Bureau of Plant Industry. The Bureau of Statistics also housed land economics work. In 1919, the work emerged as a Land Economics section in the Office of Farm Management and Farm Economics, then in 1922, it gained Division status in the BAE. In 1953, when the BAE was abolished, the work was submerged as a section in the Production Economics Research Branch (PERB) of the Agricultural Research Service (ARS), until 1958, when the reorganization of ARS created the Farm Economics Research Division

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Mel Cotner and Bill Heneberry are ERS retirees, having worked most of their careers as resource economists in ERS. The authors gratefully acknowledge the help of William D. Anderson in providing materials for and comments on an earlier draft of this paper. Suggestions and comments of Velmar Davis, Tony Grano, and Bob Boxley in helping the authors recall the past also are appreciated.

[1]For a discussion of the early resource economics work in USDA during the BAE period, see "Evolution of the Land Program of the USDA," March 1939, by L.C. Gray (published by BAE, Washington, DC). The post-WWII resource economics work through 1975 is reviewed in an article published by the University of Minnesota for the American Agricultural Economics Association (AAEA) as Section III, Volume 3, of "A Survey of Agricultural Economics Literature," Lee Martin, editor.

Chart 1 RESOURCE ECONOMICS

ORGANIZATIONAL LINEAGE IN THE USDA

BUREAU OF PLANT INDUSTRY

Before WWI Land economic studies

BUREAU OF AGRICULTURAL ECONOMICS

1919 Office of Farm Management and Farm Economics

1922 Division of Land Economics

AGRICULTURAL RESEARCH SERVICE

1953 Production Economics Research Branch

1958 Farm Economics Research Division

ECONOMIC RESEARCH SERVICE

1961 Farm Economics Division

1962 Resource Development Economics Division

1965 Natural Resource Economics Division

1987 Resources and Technology Division

(FERD) with a Land and Water Branch. It remained a Branch in the original organization of ERS in 1961.[2] One might characterize this period as an organizational roller coaster. The rise of land economics to Division status in those early years followed closely the emerging involvement of BAE in land use planning. The land economists at that time voiced great concern about land utilization--the creation of surpluses, the use of submarginal land, and soil erosion. This created a zeal for social planning. L.C. Gray writes "each acre of land has a socially best use, which must be discovered through the process of land use planning."[3] Gray and his colleagues were the "essential nucleus" for the BAE land program. When the Resettlement Administration came into existence, the land policy work shifted to that agency in the midthirties. In addition to land planning and policy, the resource economics work in those early years dealt with land tenure and values, land and water utilization, and land settlement. Many of the issues of this early era, except for settlement, remain today and the role of the economist, especially on program matters, continues to be a conundrum.

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[2]The organization and research thrust of the resource economics work of the BAE, ARS, and the early ERS years is discussed in an Administrative Report by Max M. Tharp, titled "Natural Resource Economics Research in the USDA--Organization and Research Emphasis," NRED, ERS, May 1974.

[3]L.C. Gray, op. cit., p. 11.

The ERS Period

In the early days of ERS, there was a sense of excitement in the agricultural economics community. There was anticipation that the BAE was being recreated, perhaps something like in the Biblical story of reaching the promised land, (ERS), after 40 years (1953-61) of wandering in the "wilderness" of ARS, AMS, ASCS, and other alphabetical combinations. Certainly, having a Director of Economics reporting directly to the Secretary and having our own administrator was considered a step forward.

Although the land planning function did not reemerge with the creation of ERS, many activities relating to land and water planning did influence the organizational structure of the resource economics work. In addition to resource development concerns, there was an overall concern for the viability of rural areas, rural employment, and regional growth. In the first year of the ERS organization, the land and water work kept its Branch status in the Farm Economics Division. But with the rise of the work associated with water resource development and rural area concerns, a new Division, the Resource Development Economics Division (RDED), was created in ERS to house these functions. The resource economics part of the new Division was covered in two Branches, one for land and water and a second for river basins and watershed work (chart 2). The latter Branch was funded to a large degree with funds transferred from the Soil Conservation Service and Forest Service appropriations and to some extent through reimbursements from the Corps of Engineers.

In 1965, the work of RDED became large enough to break the work into two Divisions--the Natural Resource Economics Division (NRED) and the Economic Development Division. Splitting the work provided an opportunity to provide a Branch and section substructure to provide subject matter units and headroom for promotions and recruitment, especially for the growing river basin work and the Water Resource Council functions in Washington. Also, the rural development work had received new funding for rural poverty research. The structure of the NRED work involved four Branches and a data system group. Each Branch had both staff in Washington and in the field.

In 1970, the structure of NRED was streamlined by dropping the Branch designation and creating three organizational units called Resource, Environmental, and Resource Program Studies, each headed by an Assistant Director. The new structure was a test of the fabled man-in-job concept. Economists' grades GS 13-15 would be determined on contributions and the complexity of the work assignment. Another factor in the decision to shift to a study focus related to the static nature of appropriated funding for resource economics work not keeping up with inflation. Some Branches could support only as few as a dozen people. Branches and sections were difficult to justify when only one or two people were in each subunit. From a productivity standpoint, the highly structured NRED organization tied up a large amount of staff time in administrative work. Under the 1970 arrangement, all field staff of the Division became part of Resource Program Studies and were organized into six regional program groups.

In the early 1970's, ERS Divisions were encouraged to utilize the "matrix concept" in the conduct of their work. The matrix organization was an attempt to encourage linkages among Branches and Divisions in sharing data and cooperating in research and staff analyses. This concept was recognition that

Chart 2 RESOURCE ECONOMICS

ORGANIZATIONAL STRUCTURE SINCE 1961 IN ERS

FARM ECONOMICS DIVISION

1961 Land and Water Branch

RESOURCE DEVELOPMENT ECONOMICS DIVISION

1962 Land and Water Branch
River Basin and Watershed Branch

NATURAL RESOURCE ECONOMICS DIVISION

1965 Land Resources Branch
Water Resources Branch
Resources Institutions Branch
Environmental Branch
Resource Data Systems Group

1970 Resource Studies
Environmental Studies
Resource Program Studies

1979 Water Branch
Land Branch
River Basins Branch
Resource Systems Branch
Pest Control Branch

1983 Water Branch
Soil Conservation Branch
Land Branch
Natural Resource Policy Branch
Inputs and Productivity Branch

RESOURCES AND TECHNOLOGY DIVISION

1987 Land Branch
Soil and Water Branch
Resource Policy Branch
Inputs, Technology and Productivity Branch

1990 Water Branch
Land and Capital Assets Branch
Resource Policy Branch
Resource Indicators Branch
Agricultural Inputs and Production Systems Branch

no one organization could fit the evolving research and staff analysis agenda in ERS.

Even with the matrix approach in 1973, the ERS Administrator shifted resources and responsibility for all environmental work to NRED. This helped establish a significant environmental area of work, especially in pesticides. The work on pesticides involved not only environmental concerns and economic impacts of proposed pesticide regulations, but also work was continued on pesticides as an agricultural input. Information on pesticide use and availability for situation and outlook (S&O) came from this part of NRED.

In 1979, the man-in-job experiment came to an end. A decision was made at the Agency level to achieve uniformity in Division organizations across the Agency. The restructure resulted in five Branches--Pest Control, Water, Land, Resource Systems, and River Basins. Again, each Branch had its own field staff. In 1977, the pesticides work received a substantial appropriated funding base, thereby justifying Branch status. Moreover, the pesticides assessment work in conjunction with the regulatory work of the Environmental Protection Agency became increasingly important from a policy standpoint.

The 1979 Branch structure continued until 1983. At that time, the Pest Control Branch function was enlarged by the creation of an inputs component and was renamed the Inputs and Productivity Branch. At this time, all the inputs work in ERS was folded into this unit, since the pesticides work was closely allied with the other ERS work relating to inorganic agricultural inputs.

A Soil Conservation Branch was formed to deal with issues related to conservation policy. Absent from the Branch line-up was the river basin work. The Water Resource Council had ceased to function, hence the impetus for comprehensive river basin planning had diminished. The funding support for ERS river basin work had declined. In some instances, our cooperators--the Soil Conservation Service (SCS) and the Forest Service--recruited economists to develop their own capability to do the economics work for land and water programs. In addition, a decision had been made at the Agency level to phase out all field positions.

In the late 1970's, NRED became involved in situation and outlook work, at first on land values and pesticide inputs. With all inputs work coming into the Division in 1983, the fertilizer S&O work also emanated from the Division. Later, cropland use and land and water conservation investments were included in the S&O work.

In 1986, the Division work was restructured into four Branches--Inputs, Technology, and Productivity Branch; Land Branch; Soil and Water Branch, and a Resource Policy Branch. The new emphasis was technology and productivity. A technology, as well as an externalities, function had been established in the Division office in 1985 and then emerged as a Branch in 1986. Potential technology impacts, including economic and environmental, were receiving much public attention, covering questions about the bovine growth hormone, energy security, and acid rain impacts. This new Branch also focused on productivity changes stemming from cropland use changes and changes in inorganic inputs. In 1987, the Division was renamed to the Resources and Technology Division, using the Branch structure created in 1986.

In 1990, a fifth Branch was added--the Resource Indicators Branch. The new Branch coordinates and implements multipurpose surveys and data efforts to support the S&O as well as the ongoing research and staff analysis program. This unit also tracks productivity and technology measurements as well as agricultural research investments. Capital assets in agriculture is a more explicit function of the Land Branch and conservation studies continue in the Water Branch though the concept is not included in the name of the Branch.

The five-Branch structure in place in the Resources and Technology Division today is a considerable change from the structure in 1919, 1953, and 1961. The organizational structure for resource economics work has been fluid, to say the least. We conclude, however, that the adjustments in organization periodically have, for the most part, been responsive to good administrative practice and have been responsive to the public need for resource economics research results on high-priority issues and problems. Notable have been decisions at the Agency level to group agricultural input- and resource-related issues into a common unit. This is particularly important in the input and technology areas where increasing attention is being given to resource quality and conservation issues that affect the public at large.

Before moving to a discussion of the laws and policies driving the resource economics work over the last three decades, we would like to recognize a somewhat unique characteristic of the resource economics work in ERS and its predecessor organizations. This is the existence of a "ladies auxiliary," appropriately named the "Land Ladies." This group was started by Mrs. L.C. Gray and nine other wives of members of the Division of Land Economics of BAE, and was formally organized in 1934. Originally, membership was limited to wives of members of the Division (apparently there were no female resource economists in those days), but as those economists moved to other positions in the profession, their wives retained membership in the organization, proudly proclaiming "Once a Land Lady, always a Land Lady."

Many prominent agricultural economists, including Howard Tolley, Sherman Johnson, M.L. Wilson, O.E. Baker, and others were among those attending Land Lady events. As the resource economics organizational identity was blended over time with other economics work, such as production economics and rural development, the base for membership was broadened. The Land Ladies have maintained their identity for 55 years and at least two of its founders are listed in their membership today. While the primary function of the Land Ladies organization was social, it has provided considerable financial support to 4-H Clubs of the Washington area from its beginning to the present time.

Laws and Policies Driving ERS Resource Economics Work

From its beginning, the work of ERS has been strongly influenced by concerns over natural resource allocation and use, economic development, and resource-related problems (drought, flooding, erosion control, irrigation efficiency, and so forth). Many of these concerns influenced its predecessor agencies, so the work was a logical outgrowth of previous efforts in BAE and ARS. In the early post-WWII years, the regional research committee structure involving USDA and university economists helped guide the research agenda. But starting in the late 1950's and 1960's, policies at the national level became the driving force for the research, staff analyses, and planning assistance work of ERS. These concerns were expressed in a number of key legislative actions and executive orders that enabled and provided funds for ERS participation in research, planning, and program evaluation (chart 3). The following

Chart 3 RESOURCE ECONOMICS

LAWS AND POLICIES DRIVING ECONOMICS WORK*

1954 Small Watershed

1962 Conservation and Economic Development

1962 Great Plains Conservation Program

1963 Outdoor Recreation Program

1964 Water Resources Research

1965 National Water Policy

1965 Appalachian Regional Development

1970 Environmental Policy

1970 Water Bank

1973 USDA Land Use Committee

1974 Colorado River Salinity Control

1976 Agricultural Pesticide Impact Assessment

1977 Soil and Water Resource Conservation

1977 Rural Clean Water Program

1978 Agriculture Foreign Investment Disclosure

1981 Conservation Reserve--cross compliance

1982 Reclamation Reform--160-acre limitation

1985 Conservation Policy--sodbuster, swampbuster

1990 Conservation Policy--wetlands restoration

*See appendix A for more detail about these laws and policies.

discussion does not attempt complete coverage of such legislative actions but illustrates ERS response to the policies identified.

One of the most important pieces of legislation was the Watershed and Flood Protection Act of 1954 (PL 83-566). This law provided authority for USDA to undertake the cooperative river basin studies which involved ERS from the late 1950's to the mid-1980's. ERS cooperated with SCS and the Forest Service in these studies and received funding through SCS under a Memorandum of Understanding. River basin studies also included other departments, particularly the Corps of Engineers and the Bureau of Reclamation and other agencies in the Interior Department and the Bureau of Economic Analysis in the Department of Commerce. River basin planning was expanded by the Water Resources Planning Act of 1965 (PL 89-80), which created the Water Resources Council (WRC). WRC was intended to coordinate a nationwide planning effort and to provide more uniformity in planning standards among the agencies involved. For example, a uniform set of agricultural prices to be used in the

evaluation of benefits of water resource development projects was developed and kept current by ERS under the sponsorship of WRC, and the construction agencies agreed to use these price standards in the evaluation of their projects. WRC also coordinated the first National Water Assessment of Water Resources, an analysis of water resources and problems in all regions of the Nation.

PL 566 also covered individual watershed projects under the leadership and funding of SCS, and ERS provided economic assistance on these projects by reviewing project plans, maintaining an inventory of planned benefits and costs, and analyzing planned versus actual benefits and costs.

Closely related to the river basin planning studies were programs intended to make the best possible use of natural resources to generate area economic development. The Agricultural Act of 1962 (PL 87-703) created the Resource Conservation and Development Program (RC&D), which authorized the creation of RC&D project areas, usually consisting of two or more counties with problems and/or opportunities for improving the management of resources to aid the local economy. ERS provided economic expertise in preparing project plans and in evaluating proposals for improved marketing and processing of farm products, improving farm practices, and resource-related recreation facilities. Some examples of such proposals include the impacts of new grain elevators, pasture improvement programs, and watershed-based recreation on the economy of the project area. The 1962 farm bill also provided for studies of farm-based recreation, and ERS made several case studies of farmers who provided hunting, fishing, and camping facilities for public use on a fee basis.

The Great Plains Conservation Program (GPCP) was part of PL 84-1021, and the program first received funding for carrying out conservation plans in the Great Plains in 1962. ERS conducted an evaluation of the program to determine progress in installing conservation measures in the problem areas of the region.

Legislation creating regional commissions to deal with persistent economic problems was popular in the 1960's. The largest of these commissions, the Appalachian Regional Commission was created by the Regional Development Act of 1965 (PL 89-4). The Appalachian water resources survey, begun in 1965, under the leadership of the Corps of Engineers, included an inventory of water resource projects of both the Corps and USDA in the region. This work included an evaluation of these projects with particular emphasis on regional development benefits. ERS assisted in the evaluation of benefits and costs of PL 566 watershed projects in the region.

Outdoor recreation received increased attention in 1963 with the passage of legislation to develop and coordinate recreation programs (PL 88-29) and in 1965 with passage of the Federal Water Project Recreation Act (PL 89-72). ERS became involved, through its river basin planning and RC&D area studies, in evaluating the demands for recreation and measurement of costs and benefits of recreation in USDA and other resource development projects.

Beginning in the mid-1960's, public awareness of environmental quality increased rapidly, and with the passage of the National Environmental Protection Act (NEPA) in 1970, government agencies as well as other public and private agencies and individuals became involved. ERS perhaps anticipated this concern by creating an Environmental Economics Branch in 1965, and its

studies dealt with water quality, recreation, and development of indices to measure environmental quality.

Technological advances in farming, including increased use of chemical (fertilizer, herbicides, and pesticides) inputs and development of new and more powerful pesticides, created additional concerns over the environment and public health. ERS was involved in the study of pesticide use in the early 1960's, but more intensive efforts were required by the National Pesticide Impact Assessment Program (NAPIAP) in 1976. ERS cooperated with other agencies in the Department and the Environmental Protection Agency (EPA) in making estimates of the effect of various pesticides on farm production and income and the impact of prohibiting the use of certain pesticides which were believed to pose environmental or public health hazards. Methods of estimating risk in the use of pesticides also were evaluated.

The Soil and Water Resources Conservation Act of 1977 (RCA) (PL 95-192) provides for continuing and expanding resource inventories. It included provisions for studies of prime farmland, erosion and sediment damages, and environmental degradation resulting from improper land and water use. The act provided for a National Resource Inventory (NRI), which updated previous inventories of conservation needs conducted under Executive Orders in 1958 and 1967. ERS has participated in each of these inventories, and has used inventory data in conducting economic studies for the RCA and research relating to the on-site and off-site benefits and costs of erosion, sediment, and water quality.

The Rural Clean Water Program (RCWP) was a provision of the Clean Water Act of 1977 (PL 95-217) and was authorized in both the 1980 and 1981 Appropriations Acts. Assistance was provided farmers who made long-term agreements to improve water quality through best management practices (BMP's). ERS provided assistance in analyzing BMP's in RCWP project areas.

Concerns over foreign purchases of U.S. farmland culminated in the passage of the Agricultural Foreign Investment Disclosure Act (AFIDA) in 1978 (PL 95-460). AFIDA required foreign buyers of farmland to report their purchases to the Agricultural Stabilization and Conservation Service (ASCS). Data collected by ASCS are analyzed and reported annually by ERS. The reports have helped allay fears of foreign domination of U.S. agriculture resulting from highly publicized purchases, particularly in periods when land prices were rising and there was a perceived scarcity of farmland.

ERS provided leadership within USDA for a Primeland Seminar in 1972 wherein some 80 experts from public and private agencies and universities discussed the primeland issue. This prompted USDA agencies to fund the National Agricultural Lands Study (NALS). This study, conducted by an outside contractor, expressed a philosophy of farmland scarcity, but research and data based on land utilization, begun by predecessor agencies and refined over the years by ERS, put the volume and the availability into its proper perspective.

The rapid decrease in farmland values and restriction of credit to farmers created severe financial problems for agriculture in the mid-1980's. ERS research on land values and farm credit was expanded during this era, providing more frequent and accurate estimates of land values and credit conditions.

Protection of farmland from unnecessary development was the objective of the Food and Agriculture Act of 1981 (PL 97-90). The Act directs USDA and other Federal agencies to consider the impact of converting farmland for Agency use. ERS estimates of land use can be used in complying with the intent of this legislation.

The Reclamation Reform Act of 1982 (PL 97-293) was aimed at limiting the land eligible for individual farmers to receive low-cost irrigation water through Bureau of Reclamation-funded districts. The 160-acre limitation was circumvented in many of the Bureau's projects. Attempts to enforce the limitation was expected to change the structure of farming in these areas. ERS conducted studies of the impact of enforcement on farm size and efficiency in the project areas.

The Food Security Act of 1985 (PL 99-198) contained several provisions for soil and water conservation, including compliance with conservation plans on farms receiving assistance from other USDA programs. The bill also established a conservation reserve as well as sodbuster and swampbuster provisions. The 1990 farm bill included provisions for wetlands protection. These features resulted in several ERS studies to examine policy and program implications.

Major Resource Studies, Staff Efforts, and Data Work

One of our first steps in reviewing ERS resource economics was to develop a list of the major studies and staff efforts performed over the past three decades (chart 4). Our list represents what we consider "major"; your list might differ. Our attempt here is to explain briefly why we feel these studies deserve mention.

Clearly, the river basin study and projections work helped put a national and regional perspective on and a rationality to water development plans. ERS resource economists played a major role in the development of the principles and standards at the national level, including the development of price standards for use in project and program plans. ERS involvement in water policy and river basin work came at the direction of the Secretary's Office. Much of this influence continues today, even though the Water Resource Council does not exist and ERS is no longer directly involved in individual river basin studies. Price standards for planning continue to be provided by ERS.

Almost all of the river basin work was supported through transfer funds under Memorandum of Understanding agreements with program agencies. In many instances, the economics work suggested less rather than more development expenditures; Agency administrators were loath to support this activity in their budget. And ERS administrators wavered somewhat in their support of river basin work because of the use of personnel ceilings with little say over study priorities and location of work. In some ways and for similar reasons, the river basin planning assistance work met the same fate the BAE regional planning work did in 1953--the work was phased out in the early 1980's. This coincided with the decision in the Agency not to locate staff in positions away from Washington.

The major land use series based on the Census is the only long-term monitoring of land use that exists in the country. This work was important in the prime land debate in the 1970's. ERS had a lead role in planning the Prime Land Symposium held at Airlie House in 1972. From this conference came a fervor to

Chart 4 RESOURCE ECONOMICS

MAJOR STUDIES, STAFF EFFORTS, AND DATA WORK

1960's	Major Land Use Series
	Water Law Reports
	National Water Assessment
	Principles and Standards
	Land Council Proposal
	Secondary Impacts Symposium
	Land and Water Policy Guide
1970's	National Inter-regional Agricultural Projections
	Normalized Prices for River Basin Planning
	Prime Land Symposium
	Boll Weevil Study
	Resource Conservation Appraisal
	Coyote Study
	Land Ownership Survey
	Pesticide Surveys and Assessments
1980's	160-Acre Limitation Studies
	Situation and Outlook Series
	Targeting Erosion Control Studies
	Economic Analysis of Erosion Control Programs
	Technology Assessment Series
	Ethanol Study
	Groundwater Contamination Study
	Resource Options for 1990 Farm Bill

preserve prime agricultural land, especially on the part of program Agency staff. This prompted USDA to sponsor and fund NALS. This work was done outside of USDA by a group with a predetermined mission to demonstrate that prime farm land was disappearing at an alarming rate. The major land use data were very important in putting the rather dire NALS farmland conversion figures in perspective.

The ERS environmental work relating to boll weevil eradication and the coyote control study are examples of ERS-led studies to help in decisions about control methods and environmental regulation. The belt-wide boll weevil study focused on the economic impact of various approaches to eradicating or controlling the boll weevil. In a similar manner, the coyote study looked at

the impacts on the sheep industry of using different predator control techniques. Both efforts required close working relations with physical and biological scientists in ARS, EPA, and universities.

The pesticides work has undertaken many analyses of the economic impact of banning or not registering specific pesticides. In addition, surveys of pesticide use have been useful in appraising the economic and environmental importance of these inputs. The work is used by the EPA in decisions about pesticide use and registration.

In the late 1970's, ERS allocated funds for a national survey on landownership. The survey was an attempt to obtain information on landowner characteristics, size of ownership as well as other details on conservation, development, clearing, and tenure. This survey provided factual information on ownership patterns and absentee ownership. A significant finding was that ownership patterns were not significantly different from those found in an earlier 1946 study. Corporate holdings, for instance, remained about the same as did the size of ownership parcel. One inference was that as the size of farm operations got larger, the number of farm owners per farm operation increased, making leasing and tenure arrangements more complex.

Another facet of landownership dealt with foreign ownership of agricultural land. The Agricultural Foreign Investment and Disclosure Act (AFIDA) required foreigners to report their holdings and acquisition of agricultural land. These data show that foreign holdings of agricultural land are not significant; further, a large share of the landholdings are timberlands rather than farmland. The AFIDA studies indicate foreign interests are not accumulating large shares of U.S. agricultural production capacity.

The ERS resource economics studies of the Department's conservation programs have consistently shown that program dollars for conservation tend to be spread across the country, with insufficient attention to needs and priorities. A considerable fraction of the conservation program dollar has been spent on soils with minimal erosion problems and in some cases the practices used enhanced productive capacity, thereby working at cross-purposes with commodity programs. ERS had a lead role in the regional committee (NCR-111) symposium on conservation policies, institutions, and incentives held in 1981. Several ERS resource economists contributed to the conference; the proceedings were reproduced as a book. These and other studies prompted major analyses of the benefits of targeting conservation expenditures. Later, ERS was asked to do a major study on the economics of USDA erosion control programs. This study focused on the long-term soil productivity benefits and the reduction of off-site damages. Targeting was reaffirmed.

Also in the early 1980's, resource economists became involved in a major USDA interagency effort to study the consistency between the Department's commodity and conservation programs and objectives. The study indicated that about one-third of U.S. cropland with excessive soil erosion rates was operated by farmers who might be influenced to reduce erosion if program changes were made. The study notes that commodity programs conflicted with conservation programs, in that they encouraged production of erosive crops. Several economics reports were published on sodbuster, swampbuster, and conservation issues that now dominate the conservation policy agenda. The 1985 and 1990 farm legislation reflected the linkage of commodity and conservation policy and benefited from the work of ERS resource economists.

Another important study in the late 1980's dealt with ethanol production. This work looked at energy security and agricultural objectives of an expanded ethanol production program. The evaluation considered various policy options involving subsidies to ethanol producers, including improvements in production technology. Ethanol may have an important place in the Nation's energy policy as oil prices increase. This study helped put ethanol in perspective, both as a substitute for petroleum and as an industrial use to expand the market for grain.

A groundwater contamination study by resource economists in ERS was a landmark effort. The work was the first attempt in the United States to describe and analyze areas potentially affected. Some 19 million people use water from private wells that might be affected by pesticides, nitrates, and fertilizers. Through the analysis of available data from EPA, potential contamination appears to follow regional trends; furthermore, not all pollutants appear together. The findings suggest that a targeting of strategies to reduce groundwater contamination would be needed.

Finally, the new emphasis on technology assessment bore fruit in the late 1980's. Technology assessment looks at effects of a new technology on farmers, consumers, the environment, and the economy. A report on growth hormones, released in 1989, examined the potential impacts of this technology on the meat and milk industry. Using a simulation model and assuming widespread adoption, the short- and long-term effects are expected to be small. The effects on milk, beef, and hog producers probably will be indistinguishable from normal year-to-year variations. Adoption of the hormone technology would encourage structural trends already underway, namely, specialization and fewer and larger farms.

These are some of the contributions that came to mind as we performed our "quick" review. Others could be added that would be equally important.

Changes in Resources Economics Research Since 1961

We have traced the organizational lineage and the change in organizational structure for resource economics work in ERS. And we have highlighted some of the important contributions as well as laws and policies driving the research agenda. Another part of our review was to look at the bibliographies in ERS and the Division. We examined the report titles from 1961 to 1990 covering some 2,925 reports. We characterized each piece as to type of work and the intended primary audience. The classification was difficult in many cases as some work obviously served multiple purposes and audiences.

We start first with trends in type of work (table 1). Our classification suggests a definite trend toward applied work. In the 1960's, about two-thirds of the studies are applied; in the 1980's, more than four out of five reported results that could be directly used by program officials, farmers, or consumers. In contrast, relatively less of the work was conceptual or methodological in the 1980's, shifting from about 30 percent in the 1960's to 12 percent in the 1980's. The emphasis on data development also fell. We did not show the absolute numbers for the tables. There were 516 titles in the 1960's, 1,096 in the 1970's, and 1,313 in the 1980's. In absolute terms, a much larger volume of technical work was produced in the 1970's than in either the 1960's or 1980's. The number of workers in each of these periods influences these trends; however, we were not able to readily track employment

Table 1--Change in character of resource economics work, 1961 to present

Decade	Type of work[1]			
	Applied	Conceptual	Data	Total
	Percent			
1960's	63	29	8	100
1970's	73	21	6	100
1980's	84	12	4	100

[1]*Applied* = results can be used directly by policy and program officials, including farmers and consumers. *Conceptual* = results are intended for use by other analysts in developing applications. *Data* = bibliographies, descriptive information, and data series for use and interpretation by others.
Sources: ERS bibliographies.

numbers and funding. We know the staff grew from the 1960's to the 1970's, and we believe levels were stable even with the merger of the inputs and technology work. Funding plans for FY 1990 and 1991 suggest that more attention will be given to data development, especially in the inputs area.

What would cause these trends in type of work? We think that some of the change came from the natural evolution of the work, the merging of areas, and the resource economics agenda. And some came from the Agency leadership in stressing more applied work. In looking at the publications lists, clearly more time is being devoted to situation and outlook reporting. Also, there has been greater emphasis on staff analyses of policies and programs on matters such as sodbusting, cross-compliance, and conservation reserve. We did not categorize the publishing mode for Division publications. We observed that a variety of outlets were used, including journals.

The reduced conceptual work appears to be correlated, at least time-wise, with the shift from field research. We did not categorize the methodological work as to whether it was done in the field or in Washington. This would be an interesting follow-up effort. Certainly, staff located at universities, with opportunities to undertake cooperative research and to pursue graduate programs, would be more apt to publish methodological work. The principal criticism of cooperative research at university locations is that ERS staff got co-opted by university and State priorities with less attention given to ERS needs. We remember one Deputy Administrator of ERS defining cooperative research with universities as, "the university 'coos' and ERS 'operates.'"

In the early years, studies were reported on: the derivation of resource supply functions, estimating environmental quality benefits, measurement procedures for valuing recreation experiences, value measurements for different levels of visual water quality, use of factor analysis and linear programming in watershed and river basin evaluations, simulation techniques, and so on. In the 1960's, the Division sponsored a conference on secondary impacts, resulting in numerous methodological papers relating to this topic.

The decline in reports containing data was associated with the reduced effort to produce State law reports and the preparation of bibliographies. The periodic major land use report series was the only continuing data base reported over the three decades. We categorized the new situation and outlook reports in the 1980's as applied, since they involved analysis. To the extent these are considered data, the downturn in data work would not be as steep. The 1978 landownership survey data were presented primarily in analytic reports and were not classified as data reports. The national and State landownership tapes were provided to many users across the country. This distribution of these tapes was missed in our count.

We now look at the research from a different viewpoint. What geographic area would benefit from the published work? Our classification scheme obviously is ambiguous. Research results can, and often are, aimed at multiple audiences. We tried to identify the primary geographic audience, recognizing that other audiences also are served.

The shift toward a national audience seems clear (table 2). In the 1960's and the 1970's, only half the reports had a primarily national audience; in the 1980's, it was 78 percent. This is consistent with the earlier discussion about a shift toward work on national issues and policies. The new emphasis on situation and outlook contributed to this swing, as did a variety of reports on pesticides, technology, conservation, landownership, and water and land use, which reflected mostly national issues.

Resource economics work for State and local consumption received relatively less attention, especially in the 1980's. The river basin and watershed program phaseout and the closing of field offices are linked to this change. Most of the river basin reports had a region, State, or river basin focus. The watershed work involved specific sub-State areas. The Resource Conservation and Development program and the Rural Clean Water Program generally related to small hydrologic areas. Some of this work carried over into the 1980's. Toward the end of the 1980's, the research program would be weighted even more heavily toward national audiences.

Table 2--Change in research focus of resource economics work, 1961 to present

Decade	Primary audience[1]				
	Local	State	National	International	Total
	Percent				
1960's	16	30	50	4	100
1970's	5	38	54	3	100
1980's	4	15	78	3	100

[1]Local = research intended to be useful for counties, watersheds, districts, individual farmers, and consumers. *State* = research for the benefit of States, river basins, water regions, or multi-State areas. *National* = research intended to be of use to the Nation, including national interregional applications. *International* = research intended to help interests outside the geographic U.S. boundaries.

Source: ERS bibliographies.

A small share of the resource economics work related to an international audience. Most notable in this area was the resource inventory system for developing countries; the system used aerial photography and remotely sensed data. This was the product of an interdisciplinary team led by ERS resource economists during the 1970's and early 1980's. Other international work reported appeared to be coincidental to the organized work in resource economics. The emerging work on global climatic change may modify this trend, however.

Lessons Learned

Our overall assessment is that the resource economics work in ERS has played a significant role in the policy and program decisions of USDA as well as other Federal and State agencies. Coming from us, this sounds self-serving we know, but we feel that our discussion above reflects the positive contributions of resource economists over the years. But in an organization as complex as ERS and with the varied work of the resource economist, issues are bound to arise. An agency invariably will have concerns about the research agenda and changes in policies and procedures; resource economics is no exception. We close with a few to whet your appetite for thought and discussion. We hasten to add that many of these "lessons" relate to other parts of ERS as well.

Dependence on "Soft" Money

We have already mentioned some of the issues involved with the use of transfer and reimbursement funds in contrast to using appropriated funds. The river basin work of the 1960's and 1970's depended almost exclusively on transfer funds from other agencies. With transfer funds, the concept was that the funding Agency was providing for a staff capability to do economic analysis for their programs, in contrast to reimbursements where a specific product is to be produced. In the transfer agreement with the funding Agency, the general nature of the work was identified. ERS then maintained a staff to carry out the work in cooperation with other river basin cooperators with agreed-to plans of work. As indicated earlier, some agencies were expecting the economics work to justify programs; when it did not, relationships became strained. In most cases, the economics work depended upon physical and biological data from program agencies; this often caused scheduling problems and delays in delivering products.

The ERS leadership was reluctant to expand transfer and reimbursement work because permanent personnel ceilings were involved, with no assurances that funding would continue to cover salary and administrative expense. Personnel ceilings often were limited. At one time, about three-fourths of the Division's work came from transfer and reimbursement funds. Program agencies were reluctant to shift any of their appropriated base to ERS on a permanent basis for fear of ERS shifting the funds to other purposes, such as conceptual work and training. In spite of all these travails, good economics work was performed and ERS workers gained valuable insights about policy and program interaction. The question remains concerning the proportion of ERS work that appropriately should be covered by reimbursements.

Limited Research Capital

Any organization, especially a research organization, depends on the professional capabilities of its workers and the quality of the data, as well as administrative support to carry out its functions. We call this "research

capital"--the ability to apply the appropriate techniques and know-how to address research issues, staff analyses, and policy questions. In a similar way, data bases are needed to carry out S&O, staff analyses, and research work. An Agency can hire staff with the necessary training and/or provide in-service training, generally through assignments at universities, and provide opportunities to pursue further training. Data bases can be internalized, or researchers can depend on data from other agencies. Our review of the ERS experience suggests that a smaller share of ERS funds are being used to address conceptual, methodological, and data issues (table 1). The policy of no field staff may reduce opportunity for ERS staff to gain technical expertise. And, as we discuss later, the high turnover rate reduces opportunities for the staff to develop and publish technical work. The apparent shift in emphasis away from methodology and data comes when policy analyses and situation and outlook work would appear to need continuing doses of research capital.

Research Versus Staff Work/Planning Assistance

A continuing debate, especially in the 1960's and 1970's, concerned whether planning assistance and staff work were appropriate activities for resource economists. This work always had tight deadlines and a paucity of data. The protocol of refereed reports and statistically verified data were not used in many instances. The work depended on existing knowledge; some work was performed on the "back of an envelope." Policy and program decisions were being made--sometimes using little economic information. Decisions would be made with or without the resource economist's input. Again, to quote L.C. Gray on the BAE experience, "It had become clear to us in the (Land Economics) Division, however, that bulletin writing and academic papers were a slow way to advance the ball toward action, and that other means should be found."[4] What is past is prologue.

The demand for staff work and planning/program assistance has not diminished. The link between resource economics research and staff work/program assistance work is much like the tug of war between research and extension at the land-grant university. If staff work and program assistance work are pursued so as to provide the best objective and most reliable information possible, then the legitimacy question should abate. Those doing staff work from within a research organization should feel obligated to expose their work to peer review. Unfortunately, those performing staff and program assistance work have little time to seek peer "testing" of their work.

University and Cooperator Relations

Emery Castle and others, in discussing the growth of the environmental movement, the specter of energy scarcity, and the rising urban interests in resource issues, indicate that a new policy matrix exists. They indicate "...from this explosion of public policy problems, institutional support for resource economics has become increasingly fragmented."[5] They go on to say that the tracking of the resource economics literature will be increasingly difficult to follow. Foundations, universities, institutes, advocacy groups, and program agencies, as well as ERS, undertake, fund, and/or contract in (and out) resource economics work. These institutions often compete with one another, especially for funds from program agencies. Program agencies

[4]L.C. Gray, op. cit., p. 9.
[5]"Survey of Agricultural Economics Literature," op. cit., p. 412.

increasingly are hiring resource economists to perform work within the Agency. ERS work at some universities has developed research capital, which later was used for a contract with a program Agency. And program agencies have contracted with foundations and universities when the capability existed in ERS.

Competition is good but excessive fragmentation would appear to be a continuing problem. A related concern with fragmentation is that little capability exists to track and critique the public and private sector work in resource economics. To borrow a metaphor from Jim Bonnen--perhaps the resource economics work (wine) needs a new institutional framework (wineskin) to help sort out the emerging priority research and funding needs, as well as to track the work in the profession. To what extent should the ERS resource economics work link with the Association of Environmental and Resource Economists? Other groups relating to regional science, as well as urban and regional policy, exist. Is there common ground with these interests?

Land: Production Input or Resource?

The AAEA review of natural resource economics work suggested that the post-WWII research thrust and organizational arrangements treated land as an agricultural input, with little emphasis on land as space--a piece of geography that man occupies, pollutes, and manipulates for a variety of services and products, including agriculture. How a tract of land is used impacts many users, ranging from quality of product, visual quality of the landscape, and off-site effects from the manipulation of the piece of geography.

Environmental quality and the "wise" use of land in the broader context have become important policy issues. What is the role of ERS in looking at this broader set of issues? ERS resource economists have tackled some of these issues over the years--outdoor recreation, rural clean water, and groundwater contamination are examples. The current focus on technology assessment appears to be an attempt to look at resources in a broader context. Does the agricultural interest drive the technology assessment agenda or is there a broader social interest calling the "research agenda" shots?

Employee Retention

One of the frustrating experiences of an administrator is the loss of his employees to other jobs. The resource economics work in ERS has been plagued with turnover. Promising, well-trained employees are recruited and then, after 2 to 3 years, they leave for greener pastures. Many of the resource economists have transferred to other agencies and universities, often for a promotion and a more favorable grade structure for advancement. And for some, the challenge of working in an action agency was the drawing power. ERS resource economists have moved on to SCS, the Forest Service, ASCS, the Office of Science and Education, Bureau of Reclamation, Bureau of Economic Analysis, U.S. Geological Survey, Environmental Protection Administration, National Atmospheric and Space Administration, and yes, even transfers to ARS. I am sure we have missed some agencies. Interestingly, the flow seems to be mostly one way; ERS is the stepping stone to these assignments.

The bad news is that ERS spends considerable time recruiting staff to come to Washington and their capability is lost in a short time. As indicated earlier, the short tenure lessens the ability to develop solid expertise and

trade in action agencies. One way to help these agencies is to "let" them hire good economists. But if the ERS staff go to these agencies because a bigger paycheck is in the offing, then the problem shifts to a job classification and grade level issue.

Also included in the staff retention dilemma is the question of whether the policy of no field staff contributes to short tenure. One of the problems with a field staff was the resistance to moving to Washington. And there was continuing concern about the responsiveness of field work to the policy and staff analysis agenda of ERS. Field staff may have had longer tenures but the tradeoff was not considered satisfactory.

Man-in-Job

Administrators and Division Directors can attribute a lot of their wrinkles and gray hair to the issue of job classification. The man-in-job concept of grading research positions on the basis of the complexity and difficulty of the assignment has been good in concept, but its application has a spotty record. To retain and reward staff has been an uphill battle. The loss of employees and the difficulty in building research capital are the "downside" indicators of the grade structure problem. The basic questions have been--if an economist can receive a GS-13 in another Agency doing the same work, why can't ERS compete? Similarly, if ARS is able to promote physical and biological scientists to the senior grades of GS-15 to GS-18, why can't ERS? The ERS leadership, in order to get some head room for higher grades, often retreats to an extended organization structure for Branch and section leaders. ERS staff would then be promoted on the basis of supervisory and administrative work with less emphasis placed on capability and experience in the research assignment.

Epilogue

In closing, we want to applaud ERS for its part of the journey for USDA resource economic research, staff, and policy analyses. We enjoyed this opportunity to reminisce. We hope our "recall" has been helpful. We have raised some questions and we have offered no solutions. On the other hand, we were not asked to solve problems!

Our best wishes to ERS and the resource economics work in the years to come.

Appendix A--NATIONAL CONCERNS, LEGISLATIVE AND EXECUTIVE ACTIONS, AND ERS ACTIVITIES, 1961 to 1991

Area of Concern	Legislative or Executive Action	ERS Activities
watershed problems	Watershed Protection Flood Prevention Act of 1954 (PL 83-566)	river basin planning watershed inventories
conservation and economic development	Food and Agric. Act of 1962 (PL 87-703) RC&D program	project evaluation
conservation problems, Great Plains region	Great Plains Conserv. Program (PL 84-1021) enacted 1956	program evaluation
consistency in standards for planning	Senate Document 97 Water Resources Plan. Act (PL 89-80) 1965 Principles & Standards	task force reports program & project evaluation
water research	Water Resources Research Act of 1964 (PL 88-379)	task force reports
outdoor recreation	Coordination & Develop. of Outdoor Rec. Prog. (PL 88-29) 1963 and Federal Water-Project Recreation Act 1965 (PL 89-72)	project evaluation
regional development	Appalachian Regional Development Act of 1965 (PL 89-4)	project evaluation
environmental policy	National Environmental Policy Act (NEPA) (PL 91-190)	impact studies
wetlands preservation	Water Bank Act of 1970 (PL 91-559)	project evaluation
land-use policy	USDA Committee on Planning and Policy for Land Use, 1973 National Agric. Lands Study	prime land seminar task force reports
irrigation policy	Colorado River Salinity Control Act (PL 93-320) 1974	program evaluation
pesticide impacts	National Agricultural Pesticide Impact Assess. (NAPIAP) Federal Insecticide Fungicide, Rodenticide Act (FIFRA) 7 USC-136	studies of impacts of prohibiting pesticides

Appendix A--NATIONAL CONCERNS, LEGISLATIVE AND EXECUTIVE ACTIONS, AND ERS ACTIVITIES, 1961 to 1991--Continued

Area of Concern	Legislative or Executive Action	ERS Activities
resource inventories	Soil and Water Resource Conservation Act (RCA) of 1977 (PL 95-192)	updating of 1962 and 1977 inventories
water quality	Clean Water Act of 1977 (PL 95-217)	demonstration area area evaluation
foreign purchases of U.S. farmland	Agricultural Foreign Investment Disclosure Act (AFIDA)(PL 95-460) 1979	annual analysis of purchases
farmland protection	Food and Agric. Act 1981 (PL 97-98)	analysis of farmland conversion
reclamation policy	Reclamation Reform Act (PL 97-293) 1982	task force reports on 160-acre limit
erosion and conservation	Food Security Act of 1985 (PL 99-198)	analyses of conservation reserve, swampbuster, sodbuster

Sources: Bea H. Holmes, "Legal Authorities for Federal (USDA), State and Local Conservation Activities, Background for the Second USDA RCA Appraisal," SCS, USDA, Sept. 1987. Bruce Campbell and P. Timothy Lawlor, Jr., *Digest of Federal Natural Resource Legislation 1950-66*, ERS-355, USDA, ERS, 1967.

Comments for the 30th Anniversary of ERS

Pierre Crosson
Resources for the Future

I am going to focus on the question: "Is the agency, and more specifically the Resources and Technology Division, properly positioned to address successfully the principal resource issues American agriculture likely will face over the next several decades?"

To address the question requires a conception of what the main resource problems of U.S. agriculture might be over the next few decades, mainly that most resources are now devoted to production of food and fiber, but many of those resources could be devoted to production of a range of other services--wildlife, outdoor recreation, water of a given quality, and visual amenities--which, for brevity, I call environmental services.

So, the resource management issue in agriculture can be stated as how to find the optimal use of agricultural resources in meeting demands for food and fiber and environmental services. We can address the issue by considering prospective demand and supply conditions for food and fiber relative to conditions for environmental services.

Food and Fiber

Consider food and fiber first. Demand drivers include domestic population, population and income in developing countries, and the U.S. competitive position. Demand is not likely to increase more than 1 percent per year over the next three or four decades, even if world trade increases in step with demand, and the United States maintains a competitive position. However, if the developing countries increase food production over the next several decades at the same rate as in the past several decades, world trade in food likely would decline sharply, implying lower U.S. exports even if we maintain a competitive position in trade.

Supply stimulants include land, water, and knowledge (technology, institutions, and human capital). Land is not likely to be a constraint, in spite of erosion and conversion. Water is a more limiting factor, particularly under climate change. Regarding knowledge, the prospects for technological change look reasonably good, as does the investment in knowledge of farm people. There is no reason to expect deterioration in the institutional environment. My conclusion is that supply will easily keep up with demand, and probably exceed it.

Environmental Services

Demand stimulants for environmental services include domestic and foreign population and per capita income growth (the income elasticity of demand

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Pierre Crosson, a research economist for Resources for the Future, has focused on land, water, and soil issues for many years, working frequently with ERS.

probably lies between 0.5 and 1.5, substantially higher than for food and fiber). Supply is likely to be more inelastic than the supply of food and fiber because:

- The lack of enforceable property rights weakens incentives to invest,
- The lack of prices obscures emerging scarcity, and
- The agricultural research establishment is geared to expand the supply of food and fiber.

My conclusion is that providing the environmental services of agricultural resources will be more difficult than providing food and fiber.

Implications for ERS Research on Natural Resources and Environment

ERS has the opportunity to explore the above hypothesis about relative demand and supply conditions. ERS could also investigate the prospective demands for the various kinds of environmental services provided by agricultural resources. And, finally, ERS could investigate the technical and institutional conditions for increasing the elasticity of supply of those services.

How well positioned is the agency for undertaking research along these lines? Publications of ERS people in refereed journals and their presence on AAEA programs indicate that professional capacity is not likely a limiting factor. The present emphasis in ERS research, as reflected in recent ERS publications, indicates that 3 to 5 percent of the reports are on the environment; fewer are on technology; and fewer still are on institutional aspects of managing environmental resources. Rural Technology Division papers may be 15 percent on environment, 10 percent on technologies related to environment, and fewer, if any, on institutional aspects. Most environment papers deal with the supply of environmental services, such as the effects of soil erosion/sediment and animal wastes on surface water quality, but little on the environmental impacts of pesticides. Papers on technology show much emphasis on conservation tillage and integrated pest management, but little on sediment management or supply of wildlife services.

Current ERS reports contain little on demand for environmental services, in contrast to roughly the first 15 years of ERS when there were relatively many papers on demand, such as that for outdoor recreation and "natural beauty." Contingent valuation methods and other techniques for doing these demand studies are now fairly well developed, as is the literature on the various values at issue. ERS could take the lead on further development and application of these techniques, specifically demand for environmental services in agriculture.

ERS could recognize the importance of research on institutional factors affecting the supply of environmental services. Although the early days saw a major emphasis on institutions, Sharp says that from the founding of ERS, this gave way to increasing emphasis on analytical technique (Max M. Sharp, *Natural Resource Economics in USDA--Organization and Research Emphasis*, unpublished report, 1974). That was good, but now analytical approaches to institutional performance are needed, for example, to study the nature of the institutional obstacles to investment in expanding the supply of environmental services in agriculture.

Rural Development

Moderator: Charles E. Bishop
President Emeritus, University of Houston

In a sense, the entire history of the U.S. Department of Agriculture can be said to represent an effort by the nation to develop its rural areas. That all-encompassing view, however, is not what is generally referred to as the rural development program of the Department. Rather, specific focused efforts toward rural development are generally dated from the passage of the Rural Development Act in 1955.

At its inception, the rural development program represented a new emphasis, recognizing the existence of large numbers of rural people striving to live from meager resources. Its stated purpose was "to help families on small farms with limited resources to attain greater opportunities in an expanding economy (2)."[1]

Inherent in this statement of purpose of the rural development program was one of its greatest weaknesses. Even though the definition of purpose appears to be broadly based, a closer examination reveals major weaknesses. For example, although it was called a rural development program there is no specific reference to rural nonfarm people. Instead, emphasis was placed upon helping families on small farms attain greater opportunities.

The program came at a time when our understanding of the processes of economic growth and development was limited. We did not fully understand, for example, how the processes inherent in the urbanization of the American economy would affect rural areas. Agricultural economists were largely preoccupied with the problems of firms, and limited attention was given to inter-industry problems that were much more important to the majority of the rural population. Primary emphasis was placed upon product market conditions and increasing commodity prices. In factor markets, emphasis was given to land policies and to conservation and shifts in land use. In capital markets, special credit programs were instituted to encourage development of farms. The labor market in rural areas was largely ignored. In fact, the concept of a functional labor market linking urban and rural areas hardly existed, and there was no specific public policy to facilitate the transfer of labor from farm to nonfarm jobs or from rural to urban areas. Such was not politically expedient.

The rural development problem was not viewed as a part of a more general problem of economic development. Had this been the case, much more emphasis would have been placed upon people and their welfare and less upon agriculture as an employer of resources. The current residence of the family should have been considered only as a basis for defining the population for study. More than a decade before the initiation of the rural development program, a small group of economists in the old Bureau of Agricultural Economics understood that economic policy was driving a wedge between farm and nonfarm people and

[1]Underlined numbers in parentheses refer to items in the References at the end of this presentation.

that labor policy failed to meet the needs of most rural people. They set about to improve the lot of those who were being bypassed. Shortly thereafter, the organization was purged by the Congress, and research on the welfare problems of farm people was replaced by relatively noncontroversial studies of farm management, commodity marketing, and farm commodity price policy.

After the purge, agricultural economists placed heavy emphasis upon improvement in technology as a means of decreasing production costs and increasing efficiency of the operation of farms and marketing firms. Perhaps in no instance was our extreme preoccupation with microlevel problems more clearly demonstrated than in the increased allocation of scarce research resources to the study of commodity production functions. At a time when stocks of farm commodities had become unbearably large, agricultural economists were worried about measuring the marginal productivity of another unit of nitrogen in the production of corn. (As I reflect upon my own professional career, it is with chagrin that I recall that I spent several weeks of my time on such trivial pursuit.) We became so imbued with micro problems that we were on the verge of becoming totally separated from the important problems of our time.

As a result of our preoccupation with problems at the firm level, we devoted entirely too few resources to understanding the effectiveness with which social, political, and economic institutions met the needs of people in rural areas. Too often, problems were viewed as resource efficiency problems involving the transfer of resources among uses rather than resource development problems involving investments in the enhancement of future productivity of resources and particularly labor.

In an economic development context, the productive capacity of resources is not taken as given but becomes a part of the problem. Investment in the human agent represents a use for capital in the same sense as current income-generating uses. Today, we fully recognize that the solution to the problems of people living in low income areas lies outside agriculture in nonfarm employment opportunities. Moreover, we know that people reared in rural areas will lack the requisite skills to function productively in high-wage industries unless they are provided with the same educational opportunities as others in our society. Let me also emphasize that our tendency toward viewing economic problems in micro terms blurred our vision of the fact that rural economic development is a process involving continuous change. It is not a once and over change. Our economy is dynamic, not static. In such an economy, as we pursue an equilibrium to improve the use of our resources, we must recognize that ever-present changes in our economy continuously alter equilibrium conditions. In a dynamic economy, equilibrium is a state to be pursued, but never attained. Our challenge is to continuously search out opportunities for betterment.

Frequently, the kinds of changes that are involved are not contained within the rural areas being studied, that is, they are not place-bound. Rather they involve the transfer of resources, especially labor, between rural and urban areas. Our human resource development challenges are likely to be most successful if we emphasize the need for adaptability and flexibility in the use of human resources rather than training people for employment in jobs that currently exist in rural areas.

Today we want to take a critical look back at the rural development program and to review the major accomplishments and shortcomings since its inception. Following that, we shall critique current rural development activities in the context of the economy of the 1990's and identify changes that will be necessary to achieve equitable economic opportunities for people living in depressed rural areas as we move into the next century.

Our first speaker is Dr. Lynn Daft. We are especially fortunate to have his critical review of the rural development program from its inception to the present. A graduate with a Ph.D. from Michigan State University, Dr. Daft brings to his assignment the perspective of one who has been deeply involved in public policy analysis for more than 25 years. His work with the National Advisory Commission on Rural Poverty, the Office of Economic Opportunity, USDA's Economic Research Service, the Office of Management and Budget, the Congressional Budget Office, the Carter White House domestic policy staff, and more recently with a consulting firm specializing in public policy analysis, has provided him with unique insights into our economic policies and their effects upon rural areas. We look forward to his penetrating analysis.

Our second presentation will be by Dr. William A. Galston, Professor of the School of Public Affairs at the University of Maryland at College Park. He is a senior research scholar at the University's Institute for Philosophy and Public Policy. After receiving a Ph.D. from the University of Chicago, Dr. Galston was a member of the faculty of the Department of Government at the University of Texas at Austin for nearly a decade. Subsequently, he moved to Washington to serve as issues director for the presidential campaign of Walter Mondale. He then served as director of economic and social programs at the Roosevelt Center for American Policy Studies before joining the University of Maryland.

Professor Galston is the author of numerous articles on politics and public policy, and of five books, including a monograph to be published later this year that surveys the future of U.S. rural development. We look forward to hearing his views of changes that are needed in rural development policy as we move into the 21st century.

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ERS and Rural Development: A Historical Perspective

Lynn M. Daft
Assistant Deputy Administrator, ERS, 1971-74

My assignment is to look back over the past 30 years and to offer a perspective on the involvement of ERS in rural development research. Plenty of potential hazards lie in this assignment. I am going to try to avoid some of them to keep my presentation brief. I am not going to enter into a definitional discussion of terms like "rural" or "development," for example. Rather, I accept the definitions as they have been used, implicitly or explicitly, recognizing the many changes, inconsistencies, and ambiguities that this usage entails. In general, my focus will be on research and policy that is concerned with the economic and social well-being of the larger rural community, farm and nonfarm.

To understand ERS's early involvement in rural development research, we should first review the situation leading up to the establishment of ERS. I briefly describe the strengths and weaknesses of this involvement and conclude with an observation or two regarding the future.

Background to the Formation of ERS

USDA first became involved in what might be termed "rural development" when agriculture itself was in a developmental stage. Many activities of the Federal Government in the 1800's were rural development in the sense that they promoted the settlement and growth of vast parts of rural America and promoted the improved well-being of the people living there. Support of this development required attention to the settlement of the land (Homestead Act of 1862), education (Morrill Act of 1862), and social infrastructure (establishment of the Office of Public Roads in USDA in 1905). Thus, before the Department became involved in price and income support and stabilization and in food assistance, its principal mission was developmental.

The Country Life Commission Report of 1909 is often cited as the first comprehensive statement of Federal involvement in the broader affairs of rural America. The Commission was created in response to a growing recognition and concern over the disparity in living standards between rural and urban areas. At the time of the report, 54 percent of the Nation's population lived in rural areas and fully one-third lived on farms. Thus, it is easy to see why living conditions in rural areas were a major national concern and why President Roosevelt in transmitting the report to the Congress would say that "the United States Department of Agriculture... should become without delay in fact a Department of Country Life, fitted to deal not only with crops, but also with all the larger aspects of life in the open country" (3).[1] Topics on

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Lynn Daft has been involved in public policy analysis for more than 25 years, including work with the National Advisory Commission on Rural Poverty, the Office of Economic Opportunity, the Office of Management and Budget, the Congressional Budget Office, the Carter White House domestic policy staff, and currently a consulting firm.

[1]Underlined numbers in parentheses refer to items cited in the References section at the end of this presentation.

which recommendations were made by the Commission and over which USDA was directed to exert influence, if not control, included research and data collection, an extension system, waterways, highways, parcel post, education, and health. Thus, by the early 1900's, the well-being of the rural population, aside from its connection to farming and to the farm economy, was beginning to emerge as a policy issue under the Department's purview.

The deteriorating economic conditions of agriculture in the 1920's and early 1930's eventually spread throughout the Nation. Beyond the programs that were established to breathe life back into the farm economy were many others designed to provide general relief to all citizens, rural and urban. Drastic problems gave rise to revolutionary solutions and to new institutions to implement them. The Federal Emergency Relief Administration, the Works Progress Administration, and the Social Security Board were among the more prominent of the new agencies.

Another of these new institutions was the Resettlement Administration. Established in 1935 as an independent agency, it was housed in the Department and was headed by Under Secretary Rexford Tugwell. In January 1937, the Agency was officially transferred to the Department and became the principal relief arm. The Agency was responsible for a broad range of activities, including:

- Overseeing resettlement projects in rural and suburban areas, including the establishment of new communities, such as Greenbelt, MD,
- Managing land and water conservation programs, and
- Providing supervised farm loans.

The Agency and its programs were designed to wage an all-out attack on rural poverty and its root causes, serving as an incubator for new and revolutionary ideas on how to deal with the pervasive problems of poverty, unemployment, and dislocation. Both purpose and methods were, not surprisingly, highly controversial. The Agency became the Farm Security Administration in September 1937 and the Farmers Home Administration (FmHA) in 1946.

The Bureau of Agricultural Economics (BAE) was established by Secretary Henry C. Wallace in 1922 in the midst of the growing economic crisis. Though its emphasis was on the economics of farm production, BAE's initial organization included a division devoted to farm population and rural life.

Over time, the role of the BAE expanded. By 1939, in the words of its chief, Howard Tolley (1), it had become "an agency functioning with a Departmentwide scope both as a clearing house for agricultural planning in the Nation and as an economic research organization." The BAE became the central clearinghouse for all USDA program and policy planning. Nothing of consequence happened in the Department without the BAE's involvement. "Rural welfare" was one of six major groups of activities around which BAE coordinated programs and policies. By 1940, BAE's analytic product was referred to as "the Department's social and economic research" (1). It is noteworthy that accounts of this period indicate that the one agency in the Department that was openly supportive of the Farm Security Administration and its mission was the BAE and especially its chief, Howard Tolley.

The BAE's State and county planning organizations--units established to serve as points of information gathering and dissemination--eventually came to be seen as a threat to the farmer committee structure and to the Farm Bureau. Funding for this network was eliminated in 1943.

BAE got into hot water in other ways too. Beyond the controversy over the planning units, sensitivity heightened over BAE involvement in what might be called "rural development" issues. Following the end of WWII, an assessment concluded that much of the labor engaged in cotton production in the South would have to find employment elsewhere and the authors proposed incentives and training programs for this purpose. A sociological study made in Mississippi and titled "Cultural Reconnaissance" contained references to race relations, white supremacy, and racial segregation. Both studies drew heavy political fire. The Mississippi study prompted Congressman Whitten to conclude that farmers might benefit if Agency functions were limited to agricultural statistics (1). In October 1953, a reorganization of the Department abolished the BAE.

The Interval Between BAE and ERS

In the interval between the demise of the BAE and the establishment of ERS, Departmental interest in the nonfarm economy took still another turn. In a 1954 message on agriculture, President Eisenhower directed that the problems of small farmers be assessed and recommendations be made for improving their economic situation. Some conjecture that this assignment was prompted, at least in part, by a growing concern that the pressure for Federal intervention in supporting farm income would further intensify unless a large portion of labor left farming. The task force that prepared this report was headed by a young agricultural economist from Purdue University by the name of Don Paarlberg. Among other conclusions, the report pointed toward the need for off-farm employment as a solution to the low-income problems of this population.

As a result of the recommendations of this report, an interdepartmental Committee for Rural Development was formed in 1959, as were pilot programs in counties throughout the Nation. The dean of agriculture at the State college monitored the pilot program in each of the 27 initially selected States. The idea was that each State would identify one or more pilot counties and that FmHA, the Extension Service, and the Soil Conservation Service would mount special efforts within these counties. True D. Morse, Under Secretary of Agriculture and a believer in the need for grassroots rural development, spearheaded the effort.

Congressman Whitten (by then, Chairman of the House Appropriations Subcommittee for Agriculture) did not like the idea, modest though it was. He saw it as "another program adopted by the Secretary of Agriculture as a substitute for adequate farm income" (2). Despite the cool wind blowing down Independence Avenue from the Hill, and lukewarm support from the White House, the number of counties and the level of effort grew modestly.

About this time, concerns were growing in Congress over the concentration of joblessness and economic stagnation in numerous areas, rural and urban, throughout the Nation. The Eisenhower administration, however, wasn't buying, so not much of substance happened.

ERS Arrives on the Scene

The establishment of ERS in April 1961 was among the first organizational initiatives of the Kennedy administration. Having contributed in part to the demise of the BAE, rural development research was considered to be too much of a lighting rod to give it organizational visibility at the time ERS was formed. Nevertheless, most of the researchers with skills and experience related to rural development topics returned to various parts of ERS.

Despite this initial cautiousness at the time ERS was formed, the regional development issue rapidly gained stature in the Kennedy administration and continued to be a priority issue in the Johnson administration that followed. In speeches during this period, Secretary Freeman declared that USDA was a Department of Rural Affairs as well as a Department of Agriculture. Thus, with the climate within the Administration favorable, the Resource Development Economics Division was formed in December 1962, and was responsible in part for research on economic development and rural renewal. The Economic Development Division (EDD) was formed in August 1965, with a staff of 91 and a budget of $1.2 million. Except for a 7-month period in 1973-74, when the EDD was transferred to the newly established Rural Development Service, responsibility for rural development research has rested with ERS.

Rural Development Policy, 1960-90

In large measure, ERS research in rural development has reflected the changing forms and objectives of rural development policy over the past 30 years. Growing out of the early efforts in the late 1950's, rural development policy began to go through a series of phases shaped largely by the philosophy of the individual administrations but also by the personalities of key individuals in the Department and, of course, by the times. I characterize these phases as follows:

1960-68: Federal Activism

The Kennedy-Johnson administration urged strong commitment to aiding depressed areas and disadvantaged people through direct Federal aid. Secretary Freeman and John Baker (to become Assistant Secretary) worked with a consuming desire to see the Administration's national purposes achieved in rural places. There followed a flood of legislative authorizations, commission reports, task forces, and technical action panels. Among the landmarks of this era were the Economic Opportunity Act of 1964, the Economic Development Act of 1965, the Appalachian Regional Commission (1965), and the Rural Poverty Commission (1967).

1968-76: Split Personality

The Nixon administration came to office with an agenda that called for scaling back Great Society programs, consolidating them, and shifting more responsibility to the States. In 1970, the Rural Community Development Service was abolished; the FmHA was relieved of its responsibility to serve as a clearinghouse for Federal programs. The Congress had other ideas, however. As Chairman of the Senate Agriculture Subcommittee on Rural Development, Hubert Humphrey, with the help of officials of the previous Administration, led the effort to enact the Rural Development Act of 1972 and tried to institutionalize an element of the activism that had been present in the

previous Administration. As required by the 1972 Act, the Rural Development Service was established.

1976-80: Interest But No Money

The Carter administration brought to office more interest and experience in rural development than any Administration for many years. President Carter, Vice President Mondale, Secretary of Labor Ray Marshall, and Secretary of Commerce Juanita Krebs had all had firsthand experience in rural development. Despite this, a combination of factors--uncertainty arising from reversals in migration and employment trends that we now know were aberrations, the multiplicity of program authorities that were by then on the books, an inflationary economy, and, above all else, a tightening Federal budget--kept the program from changing much.

1980-88: Neither Interest Nor Money

Despite increased economic stress in many rural areas during this period, the Department was largely preoccupied with the massive economic and financial problems of the farm sector and with the growing budget deficit. Beyond this, direct Federal involvement in developmental activities was philosophically resisted. In December 1985, with the approval of Congress, the Office of Rural Development Policy was abolished.

1988-91: The Jury's Out

It is too early in the Bush administration to take good measure of its position on rural development policy, though budgetary pressures and lukewarm support for Federal involvement in local development are likely to be major influences. The recent report of the National Commission on Agriculture and Rural Development Policy (authorized by the Food Security Act of 1985) offers a constructive statement on the subject. Whether this represents Administration policy or the views of the career staff who drafted the report is unclear.

The ERS Role in Rural Development

For most of the past 30 years, my view of ERS research in rural development has been from a distance. My assessment is, therefore, impressionistic. I would summarize these impressions as follows:

- ERS has done a superb job of monitoring, describing, and interpreting the key economic and demographic characteristics of nonmetro America. I believe that the Agency has gotten substantially better at these tasks over time, and that it is now the recognized national authority on the topic. This is an accomplishment of no small measure.

- Over most of this period, ERS has been heavily involved in a multitude of assignments to staff or support commissions and task forces, to brief Secretaries and Assistant Secretaries, and to prepare reports for the White House and for Congress. The so-called "Senate Study" and staffing for the National Commission on Agriculture and Rural Development Policy are but two of the recent examples of the ERS mission. The Agency has done a highly professional job of moving among the administrative and political minefields that surround these tasks. This also means that the Agency's rural development research agenda has

been determined in significant measure from outside ERS and often from outside the Department.

- The broader, more objective, less parochial perspective that ERS has offered on the topic has probably helped policymakers avoid mistaken actions and policies.

- In the main, ERS has kept its distance from administering rural development programs. The 7-month tenure with the Rural Development Service was an exception, but even then the research unit did not become heavily involved in program operations. This isolation has had its advantages and its disadvantages. On the plus side, it has provided continuity and an opportunity to develop intellectual capital and institutional memory that wouldn't have been possible had it been closer to the action. Distance has also provided ERS with perspective and credibility, which is sometimes clouded by direct involvement in program decisions. The principal negative of operating at arm's length from the programs is that the Agency has had limited opportunity to contribute to development at an operational level.

Rural development research in ERS has also had to contend with some major handicaps not of its own making, handicaps associated with the nature of the topic, and with the institutional location of the agency. They include:

- The diversity of issues under the rural development rubric, often causing it to be "all things to all men,"

- USDA's preoccupation with serving an agricultural constituency,

- Detachment from program administration and policymaking in relevant agencies outside USDA, particularly those devoted to human resource development, and

- Fragmentation of political support.

While these are serious handicaps, they need not be overwhelming, as indicated by the success of ERS research in rural development over the past 26 years. Still, figuring out ways to overcome these handicaps will require at least as much attention in the future as it has in the past, and quite possibly a good bit more.

Looking Ahead

The greatest threat for ERS in its current situation is becoming disconnected from reality. By that, I mean disconnected from decisions that matter. Problem description can be done from a distance, at least up to a point. ERS has done well at this. However, identifying and evaluating solutions yields the bigger payoff, and this requires a closer level of involvement, both with the problem and with the mechanisms of dealing with the problem. It is a level of involvement that is not likely to occur spontaneously within the present institutional setting. Where and how should ERS "connect" so that its analytic capability can make a difference? This is the key question. There is no one right answer. Several appropriate answers with varying priorities probably exist.

Connecting also has its risks, as we saw with the BAE and its short-lived involvement with State and local planning groups, and with the abbreviated experience of the Rural Community Development Service in the early 1960's in trying to establish a local network of multicounty planning committees. Both of these efforts were attempts to "connect" with reality, with broader perspectives of need and opportunity, and with the source of developmental decisions. Both failed because they were viewed as threats to established agencies and organizations. Both involved "grand designs," of course, that were not only highly visible but openly confronted the existing systems and sought to change them. A more thoughtful, less confrontational approach need not meet the same fate.

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Rural America in the 1990's: Trends and Choices

William A. Galston
University of Maryland

As is now clearly established, the rural renaissance of the 1970's turned into the rural bust of the 1980's. Both extractive industries and routine manufacturing, on which many rural areas are heavily dependent, experienced severe recessions in the early and middle parts of the decade, and the subsequent partial revival of production in these sectors was not accompanied by a commensurate revival of employment. Meanwhile, the growth sectors of the national economy--high-tech manufacturing, knowledge-intensive industries, and business services--became increasingly concentrated in urban areas. While the recession that began in mid-1990 has dealt a heavy cyclical blow to these sources of metropolitan economic growth, it is unlikely to alter long-term trends.

I shall argue that the difficulties rural America experienced in the 1980's are in large measure the product of vast shifts in the national and international economy. Rural communities are increasingly exposed to the impact of such changes. Nonetheless, Federal Government policies during this period also contributed to the re-emergence of rural disadvantage. For much of the decade, the macroeconomic regime produced currency distortions, which impeded rural exports, and persistent high real interest rates, to which many sectors of the rural economy proved vulnerable. Deregulation in sectors such as transportation and telecommunications wiped out longstanding implicit cross-subsidies to rural areas. Federal spending patterns, particularly defense, tilted toward metropolitan areas, and the bias of Federal rural dollars toward agriculture and current consumption was not conducive to long-term economic growth (3).[1]

Given previous research demonstrating the importance of metro adjacency for rural county growth in the 1950's, 1960's, and 1970's, it is hardly surprising that adjacency turned out to be so significant in the 1980's, a decade markedly favorable for metropolitan areas. During 1979-88, employment in adjacent nonmetro counties grew at more than twice the rate of nonadjacent counties (3, p. 6).

To be sure, these aggregates conceal significant disparities: some metropolitan areas fared quite poorly during this period, and the rural areas near them tended to follow suit. Still, the past decade may be viewed as a vindication of at least a moderate version of central place theory (2, 6). From this perspective, one of the great conceptual and practical challenges of

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William A. Galston is a professor at the School of Public Affairs, University of Maryland, College Park, and senior research scholar at the university's Institute for Philosophy and Public Policy. Professor Galston is the author of numerous articles on political theory, American politics, and public policy, and of five books, including an analysis of the 1985 farm bill and a monograph (with Karen J. Baehler) surveying the future of U.S. rural development, to be published next year.

[1]Underlined numbers in parentheses cite sources listed in the References at the end of this presentation.

the 1990's is to devise new forms of metro-nonmetro linkage that can substitute for geographical adjacency. Failing this, the prospects for many small, remote communities are far from bright.

The National/Global Context

These trends cannot be understood, and should not be studied, in a vacuum. The reason is familiar but worth pondering: the U.S. rural society and economy is now exposed, as never before, to the full force of powerful national and international trends.

To begin with, the primary products economy is now detached, to a significant extent, from the industrial economy. In classic business cycle theory, a slump in agriculture and raw materials is soon followed by a serious crisis in the industrial sector. Yet throughout much of the 1980's, a prolonged primary-product depression had little effect on the broader economy. Because materials constitute a tiny, and declining, portion of the Gross National Product (GNP) of advanced countries, even sharp declines in output and income have, at most, marginal overall effects.

This progressive marginalization of primary products in industrialized nations is unlikely to be reversed, in part because other countries proved unexpectedly able to increase their agricultural and materials output in the 1970's and 1980's, but more fundamentally because materials are decreasingly important as inputs for production. Peter Drucker offers the following examples. Materials and energy constituted 60 percent of the costs of the representative industrial product of the 1920's--the automobile--versus 2 percent for the representative industrial product of the 1980's, the semiconductor microchip. Copper wires with a materials/energy content of close to 80 percent are being replaced in telephone cables by glass fiber with a materials/energy content of 10 percent (5, p. 122).

These are long-term trends. With the exception of wartime, the amount of raw material needed per unit of economic output has been dropping throughout the 20th century. A study by the International Monetary Fund calculates the decline as 1.25 percent (compounded), implying that raw materials required per unit of production are no more than 40 percent of the requirements in 1900 (4, p. 773). While there may be temporary local or sectoral exceptions to these broad trends, there is no reason to believe that rural strategies based on sustainably rising demand and prices for primary products will have any serious chance of succeeding.

Second, throughout traditional economic sectors, a wedge has been driven between production and employment. This is a familiar phenomenon in U.S. agriculture, where tremendous advances in output have been accomplished with ever-shrinking numbers of producers. There is no reason to expect the rate of increase in agricultural productivity to slow. If anything, biotechnological advances just coming onstream may accelerate the increase during the 1990's.

Somewhat less familiar, but just as important, is the spread of this inexorable logic of productivity to the manufacturing sector. Over the past 15 years, U.S. manufacturing production has risen by roughly half, but manufacturing employment during this period has actually declined. The much-discussed U.S. productivity crisis is largely confined to the service sector; our manufacturing productivity has risen by more than 3 percent annually since 1982.

This trend is also long-term. The ratio of blue-collar workers in the total labor force was one in three in the 1920's, one in four in the 1950's, less than one in six today, and likely to be at most one in ten by the year 2010. This decrease, which implies a continuing decline in the absolute number of U.S. manufacturing workers, will coincide with continuing large increases in manufacturing output and exports. Indeed, rapidly rising productivity is a condition for such increases, because without it no industry can hope to remain competitive internationally (4, pp. 775-7).

Once again, the moral for rural America is clear. Both agriculture/raw materials and manufacturing will continue to shrink their employment, relatively and (to a lesser extent) absolutely. Absent heroic assumptions about the future location of manufacturing plants, routine production jobs cannot soak up excess rural workers in the 1990's as they did to some extent in the 1970's. If trends toward rising rural unemployment and population exodus are to be reversed, answers must be sought elsewhere.

Third, in contemporary circumstances, a key to economic growth is investment, particularly in innovation and people. During much of the 1980's, U.S. investment fell behind that of our major competitors, leading to a decline in the key capital/worker ratio (9, p. 84). In 1989, Japanese investments in plant and equipment per worker were three times as large as those in the United States (8).

The reasons for this shortfall are not hard to enumerate. U.S. personal savings fell to historic lows, while public sector spending--in particular, the Federal budget deficit--soared. Total national savings (individuals, corporations, and governments) fell from 17.4 percent of GNP in the late 1970's to 11.3 percent in the late 1980's (8). High real interest rates raised the cost of capital far above that of our major economic competitors, discouraging investments other than those yielding substantial short-term returns. What would otherwise have been an outright clash between investment and consumption was muted considerably by an influx of capital from abroad, notably Europe and Japan.

In this respect, among others, the 1990's are likely to be quite different. Under the pressure of events, the days of heavy U.S. reliance on external investment capital are rapidly drawing to a close. Germany is turning its attention to the capital requirements of Soviet assistance, Eastern European reconstruction, and its own increasingly painful reunification. The rest of Europe is following suit, a tendency likely to be accelerated by European integration and by the difficulties encountered in the Uruguay Round of GATT negotiations. For its part, Japan now confronts demands for increased domestic spending (public and private) in a context reconfigured by a shattering stock market crash, troubled financial institutions, higher interest rates, an aging population, and the declining savings propensity of its households (1). During the first 6 months of 1990, overseas foreign investment in the United States declined by over 70 percent from its 1989 levels.

As a result, the productivity-enhancing investments the United States needs in the 1990's will have to be financed to a much greater degree out of domestic savings, or they won't occur at all. This implies some combination of increased private savings and decreased public dissavings, both of which entail much slower growth in domestic consumption.

To aggravate matters even more, increased savings will have to come directly out of household earnings at a time when real hourly earnings are once again declining. The range of expert disagreement is fairly wide, but no model predicts real estate price rises over the next decade at anything approaching the levels of the 1980's. In the past year alone, the sagging residential housing market has wiped out the net equity of many middle-class families, and in many regions, the bottom has not yet been reached. Nor can the stock market be expected to triple as it did during the decade just ended.

Some of the increased investment the United States needs will have to come from the public sector. But, this will be hard to accomplish, for four reasons. First, the recession is pushing the Federal budget deficit to unprecedented levels, counteracting the recent budget agreement and renewing pressure for spending cuts. Second, estimates of funds needed to shore up the financial sector continue to escalate. Bank failures may push the FDIC toward insolvency and force a costly recapitalization (7). Third, while the Federal domestic program retrenchment of the 1980's was substantially counterbalanced by expanded State and local activity, a recurrence is highly unlikely in the 1990's. Instead, we appear to be entering a period of simultaneous pressure on public budgets at every level. And, fourth, as noted before, public faith in governmental honesty and efficacy stands close to historic lows.

The implications of all this for U.S. rural development are clear, and sobering. Incremental public funds will be very hard to come by. Pressures on (and struggles over) existing resources are bound to intensify. Demands will escalate for stricter accountability and demonstrably improved results, and there is likely to be an expanding market for more efficient, less bureaucratic forms of public-sector activity, a process David Osborne has called "reinventing government."

The need to compete more effectively in the international economy will give an edge to public programs that can be justified as investments in long-term productivity and growth over efforts to promote equity. Rural strategies will have to be defended primarily as contributions to overall national well-being rather than in place-specific terms. But, national and local advantage may not converge. For example, human capital investment makes eminent sense as a national strategy, but it cannot succeed in stanching the hemorrhage of trained young people from rural communities unless rates of return to human capital are simultaneously increased in these communities--a goal that may prove far harder to justify (let alone achieve) in national terms (3, pp. 11, 17). Local communities and the Federal Government can embark on a new partnership to upgrade education and training. But, rural communities should be under no illusion that such initiatives by themselves will suffice to create local job opportunities and reduce the outflow of young people.

In short, rural America has entered a new era in which innovation may not guarantee success, but status quo policies will ensure failure. The challenge in the 1990's is to shape new strategies responsive to both enduring rural realities and changing national and global circumstances.

Rural Comparative Advantage

To have any chance of succeeding, such strategies must be built on a realistic assessment of the rural comparative advantage. Early in U.S. history, the development of rural America rested primarily on place-specific resource advantages: land, timber, and minerals. The central rural disadvantage--the

obstacle of distance--was overcome in part through navigating rivers, for example, an offshoot of publicly guided development of communication and transportation systems. These advantages have not disappeared, but their significance has been steadily eroded (as we have seen) by changes in technology, relative factors of production, and the composition of final demand.

In the 1960's and 1970's, the primary basis of rural comparative advantage shifted from resources to factors of production such as cheap land, low-cost labor, relatively relaxed regulations, and weak or nonexistent unions. Combined with a new burst of public investment in transportation like the Interstate Highway System, these advantages spurred a significant expansion of routine manufacturing in rural America. From 1960 to 1980, the rural share of manufacturing employment rose from 21 to 27 percent.

But these advantages, too, have been eroded by economic change. The importance of land costs in plant location decisions has diminished, and in a global marketplace with fully mobile capital, cheaper labor can be found and employed outside our borders (3, p. 9). In the long term, labor will probably continue to shrink as a component of manufacturing costs and site determination.

During the 1980's, rural America appears to have entered its third major phase. The kinds of natural characteristics regarded as "amenity values" by retirees, vacationers, and certain businesses have emerged as the chief new source of rural comparative advantage. (We may speculate that this relative advantage has been widened by declining amenities in many urban areas.) Rural places with substantial locational assets have commanded the lion's share of nonmetro population and employment gains.

There is, however, a downside. The same characteristics, such as lower population density, give some rural areas an amenity value but frequently limit opportunities for development. Three factors key this downside. Smaller size and decreased density hamper achieving significant local diversification, which leaves communities (and even entire regions) highly vulnerable to downturns in their prime economic base. Second, these factors are correlated with larger average distances between individuals and economic activities, which raises costs of communication and transportation. The deregulatory wave of the 1980's increased rural disadvantage along this dimension. Not surprisingly, nonmetro counties that are adjacent to metropolitan areas did far better than did remote counties during the past decade. Third, successful amenity-based development may eventually erode the original advantage, as population size and density increase and amenity values decline.

Conclusion: Rural America in the 1990's

Everything I have said can be summarized in one thesis: the future of rural America is the vector-sum of public choices and of structural facts that reduce the available range of possibilities. We must not overlook the powerful national and international winds now buffeting so many rural communities, but neither should we slight the ways in which, even in the face of these inhospitable conditions, skilled hands at the public helm can artfully tack and move forward.

In this complex interplay between structure and agency, it is important to maintain the distinction between macro-level trends and micro-level choices. What is true in the aggregate may not be valid for individual communities. For example, within an overall pattern of sectoral stagnation, opportunities for local growth may nonetheless persist. The point is only that a sounder understanding of broad developments will create a context in which policy analysts and local decisionmakers can more realistically evaluate the odds of success for each of the options before them. Rural communities need not always "go with the flow," but they should at least understand what the flow is.

Let me summarize the consequences for research and public policy that seem to me to flow from this thesis.

1. As we have seen, the pressures of international competition will force steady productivity increases in agriculture, natural resources, and manufacturing, driving the wedge even deeper between output and employment. If there is to be any hope of maintaining, let alone expanding, the rural job base, local communities and national policy must turn increasingly toward the substantially nontraded sectors of the economy, such as the retiring elderly, tourism, and the siting of government activities. This new emphasis is consistent with the shift of rural comparative advantage to a third phase, one that emphasizes amenity values rather than natural resources or the costs of production.

2. The fiscal crisis of the public sphere, which has now spread to every level of the Federal system, means that large new rural programs are impossible and that continuing pressure on existing programs is inevitable. This is a situation that cries out for innovation in the basic structure of public action. Government programs must increasingly employ cost-effective, nonbureaucratic mechanisms, and they must use public resources to catalyze action in the private sector and in rural communities. As one analyst has put it, government in the 1990's can steer the boat, but it can't row.

3. The continuing, perhaps even enhanced, importance of rural linkage to thriving metropolitan areas means that efforts must be intensified to find effective functional substitutes for the geographical fact of adjacency. Although initial hopes for greater spatial dispersion of the service sector have proven overly optimistic, rural policy in the 1990's must focus on investments, such as advanced telecommunications, that could give rural communities more complete, timely access to information and could raze existing barriers to fuller rural participation in the most vigorously growing parts of the economy.

4. The emerging importance of size for community health survival suggests that institutional change is essential. Small rural communities must seek to break down political boundaries and form new cooperative political units for education, service delivery, and public entrepreneurship that more closely correspond to the real scope of contemporary rural economic and social life. It is only through such consolidation that many of the smallest communities can hope to avert continuing decline and eventual extinction.

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ERS Technology, 1960-90

From PC's (Punch Cards) to PC's (Personal Computers) in ERS

Clark Edwards and Bill Lindamood

It is difficult now to imagine the computing environment into which ERS was born 30 years ago. Now, there is a PC on nearly every desk. Many are linked to mainframes, minicomputers, and other PC's. Spreadsheets and word processing software have replaced mechanical desk calculators and typewriters. Powerful desktop statistical packages have replaced statistical pools. Electronic messages have replaced yellow slips of paper on a spindle.

When ERS came along, the first general purpose computer, the UNIVAC I at the Bureau of the Census, was only 10 years old. ERS was weaned on an IBM 650, a mainframe widely used in the late 1950's. It is not too late to still see a 650: visit the computer display at the Museum of History and Technology at 14th and Constitution.

The 650 came with the same color choices as a Model T Ford, stood about 6 feet high, and was about 2-1/2 feet wide and deep. If that were all there was, it could fit in the space of three file cabinets. However, with its essential peripherals, it filled a very large room. There were a card reader, a lister (printer), sorter, several card keypunch machines, and a rather large box to hold the memory. The memory was composed of light bulbs, which not only took a lot of room but generated a lot of heat. So more space was needed to hold the air conditioning. Then there were the offices SRS needed for the computing director, an assistant, a secretary, and two or three other helpers and operators.

All of this space and the accompanying institutional arrangements were required for a machine that had a memory drum holding about 2,000 words. At 4 bytes per word, this implies a capacity of about 8K. Nowadays we can walk around with that much computing capacity in our coat pockets and purses.

Not that most ERS'ers ever saw the huge IBM 650 installation, it was kept in the basement of the South Building, and researchers accessed it through intermediaries. Most mainframes in those days were kept under tight central control of management because administrative work and bookkeeping were given highest priority. Research work got on last if there was any time left over at the end of the day. This was an institutional constraint, not a technical one. We know, because both authors of this article used mainframes on occasional late nights much the way you use your personal computer today. But, the SRS installation was stashed away in the basement and researchers had to send their requests through channels.

Clark Edwards served in many administrative and economic assignments in the Agency from 1962 to 1990. Bill Lindamood, in various positions with ERS since 1965, is a computer systems analyst in the Data Services Center. Both have worked together with a variety of computational equipment throughout their careers.

Besides, most of what we now do on computers was done in other ways. Word processing was done on typewriters--replacing mechanical typewriters with IBM Selectrics was the big word processing advance of the day--either by individual secretaries or in typing pools. Most calculations were done on adding machines and desktop mechanical calculators. Some of this was done by researchers but most by individual statistical clerks or in statistical pools. A 5-variable Cobb-Douglas regression that you can do on your desktop computer today in a few seconds took two weeks in the stat pool, including look-up of logarithms to seven places. To do it on the IBM 650, the researcher filled out worksheets showing what was wanted, waited for cards to get punched, let the ERS liaison carry the cards to the computing area and, next day, bring the printouts back. Once you had a deck of cards, you could almost depend on 24-hour turnaround for reruns from the time you made corrections on today's printout until you saw tomorrow's.

Most of the regressions ERS did in those days originated in the Economics and Statistical Analysis Division (ESAD). Hy Weingarten was the liaison between the ESAD researcher and SRS's IBM 650 network. Over in the Farm Production Economics Division (FPED), they did a lot of linear programming. Burton French was the liaison between the FPED researcher and the 650. Those were days of unusual specialization. Heaven help you if you were in FPED and needed to do a regression, or in ESAD, and needed to do linear programming.

Since then, three decades have brought great technical advances on two fronts: the mysterious mainframes we depend on so much yet seldom see and the desktop technologies over which we have individual familiarity and control. The mainframes, and now the mini's, are still under strong and centralized hierarchical control, but the desktop and hand-held computing devices are a distributed and democratizing influence. Although the technology of computing shows steady progress, the institutional arrangements in ERS for doing computing show swings from centralized control to decentralized and distributed processing.

The Big Iron Gets Smaller and Faster

The first transistorized mainframe, the IBM 7090, was already around when ERS was in diapers, and there was a 7094 at the Federal Building at 7th and D Streets, SW. The Forest Service used an IBM 705. But ERS did not have access to these right away. By 1965, after SRS had closed down the 650 to install IBM's new system 360, ERS had been using taxicabs to reach other mainframes in Bethesda and Pentagon City. The 360 was a dream machine in many ways with its (for then) larger capacity and ability to multitask. But, its peripherals such as tape and disk drives were not compatible with earlier ones and it took some time to make the necessary conversions. Until 1970, IBM bundled software with hardware and their mainframes were incompatible with others. For example, programs that ran on UNIVAC equipment were not portable to IBM equipment. However, other computer company's were trying for transportability; the first demonstration of transportable Cobol programs was between UNIVAC and RCA in 1960.

ERS was under USDA directives to send all computer needs to the Washington Data Processing Center (WDPC) in SRS. But, during the mid- to late 1960's, the slow changeover to new IBM equipment not only forced much of ERS computing on to IBM mainframes outside the South Building, it also made it efficient to switch some of the load to a UNIVAC 1108 at the Bureau of Standards in Gaithersburg, some 35 miles away.

ERS's Economic Development Division (EDD) was working with the 1960 Census of Population. The data base consisted of some 600-700 series for the 3,000 counties. While some of today's desktop machines can store a 3000x700 matrix on a hard disk and process the data in a spreadsheet, mainframes of the 1960's found this a major feat. The same data base was being used by the Economic Development Administration (EDA) at Commerce, and they invited ERS to run piggyback on their setup at the Bureau of Standards. Since WDPC's IBM equipment could not yet run the software used on the UNIVAC at Gaithersburg, ERS was granted an exception to the rule that all computing be done in WDPC.

ERS bought some of the tapes from Census and prepared them for the data base. EDA bought and prepared others. We learned early that the cheaper and easier it is to put data into a computer, the more costly and difficult it is to retrieve. The better alternative was to spend more time and money setting up the data base so the marginal cost of each use would be small. We spent around $1,000 per reel of tape to get it into the system. In return, we had fast, simple, and low-cost retrieval through a program called QUICK QUERY. An ERS researcher could fill out a form indicating what data to retrieve and what computations to make. The query was then transferred to punch cards and sent to Commerce.

Once ERS acquired its own remote job entry machine, we could achieve turnaround in a few hours on low priority. This machine was a combination card reader, printer, and modem. It was linked by 35 miles of direct phone line to the Bureau of Standards. ERS's use of this remote job entry machine to the UNIVAC 1108 warranted a cost-saving award for ERS from Secretary Clifford Hardin.

While the automated computing setup saved time and money and increased ERS's productivity in the use of the 1960 and 1970 censuses, it was not what economists call Pareto-Better. Some people got hurt. Part of the calculation for cost saving was job displacement. Before the remote job entry was installed, the Branch that used it most had a staff of about 8 or 9 statistical clerks, using mechanical desk calculators, in grades GS-3 to GS-7. Afterwards, the only two clerks left were promoted to GS-6 and GS-7. The Luddites were right in the early 1800's. Machines eliminate jobs. Six or seven people in just one Branch were put out of work. And, this was being repeated all over ERS.

Fringe benefits to the UNIVAC hookup included access to a spreadsheet called OMNITAB. The first version we used held a 50x50 matrix, about the size that early spreadsheets had on CP/M a decade later. One thing OMNITAB had that present day spreadsheets still do not is a complete matrix algebra language. Other software on the UNIVAC not then available on IBM equipment included SIMSCRIPT, a simulation language that used the computer's internal clock timer to simulate external shocks or disturbances to a time trend and EASYTRIEVE, a data file management program that permitted alternative access to the Census and other data.

Several factors contrived to break up the arrangement for remote job entry to a non-USDA mainframe by the early 1970's. IBM and the WDPC got their act together and could accommodate the large Census storage and retrieval system; administrative centralization of computing activities worked against the decentralized remote system; and the technology for replacing desktop mechanical calculators with desktop and hand-held electronic calculation was

causing a desktop revolution in computing parallel with the mainframe revolution.

When the system 370 appeared in 1970, it added multiprogramming capability, and SRS was able to add more peripherals to accommodate peak loads from ERS and other users. In addition, IBM unbundled the software from the hardware. IBM had been under attack in the courts for dominating the computer industry, especially within the Federal Government. Most programs running on IBM mainframes were written in IBM versions of FORTRAN and COBOL. ERS was instructed to stop writing in these two languages and begin using higher level computer packages such as SAS, SPSS, BMD, and others. This coupled with multiuser access through downsized versions of remote job entry equipment changed the way ERS researchers accessed mainframes. In addition, programs like QUICK QUERY and EASYTRIEVE were enabled on the 370, so ERS dropped the link to the UNIVAC.

The threat that IBM could leave ERS stranded with an incompatible computer system was passed, but the fact that it could have happened caused ERS to consider possibilities for a computer system under its own control. ERS now operates an IBM Series 4300 minicomputer. The precursor to this, in the mid-1960's, was a DEC PDP-11 disguised as a piece of medical laboratory equipment called a "microbe population counter." The Brooks Act of 1965 wrote the procedures for establishing standards in the Federal Government. ERS failed to qualify under this Act for a computer of its own, but apparently it was okay to have a microbe population counter. The PDP-11 could support as many peripherals as the 370, but it had a steeper learning curve and it was not as fast. It was not heavily used, but it broke the ice.

Desktop Advances Revolutionary

While mainframes were getting bigger and better, and mini's emerged on the scene, the technology was also advancing for what we now call downsizing. In ERS's infancy, the main alternative to the 650 was the Frieden mechanical desk calculator, it did more than adding machines and comptometers, and was more popular than other desk calculators. In the mid-1960's, a green box about the size of a large typewriter appeared in some ERS offices. It was called a MATHETRON. It's basic memory stored 10 numbers and held 50 characters of programming code. It could be expanded to 90 storage locations or about 700 characters of programming code. One could do a 2-variable regression on this wonder in a minute or two. It could invert a 9x9 matrix in about 10 minutes. We solved econometric models of up to about 12 simultaneous equations in 5 minutes or so. The basic MATHETRON sold in the mid-1960's for about what a i486 desktop computer with some expanded memory and a moderately large hard disk costs today, around $3,000. Fully loaded, the MATHETRON with extended memory, paper tape punches and readers, and a teletype printer ran the price up to about $12,000, about what a fully loaded and powerful desktop machine costs today. Prices haven't changed much in 25 years, but capacity has.

By the mid-1970's, Texas Instruments was selling a handheld calculator called the TI-59 which, with its magnetic cards for data and program storage, and with its printer that used adding machine tape, had about the same capacity as the fully loaded MATHETRON, and sold for only $450. Hewlett Packard had a similar handheld calculator for a little more money. Quite a few of these programmable calculators, their smaller cousins the TI-58, TI-57, and competing products, from Frieden and other manufacturers, showed up on ERS researchers' desks to offload computing from the mainframe and to replace the

stat pool. In instances when ERS refused to buy them, researchers often brought in their own. In the early 1980's, microcomputers began to take over the downsizing tasks, but in the late 1970's, the TI-59 could still run circles around Radio Shack's Model 1, which sold for about the same price as the TI-59.

The role of microcomputers changed after IBM introduced the PC in 1981. Adoption of PC's in ERS was slow and erratic. First ERS bought a few CP/M machines and some researchers brought their own from home. Then ERS bought some trial IBM's and COMPAQ portables. After that came the deluge.

The decade of the 1980's was the zenith for individual micro computing with large data bases on a personal hard disk, access to software suited to your needs and costing only $100 to $700 per application, more computer power at your finger tips than the mainframes of not too long ago, and modems or direct connections to mainframes and minicomputers for those tasks where mainframes and mini's continued to be more effective than the desktop.

The Institutional Arrangements for Computing Display Cycles

Aside from the two revolutions in technology, there was a revolution in the way researchers, clerks, and secretaries did things. The small computing equipment gave increased power to individuals and took power away from authorities in the hierarchy. Individuals looked upon the changes as increased power and freedom. But, the leadership also saw possibilities for anarchy and even subversion of established rules.

The institutional arrangements for ERS computing were highly centralized when ERS was born. Centralization broke down during the interval between the closing of the 650 and the opening of the 370. In the hierarchical vacuum, ERS researchers got a taste for personal and decentralized computing through development of programmable devices such as the MATHETRON and TI-59 and through individual and direct access to mainframes during office hours using remote job entry devices. A decentralized system is difficult to monitor or control, and centralization was restored after the 370 became fully operational.

Recentralization was welcomed by some researchers. A decentralized system depends on decentralized actors. Any researcher could fill out the QUICK QUERY forms to retrieve analytic data. And any researcher could figure out what needed to be on the punch cards to run a spreadsheet or do regressions. But, some found it easier to ask a computer person to do it for them. The computer people receiving such requests soon learned to write FORTRAN programs for retrieval and analysis of Census data in the ERS database. This circumvented the purpose of inexpensive decentralization but had the advantage of letting the researcher get any tabular form of printout wanted (instead of QUICK QUERY's default tables) and do it with no work and little thinking about the computations on the researcher's part. This left an opening for ERS leadership to accomplish what they saw as progress: closing the link to the UNIVAC at Gaithersburg and restoring centralized access to the IBM mainframe in SRS.

At that time, a suggestion that $200 for a modem would let ERS teletype machines used for printing from the MATHETRON communicate with any mainframe in town using a local phone call brought frowns of displeasure from ERS leadership. It was another 10 years before ordinary researchers were allowed

to hook up a 300 baud modem to a computer in their own offices to run programs like BMD, SPSS, and SAS on mainframes, and to submit linear programming jobs. By the time that happened, microcomputers were on the scene, small remote job entry terminals were relatively ubiquitous, and the free-wheeling microcomputer revolution of the 1980's was underway. Centralization in ERS took another blow and a decade of decentralized computing opened up.

ERS history records another swing toward and then away from centralization: word processing. The IBM Selectric typewriters began to be replaced in the early 1970's by dedicated word processors such as VYDEC and LEXITRON. Output improved for those who understood the new technology, but complaints arose from those who did not. This decentralized system for office automation was replaced during the period of computer centralization with a centralized word processing shop. That tight system did not last long because productivity slowed too much. It was replaced by the WANG system which was better liked because individual (decentralized) workstations were linked to a central system through which documents were easily transferred among users. The WANG system lasted until IBM PC's loaded with WordPerfect began to appear on every secretary's desk.

One can see a steady swing from too much centralization to too little and back again. Probably most individual researchers, if they had to work in an organization that is off balance, would rather have it too decentralized. Probably most administrative people would have it the other way around. Some decisions are best made centrally, such as who gets what hardware, what software is allowed on the system, database maintenance, backups of centralized files, maintenance of connectivity, and so on. But decisions about how each workstation is used are best kept decentralized and free. It is difficult to centralize that which needs centralization and to decentralize that which needs decentralization.

Which way is the swing going now? The 1980's were the zenith years for individual microcomputing with large data bases on personal hard disks, access to software suited to your needs and costing just $100-$700 per application, more computer power at your fingertips than the mainframes of not too long ago, and modems or direct connections to mainframes and minicomputers when they are considered more effective than what resides on the desktop. That door is starting to close behind us; a different future is opening before us.

You can see some workers trying to maintain the independence and power they had in the 1980's while others are being swallowed up by connectivity. Thus far, there are only four token rings comprising the ERS local area network (LAN), so most workers have not had personal experience with what has happened in much of corporate computing. Of course we need to connect some computers to others, but we do not need to connect everything to everything else--there will always remain a legitimate need for stand-alone computing.

Beyond ERS, there has been a bifurcation in computing: on the one hand are mainframers who believe in centralization, large computers, strong central controls over use, and tight security. On the other are individuals who believe in full control of their own system, individual decisions about hardware, software, and access, and freedom to use connections to other systems when needed.

In sorting this out, it is easy to confuse new technology and institutional arrangements. The history of ERS computing shows steady advance in technology

both for heavy duty computing and for desktop and handheld computing. It also shows cycles in degree of centralization of institutional arrangements for doing computing. Whether to adopt the latest technology and whether to centralize are two separate decisions, though they are sometimes made to appear as one.

Is a third age of overcentralization about to take over ERS computing as it did in the early 1960's and again in the late 1970's? Possibly. It is happening in many large corporations. But, it does not have to happen. LANS with individual work stations permits but does not insure the optimal combination of centralization of that which ought to be centralized and decentralization of that which ought to be decentralized. Such a balanced future is more technically feasible in the 1990's than it has been so far in ERS's lifetime. But remember that history also shows that sometimes the administration takes freedom away and sometimes the individual researchers give it away. The balance depends on the interaction of an understanding administration with a capable work force in absorbing the steady increase in computing power on every desktop.

USDA and ERS Support Groups: What's Out There?

Moderator: Sara Wampler

This session consisted of presentations from representatives of eight organizations that are available for ERS or USDA employees. Each representative briefly explained the organization's mission and described the services provided.

Agriculture Federal Credit Union (afcu)

The afcu is a member-owned, not-for-profit, financial cooperative.

New York Avenue Branch, Manager: Mitzi Barker, 479-3813.

South Building Branch, Manager: Cheryl Montgomery, 479-3800.

Toll-free telephone number, (800) 368-3552; rate information line, 310-2753; audio response teller, 488-3130, or (800) 872-AFCU (2328).

ERS Part-Time Employment Research Group

This group gathers information about part-time employment and makes it available to ERS employees. Coordinators are: Judy Sommer, Room 328 NYA, 219-0526, and Susan Bentley, Room 212 NYA, 219-0932.

ERS-EEO Advisory Committee

The Committee provides assistance to managers, supervisors, and employees in implementing an effective, results-oriented affirmative action program and manages a fair and objective complaint adjudication system for ERS employees. Committee members are: Pat Winston, DSC, 219-0761; Helen Devlin, DSC, 219-0491; Phil Friend, DSC, 219-0813; Linda Ghelfi, ARED, 219-0547; Susan Bentley, ARED, 219-0932; Jackie Salsgiver, ARED, 219-0532; Bruce Larson, RTD, 219-0404; Edwina Gray, RTD, 219-0428; Linda Calvin, ATAD, 219-0688; Phil Brent, ATAD, 219-0705; Tom Stucker, CED, 219-0894; and Maxine Davis, CED, 219-0714.

EO Counselor

The EO Counselor deals directly with individual employees who seek assistance concerning what they believe to be discriminatory treatment. The EO counselor is the first stop for an employee or applicant who believes he or she has been discriminated against in some aspect of his or her job relationships because of race, color, religion, sex, age, national origin, or disability. EO counselors are: Lewrene Glaser, ERS, 219-0888; Mae Dean Johnson, ERS, 219-0840; and Martha Evans, EMS, 219-0494.

Employee Assistance Program (EAP)

EAP provides counseling for ERS employees and family members on almost any issue. EAP counselors also coordinate wellness workshops, supervisor training, education, workshops for stress management, parenting, communication

skills, and many others. For assistance, call (301) 774-8898 and leave your name and agency. An EAP counselor will return the call.

Employee Services and Recreation Association (ESRA)

ESRA provides services and activities to all USDA employees, such as the "Ag Connection" store, the fitness center, drycleaning services, barber shop, recreation activities (softball, volleyball), discount tickets (movies, Capitals games, etc.), and insurance programs (life/health/disability). Contacts are: Roger A. Lancaster, general manager, 447-5611; Michelle Andrews, director of activities, 447-5611; and Peter Liapis, ERS representative, 219-0630.

Organization of Professional Employees of the U.S. Department of Agriculture (OPEDA)

The main goal of OPEDA is the support and promotion of professionalism in ERS and USDA. The ERS chapter provides a continuing forum for economists and outside guest speakers on many different subjects of professional and career interest to the ERS membership. Contact Dwight Gadsby, ERS membership chairman, 219-0460.

Toastmasters International

The work of the members of the Toastmasters Club is based primarily on the principles of learning by doing and improving through practice and constructive criticism. The Toastmasters Club is a voluntary association of people who want to improve their speaking, listening, and leadership skills. Contact Sharlan Starr, ERS, 219-0602.

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