



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

PROCEEDINGS

44th Annual Meeting

WESTERN AGRICULTURAL ECONOMICS ASSOCIATION

Squaw Valley, California
July 25, 26, 27, 1971

Samuel H. Logan, Editor

RURAL DEVELOPMENT
IN THE
FOUR CORNERS ECONOMIC DEVELOPMENT REGION

William N. Capener
New Mexico State University

Rural development in the United States is viewed by many economists and others as a part of the larger problem of population distribution throughout the nation -- a population distribution pattern that is considered by an increasing number of individuals as far from optimal. The decline in population in rural areas resulting from the reduced labor force required in industries located in rural areas such as agriculture, forestry, mining, and fishing, and the growth of metropolitan cities with resulting problems of congestion, air pollution, crime, and the decay of the inner cities are all interrelated.

The report of the President's Task Force on Rural Development, "A New Life for the Country", describes these interrelated problems and the dilemma created. "If the cities were totally wholesome physical and social environments with attractive opportunities for living that pulled disadvantaged rural people to them to the immediate benefit of both the rural and urban areas we could forget rural development. . . Unfortunately, such is not the case. Rural migration multiplies the problems of metropolitan compaction. . ."

Henry L. Ahlgren, Deputy Undersecretary of Agriculture for Rural Development, recently gave this definition of rural development. "Rural development is a strategy to increase the rate of growth and development for non-metropolitan America. . ." [1, p. 12]. He has also stated that the increased growth in non-metropolitan areas will be fostered by providing incentives to produce the basic employment which will support the new growth. Rural development, then, seems to imply an increase in the rate of growth and development of non-metropolitan regions, or if that is not possible without an unacceptable level of subsidization, even a reduction in the rate of decline of such regions.

Four Corners Regional Commission

One of the organizations with a major responsibility for rural development in four of the Western states is the Four Corners Regional Commission.

Title V of the Public Works and Economic Development Act of 1965 authorized the Secretary of Commerce with the concurrence of the states to designate appropriate "Economic Development Regions" where the region has lagged behind the whole nation in economic development. The Four Corners Region is the largest in area of the five regions created under this act, but with just under two million in population is the smallest population-wise of any of the regions. It is also the only Economic Development Region in Western states. The population of the region includes two important minority groups; Spanish-Americans constitute about 18 percent of the total, and Indians make up another 7 to 8 percent.

The Four Corners Regional Commission's first annual report indicates the major reasons the region was created.

Problems which led to creation of the region include high unemployment (5.7 percent in 1960 contrasted to a 5.1 national rate), low family income (25 percent of the families in 1960 had an income below the poverty level of \$3,000 a year contrasted with 20.1 nationally), a higher percentage of inadequate housing, a lower percentage of the employable adults included in the labor force and a lower level of educational attainment. The Commission's manpower study (conducted by the University of New Mexico's Bureau of Business Research) which updated employment figures to 1967 showed that the comparative situation had worsened in the seven intervening years. Whereas the national unemployment rate had fallen to 3.8 percent, the region's rate was up to 6.3 percent, and thousands of employable persons (perhaps as many as 138,000), despairing of finding jobs, had stopped looking and were no longer included in unemployment figures.

The Commission was formally organized on September 19, 1967. The Commission membership consists of a federal co-chairman and the governors of Arizona, Colorado, New Mexico, and Utah. Each governor has an alternate to represent him in his absence. The federal co-chairman is a Presidential appointment. One of the governors is elected as state co-chairman by the state membership of the Commission.

The Act provided research study and planning funds to determine as nearly as possible what factors had prevented the region from enjoying an economic rate of growth on a par with the rest of the United States, to inventory the resources -- developed and undeveloped -- within the region, and to devise a plan to overcome the problems.

In the words of the Act, the Commission is directed to "initiate and coordinate the preparation of long-range overall development programs...including the development of a comprehensive long-range plan..."

To provide the necessary background information for the long-range overall development plan for the region, the Commission divided the economy into sectors for planning purposes. Some of the major sectors include: transportation, minerals and fuel, industry, tourism, recreation and retirement, education and health, and agriculture and forestry. The Commission has made technical assistance grants to universities and private research firms for studies of each of these sectors. The Commission has contracted with the Center for Business and Economic Research at Brigham Young University to prepare an overall development plan, which although not labeled as such, could be accurately called a rural development plan for the region, since Albuquerque, New Mexico, is the only metropolitan area in the region.

The major purpose of this paper is to discuss the agriculture-forestry sector study that is being made for the Four Corners Regional Commission. The purpose of the study is to prepare an overall economic development plan for agriculture and forestry with particular emphasis on some of the most promising development opportunities. The study is being conducted by a team of 23 agricultural economists located at state universities in the Four Corners states.

Since the agriculture-forestry sector is only a part of the non-metropolitan economy, many facets of rural development in the Four Corners Economic Development Region will not be discussed in this paper, and, hence, the paper will be more limited in scope than the assigned title implies.

I will first briefly describe the Four Corners Economic Development Region, the approach and plan of work, things that will be included in the development plan, and finally, make an evaluation of the study listing the major problems encountered and some of the potential contributions of the study.

Four Corners Economic Development Region

The Four Corners Economic Development Region includes 91 complete counties in Arizona, Colorado, New Mexico, and Utah, and part of another county which is located in New Mexico (figure 1). Approximately 70 percent of the total land area in the four states is in the Four Corners Region. Of the 189 million acres in the region, only 55 million or 29 percent are privately owned. Almost 27 million acres are in Indian Reservations. Over 80 percent of the land is used for livestock grazing. Because of limited amounts of precipitation over much of the area, rangeland carrying capacities are low, and in most areas crops cannot be produced without irrigation. There are only 3.4 million acres of irrigated cropland in the region of which 1.7 million acres are irrigated hay or pasture land. Because of the topography, soil, and limited water for irrigation, the area's agriculture is less intensive than many other areas of the country.

In drawing the boundaries for the region, areas were included in each state where growth had been less than the national average. In using this criterion, all the major metropolitan areas in the four states were excluded except Albuquerque. Nearly all of the major commercial agricultural areas were excluded and nearly all of the Indian Reservations were included. Only part of Otero County, New Mexico, is in the region so that the Mesalero Apache Indian Reservation would be included. There have been several attempts to add other counties to the region, but so far all have been unsuccessful.

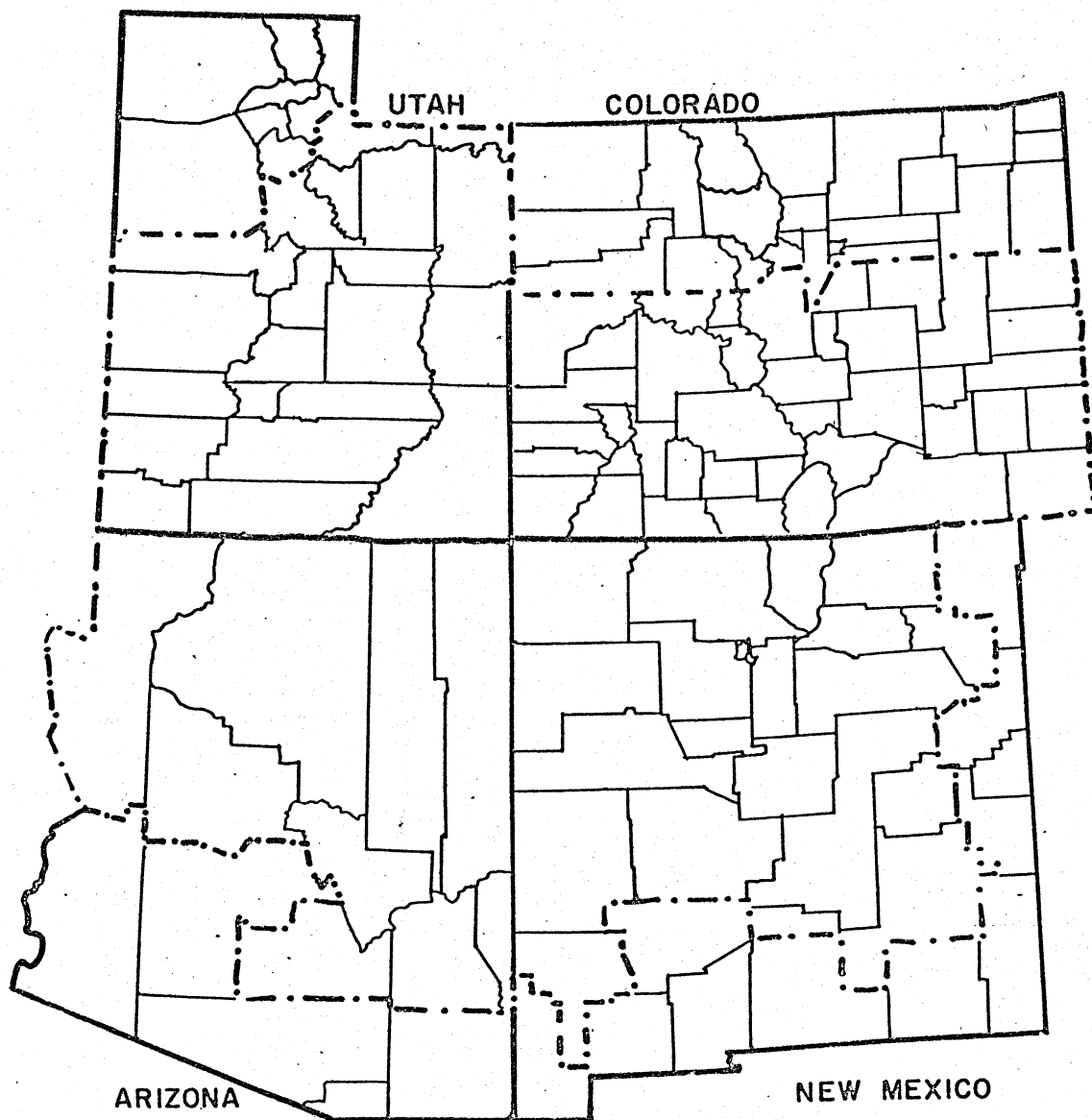


FIGURE 1. Four Corners Economic Development Region.

Purpose and Objectives of the Study

The purpose and objectives of the Four Corners Agricultural-Forestry Development sector study were specified by the Commission. The stated purpose was "...to prepare a plan for agriculture development which will improve the use of human, agricultural and forestry resources and the income level of the people in the Four Corners Region." The study was to include a survey of existing resources and available technical information, an analysis of alternatives, policy recommendations, and suggested plans for implementing immediate, intermediate, and long-range programs. The Commission listed three objectives for the study. They are essentially the same objective but with a different time frame.

Objective 1 was to identify short-range problems and solution opportunities in agriculture and forestry production processing, and marketing by localities or subregions specifying the opportunities about which there already is sufficient knowledge to serve as a basis for and implementing the solutions.

Objective 2 was similar but was concerned with intermediate range problems and solution opportunities. Objective 3 was concerned with long-range development opportunities.

We have used a micro approach in trying to fulfill the objectives of the study. We do not plan to suggest any major changes in the basic institutional framework and economic system. However, in order to make our suggestions work, some minor changes in laws and/or subsidization of new industries may be necessary.

Plan of Work

The agriculture-forestry development study was the last sectoral study to be funded by the Commission. We are moving toward completion which is scheduled for December 31, 1971. Our plan of work included the following steps:

I. Development possibilities were identified.

A development possibility was defined as some activity, investment, or change that could potentially increase income and/or employment. Five ways were used to identify development possibilities. These included: (1) an inventory of agriculture and forestry resources, (2) local meetings with a cross section of those in the agricultural industry, (3) interviews with government and other agencies personnel who were concerned with agriculture or forestry, (4) review of related literature, and (5) ideas and opinions of the four state study team members. A list of about 150 potential development possibilities was identified.

II. Development possibilities that were thought to have the greatest potential impact on the development of the region were selected for study. About 80 of the original 150 ideas are included in the list of ideas selected for study, but a number are in a combined form. There will be about 35 separate reports prepared on individual development possibilities or supporting ideas. Listed below are the development possibilities selected.

1. Potential new irrigation areas
2. Expanded vegetable production
3. Expanded tree fruit production
4. Processing plants
 - a) Fruit and vegetable canneries
 - b) Frozen fruit and vegetables
 - c) Pickles
 - d) Pinto beans
 - e) Alfalfa dehydrating
5. Range improvement
6. Beef cattle
 - a) Crop aftermath grazing
 - b) Backgrounding feedlots
 - c) Finish feedlots
7. Dairy heifer production
8. Swine production
 - a) Feeder pig production

- b) Farrow to finish
 - c) Management practices
 - 9. Plywood and forestry by-products
 - a) Plywood manufacturing
 - b) Particleboard manufacturing
 - c) Prestolog enterprise
 - d) Wood handicraft industries
 - e) Baling wood shavings and sacking sawdust
 - f) Extraction plant for naval stores
 - 10. Commercial farm and ranch recreation
 - a) Affiliated trailer campgrounds
 - b) Fishing ponds
 - c) Hunting enterprises
 - d) Horseback pack tours
 - e) Guide service by farmers and ranchers
 - 11. New housing construction in rural areas
 - 12. Rural community water systems
- Special reports will also be prepared on the following facilitating or supporting ideas. Information in the supporting idea reports will be used mainly in preparing implementation plans for development possibilities.

- 1. Investment multipliers
 - 2. New sources of risk capital
 - a) Industrial revenue bonds
 - b) Financing Indian enterprises
 - c) Overall report
 - 3. Para-professionals and training programs
 - 4. Navajo Indian Irrigation Project early completion promotion
- Promising long-range development possibilities identified (see Objective 3) include:
- 1. Land title clearance and land tenure problems
 - 2. Pleasure horse production on Indian Reservations
 - 3. Wool processing and manufacturing
 - 4. Greenhouse production of vegetables and flowers

Time and space do not permit a discussion of each development possibility area, or a listing of those possibilities that were screened out. All the possibilities selected appear to have some potential for aiding in the development of the region. My current concern is that the list of development possibilities is too long; completing all of the special reports in the time remaining will be a challenging task.

- III. Preparation of a report for each development possibility and supporting idea selected including preparation and testing of an implementation plan. The first part of each special report will be similar to most economic feasibility studies. An implementation plan will be prepared for each development possibility that is potentially feasible, and this plan will be a part of each special report.

Study team members are using the following approach in preparing implementation plans.

The first step is to satisfactorily answer the question why the idea has not been initiated before, or in other words, what barrier(s) have prevented this development possibility from being adopted thus far. It is necessary to identify the problem(s) before a satisfactory solution can be developed. Some examples of possible barriers include financing, leadership, management skills, and social factors.

After the barrier(s) are identified, the next logical steps are to determine what needs to be done, whether or not it can be done, how it will be done, and who will do it.

Any implementation plan will have to be directed at the public sector, private sector, or both. Hence, it is necessary to properly identify those who could implement the plan so efforts to motivate and stimulate adoption will be directed at the right individual, group, or organization.

The next problem is how to get the appropriate individuals, organizations, or government units to act to overcome the barriers that are preventing adoption. In the public sector this may involve

seeking lobbying consultants, visits with political leaders and appropriate government agencies by representatives of industry groups and organizations, and mounting grass roots campaigns by motivating and providing information to local leaders. In the private sector the media which can best reach the proper individuals or organizations need to be identified.

After the alternatives to overcoming the barrier(s) are specified, the cost of implementing these alternatives should be estimated. These costs could include fees for lobbying consultants, salaries for extension or para-professional personnel employed for education and training. Discounted foregone income while laws, policies, or regulations are being changed, should also be included.

The implementation plan will then be tested by having individuals and groups who might potentially be involved in implementation or adoption of the idea evaluate the plan for accuracy, realism, and workability. Appropriate changes will then be made before the plan is finalized and published.

IV. Preparation of the Development Plan

The major emphasis and effort in the study has been, and will continue to be, directed toward preparing reports on the development possibilities selected including an implementation plan for each possibility. Because of this, the overall development plan will be based primarily on these development possibilities.

Basically the overall plan will include the following:

1. Development possibilities will be ranked in order of importance using the following criteria. Separate rankings will be made for each criterion. A weighted combination of criteria will be tested for use in making rankings

- a) Expected income generated
 - (1) total expected income
 - (2) expected income each year
 - (3) Multiplier effect
 - (4) the discounted income stream
- b) Expected employment created
 - (1) expected direct employment created each year by wage levels
 - (2) expected employment multiplier each year by wage levels
- c) Location(s) of development possibility and geographic area(s) affected
- d) Impact on ethnic groups
- e) Investment required
 - (1) time flow
 - (2) source of capital: commercial or non-commercial or both
- f) Affect on the quality of the environment

The purpose of the rankings and of using different criteria is to provide the Commission, other government agencies, Congress, and other decision-makers concerned with the development of the region, a more objective basis on which to make choices. It is not our responsibility to tell these decision and policy makers what criterion or combination of criteria they should use to select a development possibility to implement. We only plan to indicate what the probable outcome will be if given criteria are used.

2. A summary of the implementation plans for all the development possibilities will also be included in the overall development plan.

Contribution of the Study

At this point, we do not foresee any development possibilities in agriculture or forestry that are capable of transforming the economy of the Four Corners by creating a huge number of new jobs or large amounts of additional income. However, most of the possibilities probably have the potential of generating small increases in income and employment in the region. The Navajo Indian Irrigation Project, which will bring approximately 110,000 additional acres under irrigation in the next 15 years will likely have the greatest impact of any new development in the region. However, the development of the Navajo Indian Irrigation Project is largely independent of this research project.

We tend to agree with the observations made recently by D. Gale Johnson, Dean of the Division of Social Services at the University of Chicago, about employment opportunities in rural areas, "...direct employment opportunities in agriculture will continue to decline and thus cannot contribute positively to aggregate employment in rural (non-metropolitan) areas. In consequence, the growth of employment opportunities must be based on non-agricultural pursuits. During this century I can see no possibility that the food demand-supply situation would require a halt in the decline in direct farm employment" [1, p. 27]. Nevertheless, agriculture may be able to contribute significantly to regional development, if it proves possible to locate substantial agri-business, processing, and infrastructure within the region and thus eliminate the massive leakages which have historically limited development in the Four Corners Region.

The study should be useful to the Commission to compare the impact of development possibilities in agriculture with those in other sectors of the Four Corners economy. It should indicate what the cost of these programs will be and what will be needed to get these development possibilities adopted. It will undoubtedly raise a number of questions that will provide the basis for future research. Members of the extension service in the four states and representatives of many governmental agencies that serve as advisors to the Commission have indicated the agriculture-forestry sector development study has the potential of being very useful to them as they plan future programs in the region.

This Project as a University Research Activity

We consider several aspects of this project somewhat unusual. First of all, the study is directed toward developing action programs for political agencies. The Commission wanted completed studies that were ready to use. They have insisted that complete and detailed implementation plans for promising development opportunities are an essential and necessary part of the study.

Another aspect is the team approach. The study team currently consists of 23 agricultural economists with 3 to 11 members in each of the four states. Before we at New Mexico State would agree to accept the grant and assume the leadership responsibility for the study, we first obtained assurances of cooperation from the three other state universities. We did this for several reasons. We felt a broad base of technical expertise would contribute greater breadth to the study. We also felt it was necessary to have the geographic expertise that would be available by having someone on the team from each state.

The 23-member study team has also been able to draw on a large circle of government and industry contacts and other researchers and extension workers for information and ideas. We have drawn heavily on past experience with regional team research. However, the size of this study and the short time period allowed to complete it has made a high degree of cooperation and coordination more critical than for regional research studies that run three to five years and only involve 5 to 10 team members.

There have been some problems associated with this study and only the more significant will be mentioned.

With a study team of 23 members in four widely separated locations working on about 40 different parts of the project, this study has presented a major management challenge. In general, we have had good cooperation from team members.

There is only one team member working on this project full-time. The rest of us have had other teaching and research responsibilities which have sometimes conflicted with the things that needed to be done on this study by a certain time. Research decision making with such a large group has been difficult and time-consuming.

Because of problems they have had with other sectoral studies, the Four Corners Regional Commission staff, with the help of their 40 member agricultural advisory committee, has closely monitored this study. We have had to make quarterly written reports and in addition have made four oral progress reports during the 12 months the study has been underway. These reports have taken time to prepare which takes away from the time to do the study. There has been a lot of pressure because of the short time period and heavy workload. This will increase as the completion draws nearer. The entire agricultural experiment station at New Mexico State University produced 27 publications last year. We have published six reports so far this year from this study and have 36 more in preparation for completion by the end of this calendar year.

This study has been a team effort and many individuals have contributed to its planning and performance. This type of study has given us an opportunity to take a broader look at the problems and opportunities in agriculture and forestry in each of our states and for the Four Corners Region. We have been given the opportunity to do things that as researchers we previously have not had to do, particularly planning the implementation of research findings. There is also the prospect that some of the recommendations and research findings we have made will quickly be adopted.

REFERENCES

1. "Toward Policies for Balanced Growth," a lecture series sponsored by the U.S. Department of Agriculture Graduate School, Graduate School Press, USDA, 1971.

REGIONAL AND RURAL AREA DEVELOPMENT: DISCUSSION

Carl E. Olson
University of Wyoming

We have just heard two papers on rural area development. The paper by Dr. Alan R. Bird discusses the needs for and the methods of research in rural area development. The paper by Dr. William Capener describes a large rural area development project presently underway in the Four Corners area of Colorado, New Mexico, Utah, and Arizona. I find myself in agreement and disagreement with parts of both papers. I see a lack of emphasis, or perhaps it is interest, in both papers on a rather important aspect of rural area development -- the macro effects of the various development alternatives. Both authors made general and rather passing reference to the macro problems, but in both cases they seemed to more or less leave the macro problems to solve themselves.

Dr. Bird's paper gives a brief review of the generally-accepted goals and major problem areas involved in rural area development. I think anyone working in rural area development would be in agreement with the research goals of developing the methods or techniques to (1) raise the level of living of people in rural areas and (2) improve the community services and the socioeconomic environment in which these people live. These are admirable goals and objectives, and as we work in rural development research, we should keep them in mind. The six problem areas that Bird mentioned are general problems of all people, not just of people in rural areas, but also of people in urban areas as well. These problem areas are (1) the improvement of economic opportunities for rural people, (2) causes of and remedies for poverty among rural people, (3) improvement of rural community institutions and people, (4) housing needy rural families, (5) the communication process in rural life, and (6) individual and family adjustment to change.

Bird places great emphasis on the need for a national set of sub-state and regional rural planning and development districts or areas. He spent a considerable amount of time explaining how the United States has been divided into planning and development areas by public and private organizations. In my own mind I feel it is somewhat arbitrary to delineate sub-state, multi-county, multi-state, planning areas without having adequate knowledge of the resource bases available within these areas. Later in his paper he emphasizes that we must have an adequate resource within an area to have development. This latter statement seems somewhat inconsistent with the arbitrarily-delineated planning areas.

It would seem to me that any type of work in rural development must start with knowledge as to what is available for development and what the people in the area think of development and what is the total economic and social impact of the development effort. This brings me to a point I would like to bring up, that is who wants rural area development and why do they want it. I do not know the answer to the question. I suppose we want rural area development to provide equal opportunities to all people in our society.

Another point in Bird's paper that is somewhat troublesome to me is that he seems, in my opinion, to make a point that more urbanization is what we need for development. I am not convinced this is what we are after at all. I may be misinterpreting Bird on this point, although he does spend a great deal of time talking about these five different types of population density areas by regions and the chances of changing from one type of density area to another. The implication is given that the more urbanized the area is the more likely we will have some good rural area to develop.

Capener talked to great lengths in describing this massive development project that they have going in the Four Corners area. He has described a very ambitious project, and I wish him well with the effort. It would seem almost unreasonable to expect such a project to be completed in the time that they have using the method and the organization that they have to work with. I don't doubt that they will be successful in their efforts in identifying alternative development strategies for the people in the Four Corners area. The criteria being used to evaluate the alternate development strategies are good. However they are looking only at the individual strategies and do not consider the macro or interaction effects of several strategies. It would seem to me that if he is going to come up with a meaningful development plan, he is going to have to know how various alternatives fit together in a total package to determine the total effect of a given development plan. What happens if we have five different strategies that are competing for the same set of resources? What's going to be the total payoff in terms of rural development?

The growth center idea that Bird brought out in his paper is quite interesting to me. He discussed what is apparently some rather prevailing thoughts on the area growth centers. The thinking of many is that rural development will be centered around urban areas of 250,000 and 750,000 population. I don't believe it, and neither does Bird. A growth center for rural development may be a small town, or it may be a resource base or particular resource that can be developed. Then we will have growth and development from this type of thing. I don't think the rather large urban areas necessarily are going to be growth centers for rural area development. I think the growth centers for true rural area development are going to be quite small by our city cousins' definitions, and I'm glad to see Bird point out that you can have a town of 15,000 population as a very viable growth center if they have the necessary conditions and resources available for growth.

In Wyoming, we are doing some work in rural development. Our approach is to first determine what resources do we have available in an area for development; the second step is to determine what type of development activities are best suited for the resources we have. The third step is to estimate the total economic impact on the average of the various development activities suited to a particular area.

To summarize my comments on these two papers, I'd like to say that the Four Corners project is most interesting. They have quite a problem in this area, and I think they're going part way towards helping the people in the area to develop. To do the complete job, in my opinion, they are going to have to spend more time and effort with the macro problems for growth in this area. In terms of Bird's paper on the needs and potential for rural development, I think we need to spend more time and devise techniques and methods to measure some of the aggregated impacts of particular development strategies or groups of development strategies on fairly small areas. Some strategies may encompass only a township where other development strategies may encompass half of the state, and some such as the Four Corners project may include areas of several states. We need to be able to determine what resources are best suited for rural area development. This goes back to Bird's point that we aren't sure as to what makes one area develop and not another. We need to spend more time in understanding the basic rural growth and rural development process and then spend some time looking at alternative ways to make areas that have not grown grow.

REGIONAL AND RURAL AREA DEVELOPMENT: DISCUSSION

Robert N. Anderson
University of Hawaii

The two papers presented by Dr. Bird and Professor Capener are, on the whole, quite acceptable to me. I am particularly supportive of Dr. Bird's suggestion that the profession has reached the point of rapidly diminishing returns in attempting to further delineate development areas. I am also pleased that researchers in the Four Corners Area, as reported by Dr. Capener, are mandated to consider implementation of the recommended development possibilities. Such actions are long overdue.

Rather than review the papers on a comprehensive basis, as has already been done by Dr. Olson, I will devote the remainder of the discussion to a basic dilemma that seems particularly acute in the subject of area development. This dilemma is evidenced in the latter part of Professor Capener's paper where he has listed a set of criteria that will be used on a weighted basis in order to rank various development possibilities as a part of the overall development plan. He says that the rankings will provide decision makers with a more objective basis on which to base their choices. Nevertheless, despite such recommendations, he avows that the researchers are to indicate only the probable outcome provided the criteria are used; they are not attempting to advise what criteria should be used in implementing a development possibility. The team headed by Professor Capener as well as most researchers in area development have difficulty reconciling their dual roles as technical advisors and value advocates.

In order to address this dilemma, it is necessary to sketch the present status of area development. To borrow a phrase from Schumpeter, I will attempt this with desperate brevity. In terms of current research needs, area development often emerges as a process of subsidizing segments of the economy in which the rate of growth is considered unacceptable under the present structure of economic incentives. This is due to the fact that economic development in the United States has occurred as the result of egalitarian ideals as well as being tied to efficiency principles arising from the profit motive. Efficiency considerations cause manufacturing plants to be built alongside other plants in urban centers rather than in less populated regions; loans are extended to businessmen who have already proved their money-making talents. Efficiency is also the reason that preference is given to highly-skilled labor and that cultural centers are located amongst those who can best afford and appreciate such activities.

For many years such efficiency considerations were considered by the public to be somewhat sanctified by the economics profession, for economists can show that conditions for maximizing regional production are met by shifting factors to higher productivity usages, and, provided that factors always obtain incomes equal to their marginal products, welfare is thus increased. But more recently members of the profession clearly demonstrated that arguments of this nature are not valid in a second-best situation. The second-best theorem suggests that a change in factor use may actually reduce welfare when some conditions are non-optimal, even though such a change would bring about an optimum when all other conditions are optimal. This is clearly the case in the situations under discussion, for earnings are not equated with marginal products, nor are marginal social costs and benefits equal in all cases. Thus, on purely a welfare basis it is not justifiable to refuse to subsidize or otherwise control factor use. Economists find they can no longer afford the deception of applying first-best criteria to second-best situations. The model must fit the world rather than requiring policymakers to transform the world so as to fit the model.

Of course, recent developments in welfare theory were not necessary for economists to realize that efficiency considerations have sometimes led to aggregate growth rates that favor only the non-poor segment of society. Governments, in the name of egalitarian principles, have thus attempted to fill the operating gap in the efficiency incentive structure by alleviating in various ways the conditions of those people who do not benefit proportionately from the operation of sectors of the economy attuned to efficiency considerations.

The use of such egalitarian principles, however, is sharply limited by public insistence that efficiency considerations remain paramount. Paradoxically, this limitation is often cloaked in the theme of egalitarianism. Many of our urban residents trace their lives or those of their immediate ancestors back to agricultural or other rural environs.

Through hard work, determination, and, at times, utter desperation, they have successfully accommodated themselves to the demands of urban life. They are not about to be humiliated by seeing rural residents receive special considerations in making the transition from rural poverty that, as they recall, were denied them. (In cases involving Blacks, Indians, and Chicanos, a tinge of racism may also be a factor). They thus refuse to modify the small but powerful rules that control our society. They maintain that one law, or one set of academic standards, or one set of public welfare criteria must apply, in egalitarian fashion, to all. Young Indians from the Four Corners region are thus barred from college because of low scores--the same as anybody else. Some Chicanos may be barred from many types of employment because of arrest records--the same as anybody else. The ill-dressed farm girl from northern New Mexico is not hired as a secretary, despite her typing and stenographic proficiency, because her demeanor is not highly polished. Rural educational funding is not disproportionately funded from the urban tax base, but from local wealth, again in the name of egalitarianism.

Applications of the same standards to everyone is in direct accord with the efficiency considerations previously discussed and not truly in accord with egalitarian ideals. True egalitarian considerations imply no one is to be left behind, neither economically nor culturally. Development in accord only with efficiency considerations and its accompanying trickle-down processes is incompatible with true egalitarian ideas.

What are the implications of this brief description of the bilateral roles of efficiency and egalitarian considerations in the area development process? One of the implications is that the economist must offer both technical advice, largely gained from his knowledge of the operation of the efficiency incentive structure, and his value judgments. Two types of value judgments must suffice as examples. Economists are well aware of the importance of externalities in the development process and that past methods of dealing with them are inadequate. The key value judgment herein is that the decision-making processes of planning must replace those of individual consumers. As Carl Kaysen has said, "Economists possess both habits of thought and analytical tools that can be put to good use in designing these (planning) processes." If they do not feel that these processes are desirable, "they will emerge as largely futile critics of policies shaped by others, whose objectives are viewed as captions or doctrinaire" [1, p. 149]. A second type of value judgment is recognition that the investment and pricing implications of some public expenditures such as education may not be the central issue in comparison with the basic social issues of status and income distribution.

In conclusion, the major distinction in my mind between operations researchers and economists is the capacity of the latter to act as value advocates. Economists have done this with mixed success but great impact in fiscal and monetary policy; they have yet to make similar impact in the more complex policies dealing with area development. Economists ranging from Milton Friedman to Abba P. Lerner have long recognized that an indispensable part of economics is the capability of articulating values relevant to a wide range of social issues. I do not anticipate that the goals of our society will become sufficiently well accepted and understood so as to permit economists to act successfully as purely technical advisers. Society's goals will continue to be complex and controversial, requiring economists to assess their personal value system as conditioned by their technical expertise. Only in this way can they begin to have considerable impact in area development.

REFERENCES

1. Kaysen, Carl, "Model Makers and Decision-makers" in Economic Means and Social Ends, ed. by R. L. Heilbroner. Englewood Cliffs, N.J., Prentice-Hall, Inc. 1969.