

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: October 4, 1977

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OHL

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Project No: A-2018

12/31/83

5/31/83
3/31/83

Project Director: Hardy Taylor

Sponsor: U.S. Dept. of Commerce/EDA

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July 31, 1977
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2/28/82

*12 mo. work period -
3 mos. for reporting, etc.

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report

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Sponsor Contact Person (s):

Technical Matters

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(thru OCA)

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Atlanta, Georgia 30309

Defense Priority Rating:

Assigned to: Technology & Development Laboratory

(School/Laboratory)

COPIES TO:

Project Director
Division Chief (EES)
School/Laboratory Director
Dean/Director-EES
Accounting Office
Procurement Office
Security Coordinator (OCA) ✓
Reports Coordinator (OCA)

Library, Technical Reports Section
Office of Computing Services
Director, Physical Plant
EES Information Office
Project File (OCA)
Project Code (GTRI)
Other EES R&P

SPONSORED PROJECT TERMINATION/CLOSEOUT SHEETDate 11/6/84Project No. A-2018~~XXXX~~ School/Lab EDL

Includes Subproject No.(s) _____

Project Director(s) Hardy TaylorGTRI / ~~XXX~~Sponsor U. S. Department of Commerce (EDA)Title A Program of Management and Technical Assistance in Designated EDA Counties in Ga.Effective Completion Date: 3/31/84 (Performance) 6/30/84 (Reports)

Contract/Contract Closeout Actions Remaining:

☐ None☒ Final Invoice or Final Fiscal Report☐ Closing Documents☐ Final Report of Inventions☐ Govt. Property Inventory & Related Certificate☐ Classified Material Certificate☐ Other _____

Continues Project No. _____

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Library
GTRI
Research Communications (2)
Project File
Other A. Jones; M. Heyser

Project No. A-2018
Grant No. 04-06-01567-3

A PROGRAM
OF MANAGEMENT AND TECHNICAL ASSISTANCE
IN DESIGNATED EDA COUNTIES IN GEORGIA

Quarterly Report

August, September, October
1979

by

Hardy S. Taylor
Senior Research Scientist

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This technical assistance program was accomplished by professional consultants under a grant from the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the grantee and do not necessarily reflect the views of the Economic Development Administration.

Economic Development Laboratory
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
December 1979

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SUMMARY OF CENTER ACTIVITIES

Overall Program Objectives

The program activities described in this report represent an extension of the Economic Development Laboratory's (EDL) established service to Georgia business and industry through market research, management guidance, and technical assistance. The specific objectives of the EDA-sponsored program are as follows:

- o To stimulate the expansion and diversification of existing industry;
- o To support the formation of new, economically sound enterprises; and
- o As an ultimate objective following from the two stated above, to create additional jobs.

Service Region

The region covered under the EDA program of management and technical assistance encompasses all designated EDA counties in the state of Georgia. As of the beginning of the project year, there were 158 of these EDA counties in Georgia, so designated because they are economically depressed area. The objectives of the program address the fundamental cause of these conditions: an inadequacy of employment opportunities. As a result of this deficiency, the counties have experienced high levels of unemployment, poverty, and out-migration.

Project Activity

During the first quarter, 41 management and technical assistance projects were active under the EDA program. In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of continued reviewing of existing projects, the elimination of those that did not appear to justify further effort, and the search for new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 14 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition, 10 projects were completed and closed out leaving 31 active projects at the end of the quarter.

I. BACKGROUND INFORMATION

A. Economic Characteristics of Service Area

The service area covered by the EDA Technical Assistance Grant effective during fiscal year 1979-1980 is comprised of 158 designated counties throughout the state of Georgia. These designated counties, shown in Chart 1, represent economically depressed areas. The high net out-migration in many of the counties (as high as 43% for the period 1970 to 1977) is the result of stagnant or declining economic conditions. This conclusion is further substantiated by the high percentage of individuals (as high as 61% in 1969) who fall below the poverty income level. The EDL program addresses the need for economic revitalization in these counties by creating job opportunities in new or existing businesses and industries.

B. Organization and Establishment of Center

First proposed as a comprehensive plan in October 1955, the industrial development program at Georgia Tech was established in July 1956 as a three-man operation. The Industrial Development Branch grew to division status within the Engineering Experiment Station in 1962, and was called the Industrial Development Division (EDD). Currently, the Economic Development Laboratory (formerly IDD), in cooperation with the Industrial Extension Laboratory, serves Georgia through area offices located in Albany, Augusta, Carrollton, Douglas, Gainesville, Macon, Rome, and Savannah.

The overall objective of the Economic Development Laboratory is to stimulate and advance industrial and economic development. This objective is to be achieved through active cooperation with other agencies and organizations engaged in the field of industrial and economic development and through the continuing development and implementation of programs which are designed to accomplish the following specific aims:

1. To provide the facts and scientific research needed to assess the economic status and development potential of the state and its subdivisions;
2. To describe, measure, and evaluate the physical and human resources of the state and its subdivisions;
3. To determine, through objective research and analysis, the types of business and industrial operations that are best suited for development or expansion in Georgia and in specific locations within the state;
4. To serve as a center for the collection, interpretation, and dissemination of information relating to industrial and economic development;

5. To provide professional assistance, information, and service to governmental units and to other industrial and economic development groups;
6. To provide professional assistance, information, and service to established and prospective business and industrial firms;
7. To motivate and assist public and private organizations in the utilization of research findings in the achievement of industrial and economic potentials; and
8. To provide professional instruction and guidance in the application of the principles and techniques of industrial and economic development.

C. Development of Management and Technical Assistance Program

In 1960 the Industrial Development Division, under the Management Research Grant Program of the Small Business Administration, conducted a comprehensive study of the problems and needs of small manufacturing management. The most significant finding of this study was that small businessmen critically need direct, personal guidance in resolving internal problems affecting their survival and growth.

To at least partially fulfill this need and in keeping with the eight aims specified above, in 1960 a modest program of management and technical assistance to small business and industry was started in Georgia. Wide response to this service in the ensuing months prompted the formation of the Industrial Development Division (IDD) to deal exclusively with the provision of direct assistance to small businessmen in Georgia. As a result of the expansion of functions in the Division, the EDA program is now centered in the Business Development Division of the Economic Development Laboratory.

On March 11, 1965, the U.S. Department of Commerce announced approval of a major program to stimulate the growth and expansion of business and industry in 16 designated counties in Georgia. This program was conceived and conducted as a joint effort of the Economic Development Administration, the Georgia Department of Industry and Trade, and the Georgia Institute of Technology. Work on the program was conducted by staff members of the Industrial Development Division of Georgia Tech's Engineering Experiment Station during the contract period beginning June 1, 1965, and ending May 31, 1966.

On May 11, 1966, the Economic Development Administration approved the extension of the management and technical assistance program until June 1, 1967. In brief, this program covered an expansion of the 1965-1966 program with services oriented toward assistance to firms in designated Economic Development Districts. Additional service was to be provided (1) to firms

in counties qualified for EDA assistance in those cases where requests for assistance were approved by the EDA Field Coordinator, and (2) to the EDA Field Coordinator in those cases where there was a need for data concerning the impact on employment opportunities of EDA funds to be expended for public works projects.

On April 19, 1967, the Economic Development Administration of the U.S. Department of Commerce announced the extension of the management and technical assistance program for a third year. This program covered an expansion of the 1966-1967 program with services oriented toward assistance to firms in designated Economic Development Districts and EDA counties. Additional service was to be provided (1) to firms in Economic Development Centers, (2) to firms in EDA-designated areas in bidding for government contract work, (3) to firms having received loans from the U.S. Department of Commerce upon request of the authorized representatives of the Contracting Officer, and (4) to the EDA Field Coordinator in those cases where there was a need for data concerning the economic impact that business and public works proposed for Economic Development Centers would have on the Economic Development Districts and surrounding EDA-designated areas. The program also included a survey of an Economic Development District to determine the extent, availability, and characteristics of the District's unemployed.

On April 12, 1968, the Economic Development Administration approved the extension of the management and technical assistance program for a fourth year. It covered the continuation of the 1967-1968 program at a reduced level of funding and effort, with service oriented toward assistance to firms in designated Economic Development Districts and EDA counties. In addition, manufacturers in certain Economic Development Centers and EDA counties who had not been previously interviewed, were to be contacted and assistance extended where needed. Assistance to the EDA Economic Development Specialists and Economic Development Districts was to be provided in those cases where there was a need for economic impact studies and documentation in connection with applications for industrial and public works projects.

On April 29, 1969, the Economic Development Administration announced the fifth year extension of the grant to continue the 1968-1969 program. Although EDA funding for the program was reduced, local matching funds were increased proportionately, resulting in the same level of funding and effort. Services were directed toward assistance to firms in designated Economic Development Districts and EDA counties, as well as manufacturers in newly designated Economic Development Centers and EDA counties. A selective resurvey of firms in EDA-designated counties was to be conducted to identify firms with expansion possibilities and determine the demand for specific products and services which potentially could be supplied by existing or new firms

located in EDA-designated areas. Assistance to the EDA Economic Development Representatives and Economic Development Districts was to be provided in a limited number of cases for economic impact studies and documentation in connection with applications for industrial and public works projects.

On April 9, 1970, the Economic Development Administration, U. S. Department of Commerce, announced the extension of the management and technical assistance program for a sixth year to cover a continuation of the 1969-1970 program. The EDA grant for the program was reduced again, and although local matching funds remained about the same, there was a 22% net reduction in funds which restricted service efforts. These assistance services were structured and directed similarly to those in the prior year.

On June 4, 1971, the Economic Development Administration, U. S. Department of Commerce, announced the extension of the management and technical assistance program for a seventh year. Although this program covered a continuation of the 1970-1971 program, the EDA grant for the program was reduced an additional 12%. This necessitated a reduction in tasks to be performed under the grant. IDD was no longer required to prepare economic impact studies in connection with EDA loan applications. With more emphasis placed on utilization of the IDD areas offices, it was possible to continue providing full management and technical assistance services to firms in designated EDD's and EDA counties, including 15 new counties that were added during the grant period.

During fiscal 1971-1972, 87 management and technical assistance projects were active under the EDA program. This brought to 603 the total number of projects undertaken by IDD from the inception of the program under the contract through May 31, 1972.

During 1972-1973, 81 management and technical assistance projects were active under the EDA program. This brought to 640 the total number of projects undertaken since the inception of the program under the contract through May 31, 1973.

During fiscal 1973-1974, the contract was changed to adjust the fiscal year to a 1 July to 30 June basis by making the 1973-1974 contract cover a 13-month period. During this contract period, a total of 85 management and technical assistance projects were active, bringing to 707 the total number of projects undertaken since the inception of the program.

During fiscal 1974-1975, 89 management and technical assistance projects were active under the EDA program. This brought to 766 the total number of projects undertaken since the inception of the program through June 30, 1975.

During fiscal 1975-1976, 77 management and technical assistance projects were active under the EDA program. This brought to 808 the total number of projects undertaken by EDL since the inception of the program.

During fiscal 1976-1977, 66 management and technical assistance projects were active under EDA program. This brought to 852 the total number of projects undertaken by EDL since the inception of the program.

During fiscal 1977-1978, 83 management and technical assistance projects were active under the EDA program. This brought to 898 the total number of projects undertaken by EDL since the inception of the program through July 31, 1978.

During the fiscal 1978-1979 56 management and technical assistance projects were active under the EDA program. This brought to 954 the total number of projects undertaken by EDL since the inception of the program through July 31, 1979.

The overall philosophy of the Economic Development Laboratory is to work in conjunction with all economic development agencies.. Exhibits 1 and 2 illustrate the relation of the Economic Development Laboratory and its branches to the structure of the Georgia Institute of Technology.

II. PROGRAM ADMINISTRATION

A. Program Objectives

The program activities described in this report represent an extension of the Economic Development Laboratory's established service to Georgia business and industry through market research, management guidance, and technical assistance. The specific objectives of the EDA-sponsored program are:

1. To stimulate the expansion and diversification of existing business and industry in designated EDA counties;
2. To support the formation of new, economically sound enterprises in designated EDA counties; and
3. To encourage the development and expansion of economically sound enterprises owned and/or managed by individuals from the minority and female community in the service area.

These program objectives are applied to all the EDA areas in Georgia and do not vary from subregion to subregion.

B. Technical Assistance Services

Under the EDA Technical Assistance Grant effective during fiscal year 1978-1979, the Economic Development Laboratory offered several types of assistance in designated Economic Development Districts and counties:

1. Technical and management assistance was provided to marginal existing business and industrial firms in order to solve problems that endangered their continuation. The purpose of aid in these cases was to save jobs.
2. Technical and management assistance was furnished to existing business and industry with operating problems which inhibited growth. Expansion and diversification assistance was provided in order to create jobs.
3. Technical and management assistance was enlisted in the formation of new industrial ventures, also for the purpose of creating jobs.
4. Technical and management assistance was furnished to individuals from the minority and female community for the purpose of creating opportunities for the development of business enterprises and the creation of jobs.

This assistance covers all of the problems businesses encounter in the broad fields of management, operations, personnel, finance, product evaluation, and market identification. It should be noted that when a company or group of individuals expresses an interest in an EDA business loan, the Economic Development Laboratory refers that company or individuals to the EDA Economic Development Representative and takes no action until requested to do so by the Economic Development Representative.

C. Project Personnel

"People are our most important resources." The staff of the Business Development Division has had a wide range of practical experience in consulting, administrative, and operational work with a variety of business and industrial firms. Supporting the Division staff are other professional personnel of the Economic Development Laboratory: market analysts, plant location specialists, industrial economists, statisticians, research librarians, and industrial and chemical engineers. In addition, the facilities and personnel of other divisions of the Engineering Experiment Station and of Georgia Tech's academic departments and library are available for consultative work on special projects.

Exhibit 3 contains biographical sketches of the in-house professionals of the Economic Development Division in which the EDA activities are centered.

D. Phasing of Work Program

This work program which encompasses Chart 2 has been waived by paragraph five of the grant amendment offer dated the 26th day of June 1972.

E. Internal Management Policies and Procedures

1. General Program Approach

At the start of the program in July 1979, 27 projects were carried over from the previous contract. Internal controls were reviewed and reissued to provide for the effective assignment of staff to be covered by the field offices (see Map 1), and man-power estimates were prepared. Program controls were reviewed to insure adequate work records, and man-hours were budgeted for each staff member according to the probable volume of work to be generated from his individual assignments.

A presentation explaining the program was prepared and submitted to the executive directors of the newly designated Economic Development counties. Map 2 shows the 12 Economic Development Districts and the designated EDA counties in each. The program continued to be well received and, while conducted consistently throughout the state, was tailored to fit into the existing programs underway in some of the Districts. Close liaison was maintained with the assigned members of the Development District staff by the Atlanta and area personnel of EES.

Normally, the first contact with individual firms in new EDA counties and Development Centers came as a result of local news articles in the area's newspapers. The next contact was made by letter from the local Area Planning and Development Commission. Each of the firms contacted subsequently was visited by an EES staff representative and, in some cases, an Area Planning and Development Commission staff representative. These visits served to establish personal contact with local business and industrial officials and to determine specific opportunity for expansion, diversification, or the establishment of new businesses. As a part of the interview, information was collected by the EES staff representative on such factors as employment, product, and production capability of each company through use of the especially designed Manufacturers Data Sheet.

As each individual project was developed, a EDL representative was assigned project director, and the required work was either performed by the project director or assigned to a staff specialist. The project director maintained close contact with the company involved until the project was completed; work performed on each project and the results achieved were recorded on individual project report forms. The format of the quarterly report to the Office of Technical Assistance of the Economic Development Administration was changed to conform to new EDA guidelines to facilitate reporting quarterly the nature and status of apropos work performed in each of the Districts to the District offices.

2. Operating Policies

When it is decided to proceed with a project, the assignment of personnel and the priority given to these assignments are determined on the basis of the potential return which can be expected from an investment of management and technical assistance services. Several external factors are involved in the determination of the project priorities. The four main criteria are as follows:

- a. The *inherent* potential of the proposal is the first test applied to a request for assistance. If a new product or process is involved or if the request is for assistance in the organization of a new enterprise, an analysis is made of the profit potential of the product, process, or company. If the potential appears to be sound, the proposal has passed the first test.
- b. The second criterion involves the management and/or technical *competence* of the individuals requesting assistance. Their competence becomes a factor in the overall potential of the proposal. Assuming a high degree of management competence, a proposal with sound market potentials justifies a high priority. Without such competence, the chances of success for a potentially good idea are obviously reduced.
- c. The *economic* impact of EDL's assistance service represents the third test. A higher priority is normally given to those projects in which a relatively high return can be achieved through the creation of better paying jobs, the increased use of natural resources, and the fulfillment of a profitable business opportunity.
- d. The fourth test relates to the *financial* resources supporting the proposal itself. If the proposal has validity in all other respects, financial backing usually can be secured from outside interests. If the proposed product, process, or company is weak in either of the first two external factors stated above, its potential success is weakened even if the individuals involved can provide their own financial backing. So priority is determined on the basis of the financial resources behind the proposal if it meets the first two criteria.

3. Individual Project Approach

As a result of EDL's work with companies of varying sizes during the initial six years of the program, a standard approach (especially in problem-solving projects) has evolved that has proved successful in most cases. The projects are approached in the following three steps:

- a. Efforts initially are directed toward assisting the firm in solving its problem by itself. This is essentially a matter of assisting company representatives in identifying the true nature of a problem, then guiding them toward and through a series of steps by which they can resolve the problem.
- b. If it is not possible for a firm to resolve a problem situation with its own personnel, direct assistance is provided in attacking those aspects of the problem which EDL can competently approach.

- c. If a problem situation involves an unusual amount of time relative to the results to be attained or if qualified personnel are not available to attack the problem, the firm is advised of its need for competent consulting specialists.

F. Relationship to Other Development Efforts

In furthering EDA objectives in Georgia, the Economic Development Laboratory works closely with representatives of the following organizations:

- o Georgia State Office of Planning and Budget,
- o Georgia Department of Industry and Trade,
- o Georgia Department of Community Development,
- o Economic Development Districts,
- o Area Planning and Development Commissions,
- o Chambers of Commerce,
- o Local Industrial Development Groups,
- o Coastal Plains Regional Commission,
- o Small Business Administration,
- o EDA Economic Development Representatives, and
- o Farmers Home Administration.

Particular attention is directed to working with the EDD's and APDC's on individual projects. When an assistance project is opened, these organizations are notified that EDL will be working in their area and a monthly progress report of activity on projects within their area is supplied.

Cooperation with the above-mentioned organizations is enhanced because EDL is involved in activities other than EDA within the state, and its personnel are in almost constant contact with these groups.

III. STRATEGY FOR SUBREGIONS

Map 3 is a graphic depiction of the Economic Development Laboratory's method of realizing EDA objectives. It reflects the blanket coverage of the entire state and the relationship of that coverage to the Economic Development District areas.

These management and technical assistance program objectives are applied to all the EDA areas in Georgia and do not vary from subregion to subregion.

IV. TECHNICAL ASSISTANCE PROJECTS

A. Location

Map 3 identifies the counties in which work was performed under the program and indicates the number of projects conducted in each county.

B. Highlights of Project Activity

Chart 3 covers the highlights of project activity by major program categories. Chart 4 summarizes the project activity by type and subregion to indicate the distribution of effort throughout the state. Chart 5 lists the project activity by type and subregion to demonstrate the job impact.

The following projects were selected for special mention:

Project 895: This firm is engaged in the manufacture and sale of aluminum storm doors and has recently been acquired by owners/management inexperienced in the business. Assistance is requested in two major areas:

- (1) Analysis of the market for each storm door model produced by the firm. There are presently 18 difference models being manufactured, and it is felt that a firm of this size should limit itself to fewer models in order to optimize production efficiency.
- (2) Analysis of the detailed layout of production machinery and assembly operations with recommendations for improvement.

The firm now employs about 25 people. Management feels that limiting the number of models and streamlining production operations can lead to an increase in employment.

Project 932: An irrigation equipment manufacturing company in Crisp County requested assistance in the redesign of certain items of equipment manufactured by the company. EES personnel met with the owner of the company and made an initial analysis of the problem and determined that assistance would be required in the area of mechanical and electromechanical engineering. Further investigations are under way.

Project 934: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout and needs to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout. EES personnel have met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company.

C. Nondiscrimination Policy and Related Project Activity

To assure nondiscrimination in the provision of service benefits of the program under Title VI of the Civil Rights Acts of 1964 and Title 15 CFR, Part 8.4, a substantial effort is made to identify needs of the minority and female community for technical assistance to small businessmen. Of the 41 projects conducted during the period 5 were in support of minority and female interests. The following projects describe the action undertaken to assist the minority and female community:

Project 929: An area within the City of Decatur, Georgia, which has a relatively large minority population, has suffered from blight and out-migration of business. The city and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC), which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the center area. EES personnel have met with the principal, who is Director of Economic Development for the CDC, and have examined approaches that can be undertaken to solve the problem.

Project 930: An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line. EES staff personnel have communicated with the individual and have planned a meeting to discuss the possibility of conducting market research in connection with the new product line.

Project 931: An individual in Fulton County is interested in investigating the feasibility of purchasing and reopening a meat processing plant. The plant and equipment were in operation, but the plant was closed because of the death of the owner. The owners of the business are willing to sell, since they are not interested in operating the facility. EES has been asked to evaluate the company and its potential to be a profitable business. EES personnel have contacted the interested individual and will initiate a work program in the near future.

Project 939: A community development agency in DeKalb County has requested assistance in efforts to revitalize the commercial business district in Decatur. EES personnel have been in communication with the agency and plans are being made to further investigate the possibility of EES assistance.

Project 940: A minority-owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and developing a business plan to go into institutionalized distribution of paper and related products. EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company.

D. Project Summaries

The 41 individual projects which were active during the quarter under the program of management and technical assistance to businesses, industrial firms, and communities in designated Georgia counties are listed by Economic Development Districts. Descriptions include an identification of each project by number, type, and location; a brief description of the work performed; and a statement of the results achieved. The 27 projects which were still active as of October 31, 1979, are listed under "Ongoing Projects" in each EDD.

CENTRAL SAVANNAH RIVER ECONOMIC DEVELOPMENT DISTRICT

General

The Central Savannah River Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Screven, Taliaferro, Warren, and Wilkes. The Growth Centers are Augusta (Richmond County) and Swainsboro (Emanuel County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 830: Assistance to an individual interested in establishing a cold mix asphalt plant in Jefferson County

Nature of Problem: An individual interested in establishing a cold mix asphalt plant in Jefferson County requested EES assistance in documenting the feasibility of such a venture.

Work Performed: EES personnel have conducted an investigation for the company and prepared background information for the company's use.

Results: The project is continuing.

Project 895: Assistance to an aluminum products manufacturer in Emanuel County

Nature of Problem: This firm is engaged in the manufacture and sale of aluminum storm doors and has recently been acquired by owners/management inexperienced in the business. Assistance is requested in two major areas:

- (1) Analysis of the market for each storm door model produced by the firm. There are presently 18 different models being manufactured, and it is felt that a firm of this size should limit itself to fewer models in order to optimize production efficiency.
- (2) Analysis of the detailed layout of production machinery and assembly operations with recommendations for improvement.

The firm now employs about 25 people. Management feels that limiting the number of models and streamlining production operations can lead to an increase in employment.

Work Performed: Preliminary work for further project development was accomplished.

Results: The project is continuing.

Project 905: Assistance to wooden pallet manufacturing company in McDuffie County

Nature of Problem: The owners of this wooden pallet manufacturing company requested EES assistance in marketing and production. The company desires assistance in the area of marketing to increase its sales volume and diversify its product mix and volume. With regard to production, the owners requested assistance to improve material flow, plant layout, and material handling equipment and techniques.

Work Performed: Members of the EES staff met with the owners and, as a result, provided the company with initial information about the pallet market. Additional information was provided at a later date concerning the market and several possible products for diversification of the company's line. At a subsequent meeting, the impact of the Iranian situation on the company was discussed. The firm also requested assistance in responding to an advertised opportunity for business in a foreign country. EES staff personnel arranged for assistance to the company through the International Division of the Georgia Department of Industry and Trade.

Results: The project is continuing.

Project 924: Assistance to an individual in Richmond County interested in the manufacture of bowling pins

Nature of Problem: The owner of a bowling establishment requested assistance in determining the feasibility of manufacturing bowling pins in his area. The assistance requested includes: (1) analysis of bowling pin construction, (2) identification of required machinery and equipment for manufacture, (3) information concerning capital costs, and (4) estimates of operating costs. If the venture is determined to be feasible and a manufacturing facility is established, it is estimated that 10 persons would be employed.

Work Performed: EES staff personnel obtained bowling pins specifications for the owner and are continuing to develop needed information.

Results: The project is continuing.

Project 938: Assistance to an individual engaged in the amusement business in Wilkes County

Nature of Problem: An individual in Wilkes County who is in the business of selling fish bait is interested in developing a product line of potting soil. EES has been requested to conduct a market survey for the proposed new product line. If the project is successful, it is anticipated that 34 new jobs will be created.

Work Performed: EES personnel have visited with the owner of the company and discussed the possibilities of the new line. Further investigation will be required.

Results: The project is continuing.

Project 941: Assistance to a rubber products manufacturer interested in solving its marketing problems in McDuffie County

Nature of Problem: The owner of a firm that manufactures a variety of rubber products using discarded automobile/truck tires as raw materials has requested assistance in the areas of marketing, analysis, production operations, and the location of closer and better supplies of product components. The owner believes that with a better organized marketing effort and improved production operations, the firm could increase its employment by 16 to 21 persons.

Work Performed: EES personnel have met with the owner to define the firm's marketing problems and identify approaches through which EES can best assist in finding solutions. Information is being furnished the company concerning cryogenic freezing for use in separating the rubber from steel belts in the steel belted radial tire.

Results: The project is continuing.

SOUTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The South Georgia Economic Development District consists of 10 counties, all of which are eligible Redevelopment Area counties: Ben Hill, Berrien, Brooks, Cook, Echols, Irwin, Lanier, Lowndes, Tift, and Turner. The Growth Centers are Valdosta (Lowndes County) and Tifton (Tift County).

Discontinued Projects

During the period, four projects were discontinued in this area.

Project 884: Assistance to a furniture manufacturer in Lowndes County

Nature of Problem: This company manufactures a unique rocking chair. Sales are increasing rapidly, and a plant and equipment expansion program is planned to meet the anticipated production. The company had requested assistance in locating a source of funds.

Work Performed: The EES staff assisted the company in preparing cost estimates for its "Bantam Rocker" to be used in bidding on a 2,000-chair order. Staff members also assisted the company in developing advertising layouts and promotion programs. A source of heat transfer decals for chairs, which will lower costs by approximately \$1.50 per chair, was located for the company. Subsequently, staff personnel furnished information on sources of wood dimension supplies and a list of universities as potential markets. Plant expansion has been completed. EES assistance is no longer required.

Results: The project is closed.

Project 887: Assistance to an aluminum fabricator in Lowndes County

Nature of Problem: The principals of this company had requested assistance with several problems that were facing the company.

Work Performed: EES staff personnel contacted the company and furnished information concerning cost analysis. Further assistance is not required.

Results: This project is closed.

Project 911: Assistance to an individual interested in marketing sand in Irwin County

Nature of Problem: An owner of a deposit of sand had requested assistance in developing a plan for marketing the sand, if the deposit proved to be of substantial quantity. Should the project prove to be feasible, it is estimated that from 5 to 10 jobs would be created.

Work Performed: The owner was contacted by EES staff personnel, who assisted him in obtaining a lab test of his sand deposit. A sand analysis report was prepared by the Pittsburgh Testing Labs, and was sent to 15 glass companies and the National Sand and Gravel Association for review and recommendations on promoting the deposit. A representative of the state Geological and Water Resources Division then met with the ESS staff member to review the sand analysis report. It was determined that further tests were necessary, and two additional samples were forwarded to the U.S. Geological Survey in Alabama for analysis of angularity and material content. The test results were furnished 35 mining companies. Further assistance is not required at this time.

Results: The project is closed.

Project 920: Assistance to a metal fabrication firm in Ben Hill County

Nature of Problem: A metal fabrication firm in Ben Hill County had requested assistance in locating technical information and suppliers for brass and chrome plating equipment to be used in the fabrication of postcard display racks. If the proposed fabrication proves to be feasible and the company begins to manufacture the racks, several new employees are expected to be added to the payroll.

Work Performed: The EES staff was actively assisting the firm in exploring the possibility of setting up a brass-plating operation. Waste water regulations were researched and general information sought concerning brass plating. The firm also had problems with adhesion of paint to its metal products. Samples were obtained and evaluated and results furnished the company. No further assistance is required.

Results: The project is closed.

Ongoing Projects

There are now four projects under way in this area.

Project 942: Assistance to a wood products firm in the establishment of a new pallet manufacturing company in Cook County

Nature of Problem: Investors from an established company are exploring the feasibility of starting a pallet manufacturing company in Cook county using solely owned sources for hardwood supplies. Assistance in conducting a market study has been requested.

Work Performed: A conference with the principals was conducted at which time plans for the market study were discussed.

Results: The project is continuing.

Project 944: Assistance to the owner of a manufacturing firm in Lowndes County in developing expansion plans

Nature of Problem: The owner of a firm in Lowndes County is interested in increasing the firm's growth. The owner indicates the need for management assistance in the area of sales and financing.

Work Performed: A detailed interview was conducted with the owner to establish goals and formalize a brief plan.

Results: The project is continuing.

Project 947: Assistance to a recreational vehicle manufactuirng firm in Ben Hill County

Nature of Problem: A firm in Ben Hill County is experiencing production difficulties due to plant layout and poor production processes.

Work Performed: EES personnel have visited the plant to determine material flows and required operations. Further assistance will be given.

Results: The project is continuing.

Project 948: Assistance to a manufacturer of irrigation equipment in Ben Hill County

Nature of Problem: A firm in Ben Hill County is manufacturing a new product which involves a new type of electronic control circuit. No one in the area manufactures such a circuit. The company is interested in establishing a manufacturing capability in the area so that the item will be available for use in the company's new product. Assistance has been requested in establishing such a capability in the area.

Work Performed: EES personnel have assisted the company in initiating a project setup, drawing schematics and locating sources of supplies.

Results: The project is continuing.

GEORGIA MOUNTAINS ECONOMIC DEVELOPMENT DISTRICT

General

The Georgia Mountains Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Stephens, Rabun, Towns, Union, and White. The Growth Centers are Gainesville (Hall County) and Toccoa (Stephens County).

Discontinued Projects

During the period, two projects were discontinued in this area.

Project 926: Assistance to a truck equipment firm in Hall County

Nature of Problem: This firm had requested management assistance in formulating a plan to improve cash flow and parts inventory. The firm is involved in the remanufacturing of heavy truck transmissions, rear ends and PTOs. The company currently employs 10 people. Assistance was needed to stabilize operations.

Work Performed: EES staff personnel met with company principals and discussed the inventory problems, floor plans, and financing plans. Staff personnel made recommendations and reviewed them with the company and the sources of its financial assistance. The company's financial statements were reviewed to assist in the preparation of a loan application. However, because the principals were so slow in preparing company information, they lost an opportunity for financial assistance. No further assistance from EES appears to be needed.

Results: The project is closed.

Project 928: Assistance to a poultry firm in Hall County

Nature of Problem: This company had requested assistance in improving warehouse management and the storage and retrieval systems in order to increase efficiency.

Work Performed: EES personnel visited the company with representatives from five different materials handling companies to survey the needs of the company and to furnish cost quotations on warehousing equipment. Tests were run on corrugated boxes by the School of Textile engineering to determine if they met specifications. Results were furnished the company. Data concerning the company also included recommendations concerning improvements to a recently acquired egg producing plant and assistance in locating a production manager. No further EES assistance is needed at this time.

Results: The project is closed.

Ongoing Projects

There are no projects under way in this area at the present time.

HEART OF GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Heart of Georgia Economic Development District consists of nine counties, all of which are eligible Redevelopment Area counties: Bleckely, Dodge, Laurens, Montgomery, Pulaski, Telfair, Treutlen, Wheeler, and Wilcox. The Growth Center is Dublin/East Dublin (Laurens County).

Discontinued Projects

During the period, one project was discontinued.

Project 914: Assistance to a lumber concern in Telfair County

Nature of Problem: A company operating three saw mills in Southeast Georgia was having problem with excessive expenditures on electric motor repairs. The engineering manager had requested assistance in analyzing the feasibility of operating their own electric motor repair shop. This assistance involves the selection of equipment and the determination of operating costs. It is anticipated that three new jobs would be created if the repair shop is established.

Work Performed: EES staff personnel met with company representatives and discussed their current problems. Sources of technical information on electric motor rewinding were furnished the company. No further assistance is needed.

Results: The project is closed.

Ongoing Projects

There are no projects under way in this area.

NORTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Northeast Georgia Economic Development District consists of 10 counties, all of which are eligible Redevelopment Area counties: Barrow, Clarke, Elbert, Greene, Jackson, Madison, Morgan, Oconee, Oglethorpe, and Walton. The Growth Center is Athens (Clarke County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

OCONEE AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Oconee Area Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Baldwin, Hancock, Jasper, Johnson, Putnam, Washington, and Wilkinson. The Growth Center is Milledgeville (Baldwin County).

Discontinued Projects

None.

Ongoing Projects

There are no projects currently under way in this area.

SOUTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southeast Georgia Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Atkinson, Bacon, Brantley, Charlton, Clinch, Coffee, Pierce, and Ware. The Growth Center is Waycross (Ware County).

Discontinued Projects

During the period, two projects were discontinued in this area.

Project 910: Assistance to a concrete producer in Coffee County in the location of additional sand sources and improved production processes

Nature of Problem: A company that manufactures ready mix concrete and pre-cast concrete items experienced declining production and increased employee turnover. The company requested assistance in improving its production processes and in the location of additional sources of sand.

Work Performed: An EES staff member contacted the company and discussed the problem in depth. As a result, data on available sand deposits were obtained for the company owner and a conference was held with the State Department of Natural Resources concerning the problem of sand removal. The Department of Transportation performed testing on sand samples. The EES representatives provided research information concerning precast concrete and reviewed the company's employee incentive program, making suggestions for improvements where warranted, and information concerning the need for a speculative warehouse. No further assistance is needed at this time.

Results: The project is closed.

Project 912: Assistance to a metal products company in Coffee County

Nature of Problem: A producer of aluminum doors and windows had problems involving quality and material handling. Assistance was requested in evaluating processes and methods that could be used to increase productivity.

Work Performed: The production manager of the company was contacted. Paint damage to doors during the assembly operation and defective wood members used in the framing of doors were two of the primary problems identified. An EES staff member visited the plant and reviewed fabrication processes. Further work has included the preparation of operation charts associated with the final assembly process and the provision of information on infrared heating. EES personnel also visited the company to determine its needs relative to heaters in the production area. On a later visit to the firm, the EES staff analyzed the need for a dust collection system and equipment items. A list of equipment suppliers was obtained and advice was provided on final assembly operations. Further assistance is not required.

Results: The project is closed.

Ongoing Projects

There are now four projects under way in this area.

Project 913: Assistance to a rebuilder of railroad cars in Ware County

Nature of Problem: A company in Ware County is interested in expanding its market and establishing a second plant in Atkinson County. As part of its expansion plan, the company has requested assistance in the development of a promotional brochure.

Work Performed: The company has been contacted and photographs showing the company's work have been taken. The company also requested assistance in improving the heating of the paint building. This work is now under way.

Results: The project is continuing.

Project 943: Assistance to a box manufacturing company in Lowndes County

Nature of Problem: A box manufacturing company in Lowndes County is having a problem with the lack of warehouse space and the need for improved inventory and material handling processes. The company has requested assistance in developing an improved plant layout.

Work Performed: EES personnel have completed an initial plant survey in preparation for the development of a new improved plant layout.

Results: The project is continuing.

Project 945: Assistance to a poultry concern in Coffee County

Nature of Problem: A concern involved as a distributor of diversified agriculture equipment is having problems in obtaining supplies from out-of-state at reasonable cost and with supply availability. The company is interested in manufacturing some items locally and has requested assistance in determining the feasibility of local manufacturing.

Work Performed: EES personnel have assisted the company in developing drawing of some equipment parts and in selecting potential vendors.

Results: The project is continuing.

Project 946: Assistance to a company interested in locating a source of forging operations

Nature of Problem: The owner of a company has requested assistance in locating a Georgia source for both forging and salt bath quenching operations.

Work Performed: EES personnel have located the source for forging operations and are furnishing further assistance to the company.

Results: The project is continuing.

SOUTHWEST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southwest Georgia Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Banker, Calhoun, Colquitt, Decatur, Dougherty, Grady, Lee, Miller, Mitchell, Seminole, Terrell, Thomas, and Worth. The Growth Centers are Albany (Dougherty County) and Bainbridge (Decatur County).

Discontinued Projects

During the period, one project was discontinued in the area.

Project 933: Assistance to a manufacturing concern in Decatur County

Nature of Problem: A manufacturing firm in Decatur County is planning to purchase new milling machines and lathes. Assistance has been requested to determine which equipment should be purchased, including a computer and the appropriately designed software.

Work Performed: EES personnel met with the president of the company to discuss the merits of different milling machines and lathes. Further assistance by EES is not required.

Results: The project is closed.

Ongoing Projects

There are now five projects under way in this area.

Project 826: Assistance to an automobile component manufacturer in Dougherty County

Nature of Problem: This newly established manufacturer of an automobile fuel economizer device requested EES assistance in locating sources of supply for component parts of the product.

Work Performed: The EES staff made follow-up contact with the firm. The manufacturer has now located a supplier for most of the needed component parts but continues to need help in locating rubber hoses and associated parts. The specifications for these hoses and parts have been obtained from the company. The firm appears to be having outstanding success in the sales of its products. It is anticipated that further assistance will be required in plant and production facilities in the near future.

Results: The project is continuing.

Project 880: Assistance to an agricultural equipment manufacturer in Thomas County

Nature of Problem: This firm recently acquired a 60,000-square-foot manufacturing building and requested EES assistance with several problems.

areas in the start-up of production of irrigation equipment.

Work Performed: The EES staff completed work on a system for metal preparation and coating for the company. Work was initiated on the development of a management information system for use with materials and labor scheduling and for effective cost control and analysis. The EES staff member made a return visit to the firm and determined that work on metal preparation and coating was progressing well. Work is also proceeding to provide the firm with information on newer manufacturing equipment and the production of rigid hoses. These requirements have been discussed with management.

Results: The project is continuing.

Project 922: Assistance to a firm in Mitchell County that manufactures automotive equipment

Nature of Problem: A concern in Mitchell County initially requested assistance in obtaining information relating to company procedures in the event of a union election. Subsequently, company management requested information about and assistance in the development and manufacturing of new products.

Work Performed: EES personnel met with management and arranged for the company to receive necessary information relating to union matters. Technical information and advice was also furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading docks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant.

Results: The project is continuing.

Project 923: Request by manufacturer of farm machinery in Dougherty County for assistance in patents and trademarks procedures

Nature of Problem: A manufacturer of farm machinery has requested assistance concerning the processing of their product and matters relating to patents and trademarks.

Work Performed: A meeting with the project engineer of the firm was arranged by an EES staff member. The U.S. Department of Commerce's Patents and Trademark Division was requested to provide information concerning patent classification and sub-classifications and appropriate forms. The EES staff member conducted a literature search relative to peanut blanching patents at the Georgia Tech Library. The company also identified certain vibration problems it was having with some of its equipment. EES personnel visited the plant, made measurements, and offered a solution which would eliminate the vibration problem.

Results: The project is continuing.

Project 930: Assistance to an individual in Dougherty County for toothpaste market information

Nature of Problem: An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line.

Work Performed: EES staff personnel have met the individual to discuss the possibility of conducting market research in connection with the new product line.

Results: The project is continuing.

MIDDLE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Flint Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Crisp, Dooly, Macon, Marion, Schley, Sumter, Taylor, and Webster. The Growth Center is Americus (Sumter County).

Discontinued Projects

None.

Ongoing Projects

At present, there are two projects under way in this area.

Project 932: Assistance to an irrigation manufacturing company in Crisp County

Nature of Problem: An irrigation equipment manufacturing company in Crisp County requested assistance in the redesign of certain items of equipment manufactured by the company.

Work Performed: EES personnel met with the owner of the company and made an initial analysis of the problem and determined that assistance would be required in the area of mechanical and electromechanical engineering. Further investigations are under way.

Results: The project is continuing.

Project 934: Assistance to a company in Schley County in the development of a new production layout

Nature of Problem: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout and needs to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout.

Work Performed: EES personnel have met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company.

Results: The project is continuing.

CHATTAHOOCHEE-FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Chattahoochee-Flint Economic Development District consists of nine counties, of which three are eligible Redevelopment Area counties: Heard, Meriwether, and Pike. The Growth Centers are Carrollton (Carroll County) and LaGrange (Troup County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

COASTAL AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Coastal Area Economic Development District consists of six counties, all of which are eligible Redevelopment Area counties: Bryan, Camden, Glynn, Liberty, Long, and McIntosh. The Growth Centers are Brunswick (Glynn County) and Hinesville (Liberty County).

Discountinued Projects

None

Ongoing Projects

There is now one active project in this area.

Project 915: Assistance to a new venture in metal reclaiming in Glynn County

Nature of Problem: A company has requested assistance in the planning and preparation of financial data for the establishment of a metal reclaiming plant. The plant will be designed to produce zinc, ammonium chloride and various metals from industrial by-products.

Work Performed: A meeting has been held with the principal to discuss the type of assistance needed and the design of an action plan. Samples of new venture studies were supplied. Assistance was provided in investigating sources of financing for a feasibility study for a new plant in Claxton.

Results: The project is continuing.

LOWER CHATTAHOOCHEE ECONOMIC DEVELOPMENT DISTRICT

General

The Lower Chattahoochee Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Chattahoochee, Clay, Early, Muscogee, Quitman, Randolph, and Stewart. The Growth Center is Columbus (Muscogee County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area at the present time.

PROJECTS OUTSIDE OF ECONOMIC DEVELOPMENT DISTRICT

General

During the period nine projects were active in counties outside of the Economic Development District.

Discontinued Projects

None

Ongoing Projects

There are now nine projects currently under way in this area.

Project 903: Assistance to a metal fabricating and machine company in Appling County

Nature of Problem: The owner of a small general machine shop and fabrication business believes that it has reached its potential operating volume due to the limited size of the market and local competitors. To further expand the business, he has requested assistance in developing a special product line of industrial services which will permit him to extend his market area.

Work Performed: Members of the EES staff met with the owner of the company and discussed plans for selecting potential products or services to be investigated. Assistance was provided on metal cleaning and painting operations. The company has employed five (5) more persons and is expanding its facilities.

Results: The project is continuing.

Project 927: Assistance to an agricultural concern in Evans County

Nature of Problem: An egg processing plant in Evans County audit controls several units which produce the eggs for processing. The company wants to install a mini-computer to replace posting machines and manual systems for maintaining records on feed, replacement birds, and medicine.

Work Performed: EES personnel visited the company and discussed company goals and operations as they apply to automatic data processing. Investigations have commenced concerning hardware and software packages that might be used by the company.

Results: The project is continuing.

Project 929: Assistance to a local government in DeKalb County shopping district revitalization

Nature of Problem: An area within the City of Decatur, Georgia, which has a relatively large minority population, has suffered from blight and out-migration of business. The city and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC),

which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the center area.

Work Performed: EES personnel have met with the principal, who is Director of Economic Development for the CDC, and have examined approaches that can be undertaken to solve the problem.

Results: The project is continuing.

Project 931: Assistance to an individual in Coweta County interested in investigating the feasibility of purchasing and reopening a meat processing plant

Nature of Problem: An individual in Fulton County is interested in investigating the feasibility of purchasing and reopening a meat processing plant. The plant and equipment were in operation, but the plant was closed because of the death of the owner. The owners of the business are willing to sell, since they are not interested in operating the facility. EES has been asked to evaluate the company and its potential to be profitable business.

Work Performed: EES personnel have contacted the interested individual and will initiate a work program in the near future.

Results: The project is continuing.

Project 935: Assistance to a manufacturing firm in Whitefield County

Nature of Problem: A manufacturing firm in Whitefield County has requested assistance in determining an optimal way to lay out a planned expansion of its manufacturing facilities. The expansion will add 27,500 square feet to the existing facility and will improve material flow and handling. Twenty-four (24) new employees are expected to be employed as a result of the planned expansion. This concern received assistance from EES when it was started. It now employees 140 persons.

Work Performed: EES personnel consulted with the firm's Vice President and visited the plant to collect information. Assistance was specifically requested for plant layout information with respect to a proposed expansion. A second visit to the plant was made at which time a 27,000 square foot expansion was discussed with the possibility of 24 new employees. Management's new plans were reviewed by EES personnel and two plant layouts and material handling drawings were prepared and furnished the company.

Results: This project is continuing.

Project 936: Assistance to a textile concern in Monroe County

Nature of Problem: This company is having some mechanical problems with its equipment and there is a need to reduce the noise level produced by certain equipment. The company desires recommendations from a design standpoint which will lower the noise level of existing equipment to acceptable levels or information showing that it is not feasible to undertake a retrofit of the equipment.

Work Performed: Company officials have been contacted and a work plan is being developed.

Results: The project is continuing.

Project 937: Assistance to a solar heating manufacturer in Floyd County

Nature of Problem: An individual in Floyd County has set up a small company to manufacture solar water heaters. The company has four full-time employees. Assistance has been requested on manufacturing operations and marketing strategies.

Work Performed: EES personnel have visited the principal of the company and discussed marketing strategies and the company's growth potential. At the suggestion of EES advisors, the company has decided to concentrate on the commercial market. A letter/questionnaire was prepared for the company to be mailed to prospects.

Results: The project is continuing.

Project 939: Assistance to a community development agency in DeKalb County

Nature of Problem: A community development agency in DeKalb County has requested assistance in efforts to revitalize the commercial business district in Decatur.

Work Performed: EES personnel have been in communication with the agency and plans are being made to further investigate the possibility of EES assistance.

Results: The project is continuing.

Project 940: Assistance to a paper products company for diversification of its operations

Nature of Problem: A minority-owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and developing a business plan to go into institutionalized distribution of paper and related products.

Work Performed: EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company. Assistance has been furnished in developing capital requirements and in locating warehouse space. The company is being incorporated and plans to be in operation in January 1980.

V. EVALUATION OF PROGRAM

In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of continued reviewing of existing projects, the elimination of those that did not appear to justify further effort, and the search for new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 14 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition 10 projects were completed and closed out leaving 27 active projects at the end of the quarter.

Conclusions regarding the overall impact of this program must be based upon a collective evaluation of the individual projects and their respective results. This evaluation should include not only a recognition of the fact that a deliberate attempt has been made to state the significance of EDL efforts in realistic terms, but also a consideration of the following special points concerning the results reported:

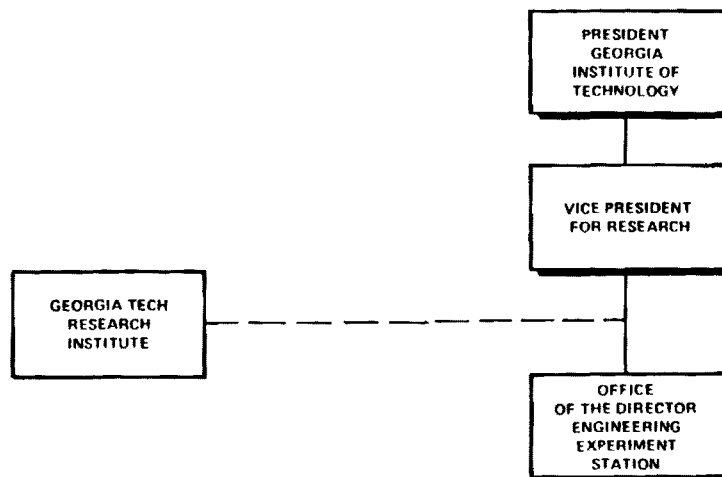
1. In many cases, the contributions of EDL staff personnel were major factors in management decisions to act or not to act on a specific plan of development. This was particularly true in those cases involving the development of new ventures.
2. In some situations, the end result would have been the same regardless of TDL participation. In such cases, EDL staff personnel helped to facilitate the achievement of an already determined goal.
3. In certain projects, EDL staff personnel filled a negative role by determining that a proposed course of action was not economically sound. The project staff felt that such a role was in the best interests of all parties in the project. It is not enough to provide support for sound proposals; the unsound ones also must be identified.

Because of the preceding considerations, it is not practical to attempt to quantify the results of this type of program solely in terms of the number of jobs created. Further, since it was the first program of its kind in a state-supported university, it is impossible to judge its merit on a comparative basis. It is necessary, therefore, to evaluate the program by empirical means. Several observations indicate that the management and technical assistance program to business and industry in Georgia has been beneficial:

1. After a modest start, the program has grown both in the quantity of projects and in the comprehensiveness of the assistance offered. The program has been well received throughout Georgia and is being supported by the firms that have been assisted.
2. Consultants of all types have been kept apprised of Georgia Tech's management and technical assistance efforts and have worked in conjunction with EDL to further the program. All parties concerned seem to feel that the program is mutually beneficial.

3. Success of the original program has led to expansion of the project by the U.S. Department of Commerce's Economic Development Administration in Georgia and initiation of comparable programs by agencies in other states.
4. As a result of previous M & TA experience, EDL personnel provided counsel to the federal government in an effort to bridge the gap between the accumulated findings of governmental, education, and private research and the information needs of business and industry. This counsel eventually resulted in the passing of the State Technical Services Act of 1965.

EXHIBITS



Organization
Engineering Experiment Station
Georgia Institute of Technology

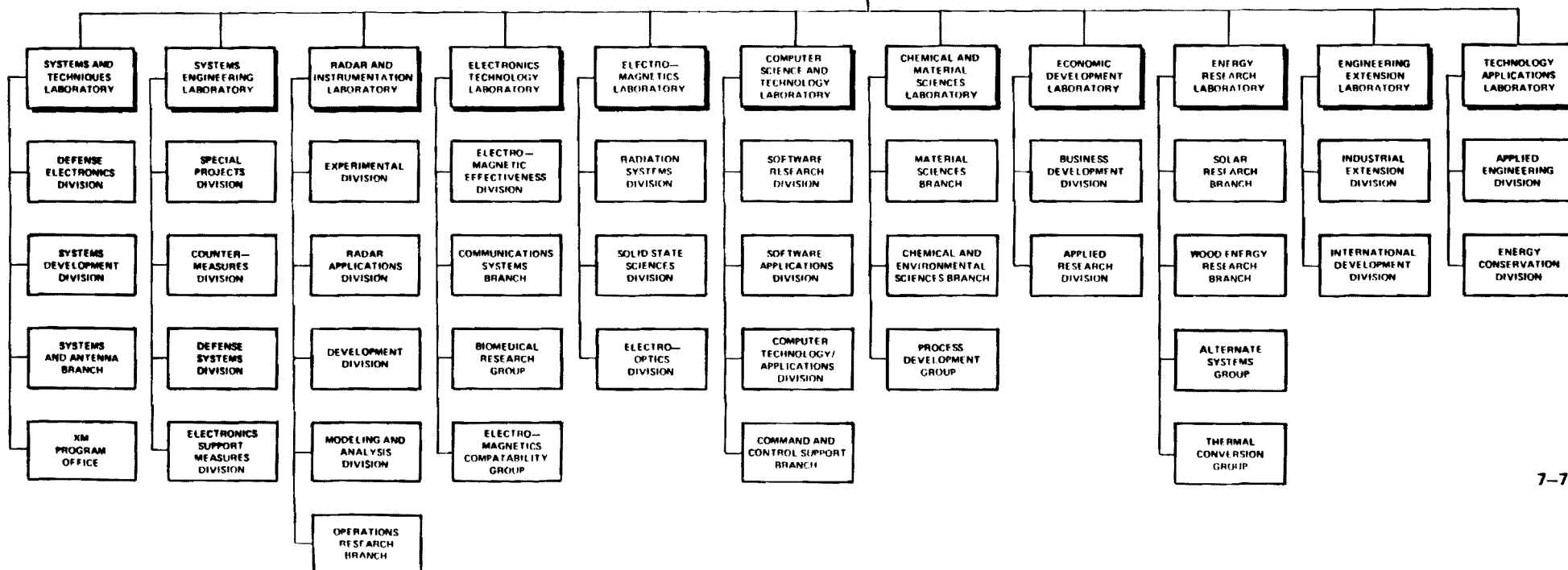


Exhibit 1

Exhibit 2

ECONOMIC DEVELOPMENT LABORATORY

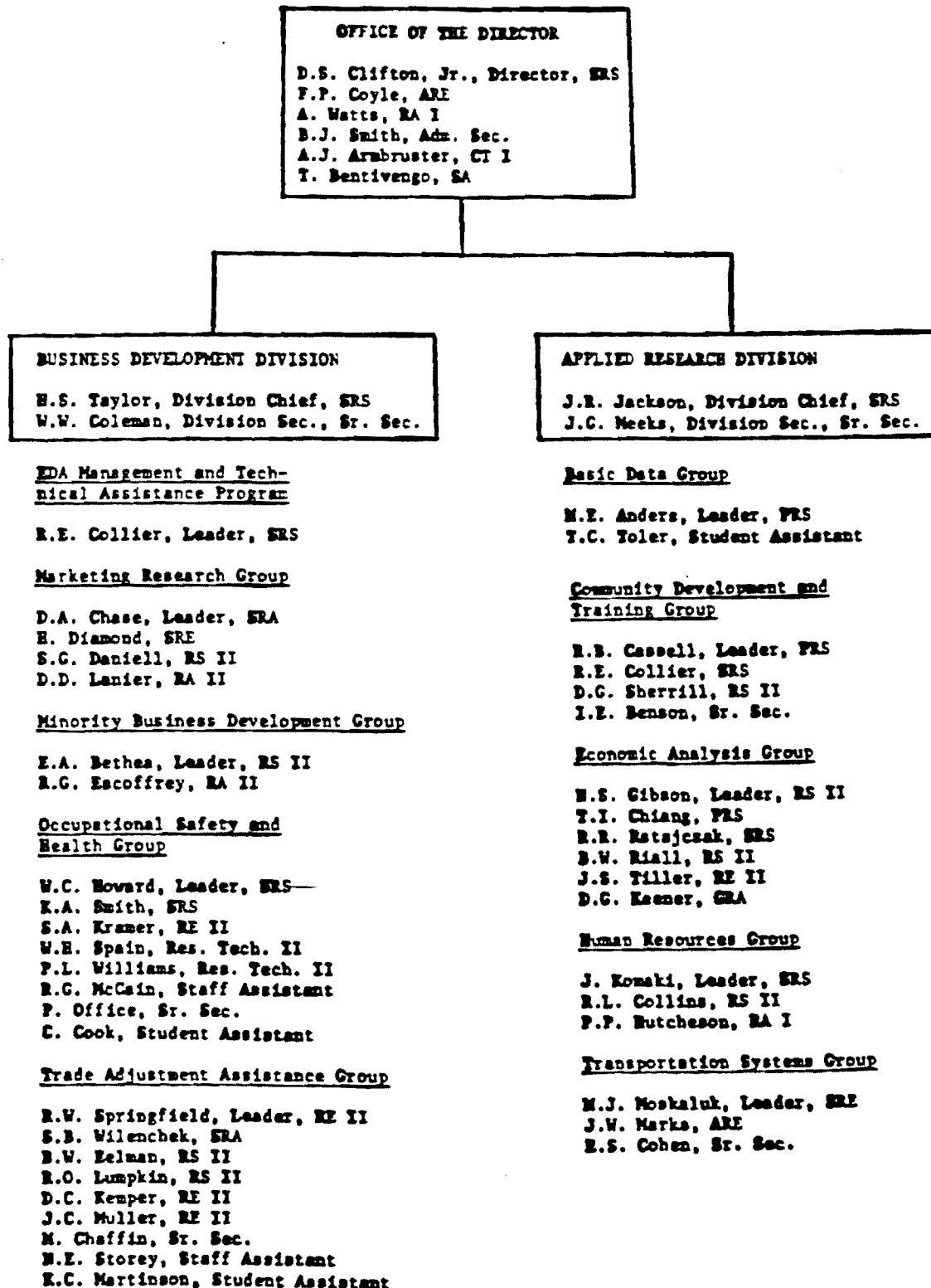


Exhibit 3
BIOGRAPHICAL SKETCHES

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

ANDERS, MARY EDNA--Principal Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

A.B., University of Alabama	1943
Certificate in Library Science, University of Alabama	1943
B.S. in Library Science, University of North Carolina	1947
M.A., University of North Carolina	1950
D.L.S., Columbia University	1958

Employment History

Huntingdon College, Assistant to Director of Library, Librarian	1943-1946
University of North Carolina, Reference Assistant	1947 (Winter)
Tuscaloosa Senior High School, Librarian	1947 (Summer)
Birmingham Southern College, Reference Librarian	1947-1948
University of North Carolina School of Library Science, Instructor-Librarian	1948-1949
Institute for Research in Social Science, Research Assistant	1950-1951
Florida State University, Visiting Library School Instructor	1950 (Summer)
University of North Carolina, Visiting Instructor in Library Science	1950-1951
University of Alabama, Visiting Instructor in Library Science	1951 (Summer)
Florida State University, Assistant Professor	1951-1953
University of Florida, Social Science Librarian	1953-1956
Emory University, Visiting Lecturer in Librarianship	1956 (Summer)
University of Alabama, Visiting Professor	1972, 1977 (Summer)
Georgia Institute of Technology Special Research Scientist	1958-1969
Principal Research Scientist	1969-Present
Head of Basic Data Collection	1958-Present

Experience Summary: Has been concerned with both the practice and the teaching of librarianship. As a practicing librarian, work has been primarily in the area of information services, emphasizing the social sciences and including considerable work with government documents; also some administrative experience. Teaching has been almost exclusively at the graduate level and has involved direction of master's research.

Current Fields of Interest

Organization and retrieval of information; historical and sociological development of library service, economic development.

Major Reports and Publications

1. "Does Reference Training Meet Actual Needs?" Southeastern Library Association Proceedings, 15-19 (1948)
2. "State Library Associations in the Southeast," Southeastern Librarian 2, 7-24 (Spring 1952)
3. "The Southeastern Library Association, 1920-1950," Southeastern Library Association, 1956
4. "Graduate Studies Related to Library Service Accepted by Institutions of Higher Education in the Southeast," Southeastern Librarian 10, 13-44 (Spring 1960), editor
5. "The Tennessee Valley Library Council: A Regional Approach to Library Planning," Southeastern Library Association, 1960
6. "The Selection of a Divisional Reading Room Collection," College and Research Libraries 12, 430-434 (November 1961). Reprinted in "Libraries, Readers and Book Selection," Jean Spealman Kujoth (editor), Metuchen, N. J.: The Scarecrow Press, Inc., 1969, pp. 343-50.
7. "Portrait of a Library System: Country Style," Library Journal 87, 1084-1088 (March 15, 1962), with Edward Overman
8. "Reference Service in Special Libraries," Library Trends 12, 390-404 (January 1964). Translated and reprinted in Escuela Nacional de Biblioteconomia y Archivonomia, Bibliotecas y Archivos 1, 67-79 (1967)
9. "A Guide to Union Catalogs in the Southeast," Southeastern Library Association, 1965, editor
10. "Library and Reference Applications: Census Tapes and Printed Reports," U. S. Bureau of the Census, June 1971. Reprinted in Tennessee Librarian 25, 87-92, 100 (Summer 1973)
11. "A Region Plans for the Development of Its Libraries," Southeastern Librarian 22, 120-124 (Fall 1972)
12. "Southeastern State Cooperative Library Survey: Progress Report," Southeastern Librarian 25, 16-23 (Spring 1975)
13. "The Southeastern States Cooperative Library Survey, 1972-74: Tables," Georgia Tech Report, April 1975
14. "Statistical Information As a Basis for Cooperative Planning," Library Trends 24, 229-344 (October 1975)
15. "Librarians in the Southeast U.S.A.," Research in Librarianship 5, 149-166 (May 1975)
16. "Libraries and Library Services in the Southeast," University of Alabama Press, 1976

Special Assignments

Staff, Survey of Library Functions of the States, American Library Association, 1961-1962
Consultant, State Department of Education, Atlanta, Georgia, 1967
Consultant, Alabama Public Library Service, Montgomery, Alabama, 1967

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

BETHEA, EDWIN A.--Research Scientist, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

B.S., Knoxville College	1953
M.S.W., Howard University	1962
Certificate of Completion, Howard University's Small Business Guidance Center	1969
Certificate of Completion, CPM and PERT for Project Managers, Continuing Education Department, Georgia Institute of Technology	1974
Georgia Institute of Technology Basic Industrial Development Continuing Education Course, Certificate of Completion	1976
Emory University How to Start and Manage a Successful Business-- Continuing Education Course, Certificate of Completion	1977

Employment History

District of Columbia, Department of Public Welfare, Caseworker, Child Welfare Division	1962-1965
Far East Community Services, Inc., Community Organizer- Youth Community Organizer	1965-1966
United Planning Organization, Community Organization Specialist (training officer), Economic Development Specialist	1966-1968
Youth Enterprises, Inc., Executive Director	1968-1970
Consultant Employers Office of Economic Opportunity; Manpower Assistance Project Inc.; University Research Corp.; Xerox Corp- oration; Commerce Department, Economic Development Administration	1969-1970
Volunteers for International Technical Assistance, Director-Washington, D.C.; Director-East Central Regional Office	1970-1972
Georgia Institute of Technology Research Scientist	1972-Present

Experience Summary: Directed a regional office for technical assistance that provided services to minority and economically disadvantaged groups in mid Atlantic region; this entailed establishing, structuring, and supervising new program offices in several states within the region. Program developer for minority economic ventures and community development project; the responsibilities included establishing a working relationship with community groups, federal, state and local government agencies, and/or

Experience Summary (continued): private agencies whose interests were similar. Organized and managed a minority firm for the purpose of establishing "spin-off" business ventures and the training of minority entrepreneurs. Managed and developed programs aimed toward helping groups initiate and implement economic and social changes in their community such as employment practices, bureaucratic procedures, etc. Assisted quasi government and government department directors in community planning. Developed and directed programs relating to youth activities in the areas of training, proposal development, community improvement and change and economic developments.

Current Fields of Interest

Minority business development, industrial and community development, manpower management and motivation, transportation and new economic systems.

Major Reports and Publications

1. "South Georgia Crafts - Study of Markets in Georgia, Product Quality and Management Structure," Georgia Tech Report, 1972
2. "Survey of Georgia Minority Business," Georgia Tech Report, 1973, co-author
3. "Market Study for Sea Island Handicraft Cooperative," Georgia Tech Report, 1973
4. "Feasibility Study for Skating Rink in Columbus, Ga.," Georgia Tech Report, coauthor, 1975
5. "A National Cultural Center at Tuskegee, Alabama. (A feasibility study)," Georgia Tech Report, 1975
6. "Market Study for Westgate Hardware Store," Georgia Tech Report, 1976
7. "Final Report on Technical Assistance to Selected Community Action Agencies in Georgia," Georgia Tech Report, 1976
8. A Directory and Survey of Minority-Owned Business in the State of Georgia with Pond Employees, Georgia Tech Report, 1977, co-author
9. "Research and Demonstration Project" - Regional Office of Minority Business Enterprise - Quarterly Reports. June 1977 and October 1977. Georgia Tech Report 1977

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

CHASE, DONALD A. -- Senior Research Associate, Business Development
Division, Economic Development Laboratory, Engineering
Experiment Station

Education

A.B. Tufts University	1949
M.A. Tufts University	1950
Other Graduate Study at University of Maryland and Tulane University	

Employment History

University of Tampa Assistant Professor of Sociology	1952-56
University of So. Mississippi Associate Prof. of Sociology	1956-58
Kimberly Clark Corp. Director of Consumer Market and Research	1959-64
National Analyst, Inc. V.P. of Quantitative Research	1964-65
Chase and Associates Inc., President	1965-67
Rader and Associates, Consultant	1968-69
Marketing Information Service, Director of Consumer Research	1969-75
Booz, Allen & Hamilton, Inc. Managing Director Southern Regional Office	1975-76
D.A. Chase Research Inc., President	1976-79
Professor of Marketing, Atlanta University	1969-present
Georgia Institute of Technology Senior Research Assoc.	1979-present

Current Fields of Interest

Full range of marketing research and management studies.
Special interest in services to financial institutions,
consumer product companies and service organizations.

Major Reports and Publications

1. "Marketing Evaluation Study of Men's Clothing", EDL/EES report, 1979.
2. "Site Location Study for Branch Banking", EDL/EES report, 1979.
3. "Unbundled Estate Services", CRI report, 1979.
4. "Opryland USA--A Qualitative and Quantitative analysis", CRI report,
2 volumes, 1979.
5. "Evaluation of Bank Premium Offers", CRI report, 1979.
6. "Personal Line of Credit", CRI report, 1979.
7. "Automatic Teller Machines-Attitudes Toward", CRI report, 1979.
8. "Granny's Fried Chicken-A Quantitative Study", CRI report, 1979.
9. "The Market of Waterbeds", CRI report, 1979.
10. "Perceptions and Attitudes Toward Writing Instruments", CRI report,
1979.
11. "Consumer Attitudes Toward Banking", CRI report, 1979.

12. "Dealer Perception of Heating and Air Conditioning Equipment, CRI report, 1979.
13. "Use of Focus Groups in Bank Marketing", to be published by Bank Marketing Research Association, 1979.
14. "Fishing Rods and Reels", CRI report, 1979.
15. "Attitudes Toward The United Way", CRI report, 1978.
16. "Attitudes Toward Eating Out Experiences", CRI report, 1978.
17. "Bank Images and Services Study", CRI report, 1978.
18. "New Products for Use in Microwave Cooking", CRI report, 1978.
19. "Christmas Club Deferred Payment Proposal", CRI report, 1978.
20. "Savings to Checking Transfer Concept", CRI report, 1978.
21. "The Independence Club and Automatic Transfers", CRI report, 1978.
22. "The Money Maker Concept", CRI report, 1978.
23. "Save 'N Check Accounts", CRI report, 1978.
24. "Survey of Commercial Establishments", CRI report, 1978.
25. "In-Lobby Teller Machines-An Example of Focus Group Applications", Proceedings of the 1978 Conference of the Bank Marketing Research Association.
26. "Attitudes Toward Honest Face Related Club Programs", CRI report, 1977.
27. "Data Lead Through Language", BA & H report, 1977.
28. "Assessment of New Retail Credit Proposals", BA & H report, 1977.
29. "Market Potential for Little Cigars", BA & H report, 1977.
30. "Positioning New Types of Bread", BA & H report, 1977.
31. "The Market for In Car Coffee Makers", BA & H report, 1977.
32. "Use of Tranquilizers by Psychiatrists", BA & H report, 1977.
33. "The Childrens' Wear Market", BA & H report, 1976.
34. "Trends in Cottons vs. Synthetics", BA & H report, 1976.
35. "The Market for Temporary Personnel Services", BA & H report, 1976.
36. "Use of Focus Group Interviews in Marketing", Viewpoints, 1976.
37. "Community Leaders' Attitude Study", Regional Planning Commission of Jefferson, Orleans and St. Bernard Publishers, 1969.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

CLIFTON, DAVID S., Jr.-Director, Economic Development Laboratory
Engineering Experiment Station

Education

B.I.E., Georgia Institute of Technology	1966
M.B.A. in Economics, Georgia State University	1970
Ph.D. Candidate in Economics, Georgia State University (all but dissertation completed)	

Employment History

Lockheed-Georgia Company	
Associate Customer Facilities Engineer	1966-1969
Customer Facilities Engineer	1969-1970
Georgia Institute of Technology	
Assistant Research Economist	1970-1973
Research Scientist	1973-1977
Senior Research Scientist	1977-Present
Head, Industrial Economics Section, IDD, EDL, EES	1974-1977
Manager, Economic Research, IDD, EDL, EES	1977-1978
Chief, Economic Development Division, TDL, EES	1977-1979
Director, Economic Development Laboratory, EES	1979-Present

Experience Summary: Gathered data, made preparatory investigations, analyzed and arrived at solutions for customer facilities problems. Provided technical assistance in planning and design of new construction or major alternations of customer facilities. Completed economic feasibility studies for prospective aircraft customers. Georgia Tech assignment involves industry feasibility studies; regression analysis; product/market studies; transportation studies; economic impact studies; domestic/international training; and proposal development/project management; energy alternatives; and energy food plantation concepts.

Current Fields of Interest

Market analysis; economic feasibility studies; international trade; energy research; technology assessment; basic research in economic and industrial development; research management.

Major Reports and Publications

1. "Long Cycles in Residential Construction," unpublished report in M.B.A. program, Georgia State University, December 1969.
2. "The Market for Boxboard Containers for the Coastal Plain Region of Georgia," EDA Report, May 1970.
3. "The Southeastern Modular Housing Market," EDA Report, May 1970.
4. "The Calico Scallop Market," EDA Report, June 1970.
5. "The Southeastern Market for Plastic Bathroom Fixtures in Residential Construction," EDA Report, July 1970.

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6. "Georgia Retail Florist Store Sales," EDA Report, September 1970.
7. "Market Survey of Garden Center Buyers," EDA Report, October 1970.
8. "The Potential Impact of Jumbo-Jet Air Cargo Transportation on Georgia," Georgia Tech Report, October 1970, coauthor.
9. "Industrial Air Pollution: Particulate Control Equipment Market," EDA Report, December 1970.
10. "The Market for Leaf Springs," EDA Report, February 1971.
11. "Economic Factors Affecting the Feasibility of Locating a Vegetable Processing Plant in the Vicinity of Americus, Georgia," Georgia Tech Report, May 1971, coauthor.
12. "Carbonized Bark for Briquetting Purposes," Georgia Tech Report, July 1971, coauthor.
13. "A Survey of Selected Users of Spun Sheet Metal in Alabama and Georgia," EDA Report, July 1971.
14. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," Georgia Tech Report, January 1972, coauthor.
15. "Georgia as a Center for Charcoal and Charcoal Briquette Production," Atlanta Economic Review, March 1972, coauthor.
16. "A Survey of Export Proceeds Instability Research with a Report on the Export Proceeds Instability of Colombia," unpublished report in Ph.D. program, Georgia State University, June 1972.
17. Transportation Analysis in "Peanut Processing Opportunities," Southwest Georgia Area Planning and Development Commission Report, June 1972.
18. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," Georgia Tech Report, September 1972, coauthor.
19. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," Georgia Tech Report, January 1973, coauthor.
20. "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," Georgia Tech Report, March 1973, coauthor.
21. "A Survey of Empirical Evidence of the Heckscher-Ohlin Theory of International Trade," unpublished report in Ph.D. program, Georgia State University, April 1973.
22. "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," Georgia Tech Report, May 1973, coauthor.
23. "Georgia Employment and Population Projections with Special Reference to Water-Using Industries," Georgia Tech Report, July 1973, coauthor.
24. "The Little-Mirrlees Cost-Benefit Method for Industrial Project Analysis in Developing Countries," unpublished report in Ph.D. program, Georgia State University, August 1973.
25. "Economic Development Approaches for the Southeast," Georgia Tech Report, November 1973, editor.
26. "The Economic Impact of Georgia's Deepwater Ports," Georgia Tech Report, December 1973, coauthor.
27. "Southeastern Trends of Selected Industries," Georgia Tech Report, April 1974, coauthor.
28. "An Analysis of Merchandising Methods for Eggs," Georgia Tech Report, June 1974.
29. "A Productivity Program for the Engineering Experiment Station," Georgia Tech Report, November 1974, coauthor.
30. "Economic Data Relative to the Central Georgia Steam Plant," Georgia Tech Report, February 14, 1975, coauthor.

31. "A Training Program on the Analysis and Evaluation of Industrial Projects," Georgia Tech Report, June 1975, coauthor.
32. "A Program to Assist Business and Industry in Coping with the Energy Crisis," Georgia Tech Report, September 1975, coauthor.
33. "Energy in Georgia, Uses, Program Needs, Policy and Recommendations," prepared by State Energy Office and Georgia Tech, December 1975, coauthor.
34. "Impact of the Engineering Experiment Station on the Economy of Georgia, Fiscal Years 1973 and 1974," Georgia Tech Report, February 1976, coauthor.
35. "Baseline Energy Data System: Methodology," Volume 1, Georgia State Energy Office, June 1976, coauthor.
36. "Baseline Energy Data System: Data Base 1973," Volume 2, Georgia State Energy Office, June 1976, coauthor.
37. "Baseline Energy Data System: Energy Supply Network," Volume 3, Georgia State Energy Office, June 1976, coauthor.
38. "Baseline energy Data System: Energy Indicators," Volume 4, Georgia State Energy Office, June 1976.
39. "Market Information System for Vada Builders, Inc.," Georgia Tech Report, November 1976, coauthor.
40. PROJECT FEASIBILITY ANALYSIS: A Guide to Profitable New Ventures, John Wiley & Sons, Inc., April 1977, coauthor.
41. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
42. "The Industrial City: Executive Summary," Volume 1, Georgia Tech Report, December 1977, coauthor.
43. "The Industrial City: Concept and Design," Volume 2, Georgia Tech Report, December 1977, coauthor.
44. "The Potential for Industrial Development In the Industrial City Region," Volume 3, Georgia Tech Report, December 1977, coauthor.
45. "A Design for a Venture Opportunities Information System," Atlanta Regional Office of Minority Business Enterprise, August 1978, coauthor.
46. "Regional Forums on Appropriate Technology," National Science Foundation, February 1979, coauthor.
47. "Market Potentials of Wood Fuel in the Southeast," Georgia Tech Report, June 1979, coauthor.

Papers and Presentations

1. "Analysis and Evaluation of Industrial Projects," presented at the Institute for Small-Scale Industries, University of the Philippines, June 23-27, 1975, Manila.
2. "Project Feasibility Analysis," presented at the Instituto de Administracion Cientifica de las Empresas, August 10-12, 1978, Mexico City.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

COLLIER, ROBERT E.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.S., Texas Agricultural and Mechanical University	1939
M.S., The George Washington University	1966

Employment History

Sears Robuck & Company, El Paso, Management Training	1939
U. S. Marine Corps, General Duty Officer	1940-1966
Spindletop Research Center, Inc., Director, Training Services	1971-1972
Georgia Institute of Technology	
Research Scientist	1966-1970
Head, Economic Development Training Section, IDD-EES	1968-1970
Senior Research Scientist	1972-Present

Experience Summary: While on active duty with the Marine Corps, performed a variety of line and staff assignments involving administration, education, training, and logistics. As Research Scientist in the Management and Technical Assistance Section, IDD-EES, furnished management guidance and technical assistance to prospective and established business and industrial firms; also provided assistance in establishing sound new business ventures which utilize local resources and manpower. As head of the Economic Development Training Section, IDD-EES, developed handbooks, manuals, lesson plans, visual presentations and other materials for industrial and economic development training; also conducted training courses in the principles and techniques of industrial, economic and community development under sponsorship of the Economic Development Administration and the Small Business Administration. As Director, Training Services, National Area Development Institute, Spindletop Research, Inc., planned and conducted seminars and workshops for professionals and local leaders involved in area development activities. Courses were directed to the needs of individuals from economic development districts, community action agencies, governmental agencies, business organizations, farm organizations, utilities, cooperatives, public agencies and universities who were involved in area development programs. As Senior Research Scientist, Community Development Branch, IDD-EES, participated in training programs and conducted community development research projects. As head of Education and Training Branch, is responsible for the development and conduct of laboratory training activities.

Current Fields of Interest

Management theory and practice, public administration, management information systems, economic development training, public technology, and inter-governmental operations.

Major Reports and Publications

1. "Site Relocation Guide for Georgia Retail Business, Industrial Series No. 2," Georgia Tech Report, April 1967.
2. "Internship Program in Regional Economic Development," A Training Program Prepared for the Economic Development Administration under Contract C-239-62L Neg., 1967.
3. "Final Report: Training Program in Economic Development, April 1, 1968-March 31, 1969," Economic Development Administration Contract No. OER-208-G-68-3, May 1969.
4. "Final Report: Development of a Community Development Training Program for the Small Business Administration, June 19, 1968-July 1, 1969," Small Business Administration Contract No. 1474-FA-68, July 1969.
5. "Final Report: Training Programs in Economic Development, April 1, 1969-March 31, 1970," Economic Development Administration Contract No. OER-208-G-69-2, May 1970.
6. "Advanced Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
7. "Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
8. "Industrial Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
9. "Basic Economic Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
10. "Training Program for Planning and Development Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
11. "Training Program for Staff Information Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970, coauthor.
12. "Exploring the Dimensions of Area Development," The National Area Development Institute Special Seminar Sponsored under a Ford Foundation Program, 1971.
13. "Final Report: Leadership Training Programs in Selected Georgia Communities, May 31, 1972-September 30, 1973," Coastal Plains Regional Commission Contract No. 10240033, September 1973, coauthor.
14. "Economic Development Approaches for the Southeast," A Study Prepared for the Economic Development Administration under Grant No. 04-6-09029-6, 1973, coauthor.
15. "Final Report: Leadership Training Programs in Selected Georgia Communities," Coastal Planning Regional Commission Contract No. 10040037, 1975, coauthor.
16. "Guidelines for Industrial Extension Personnel," Prepared under AID Grant No. AID/CM/TA/G-73-18, 1974, editor.
17. "Analysis and Evaluation of Industrial Projects," A Seminar with Text Prepared under AID Grant No. AID/CM/TA/G-73-18, 1975, coauthor.

Major Reports and Publications (continued)

18. "Guidelines for an Energy Audit and an Energy Impact Statement," prepared under HUD Grant CPA-GA-04-06-1056, June 1976, coauthor.
19. "Final Report: Substate Energy Management," prepared under contract with the Georgia State Energy Office, February 15, 1976, coauthor.
20. "Final Report: Planning for the Interorganizational Networking of a State Economic Development Council," Prepared under contract with the Office of Economic Research, Economic Development Administration under Grant No. OER-577-G-77-22 1977.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

DIAMOND, HARVEY--Senior Research Engineer, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

St. Johns University	1941-1942
B.S. in Textile Engineering, North Carolina State College	1942-1946

Employment History

Cohn-Hall-Marx, Converter and Assistant Designer	1946-1947
American Woolen Company, Designer and Assistant Buyer	1947-1950
Dux Mixture Hardware Company, Partner	1950-1960
Georgia Institute of Technology	
Assistant Research Engineer	1960-1965
Research Engineer	1965-1967
Senior Research Engineer	1967-Present

Experience Summary: Economic feasibility studies; plant location analyses; market research to identify manufacturing and nonmanufacturing business opportunities; raw materials and intermediate products availability studies; marketing strategies; purchasing and marketing development and procedures; evaluation of export markets; small-scale industry entrepreneurship; liaison with prospects on industrial location possibilities; evaluation and development of area resources; transportation studies; management and technical assistance to prospective and established business; product diversification studies; manpower resources; industrial economic analyses; purchasing and marketing of hardware, wholesale and retail; textile designing; textile converting. Coeditor of monthly metalworking bulletin.

Current Fields of Interest

Market analyses; plant location criteria; economic feasibility analyses; import-export potentials; small-scale industries.

Major Reports and Publications

1. "Studies of Selected Industries in the Southeast River Basins: Textiles," Georgia Tech Report, March 1961, coauthor. '
2. "Plumbing Fixture Fittings: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, June 1962.
3. "Strengths and Weaknesses of Atlanta's Metalworking Industry," Georgia Tech Report, August 1962.
4. "Pipe Fittings and Valves: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, September 1962.
5. "Flat Glass: A Manufacturing Opportunity in Georgia," Georgia Tech Report, June 1963.
6. "Glass Wool Insulation: A Manufacturing Opportunity in Georgia," Georgia Tech Report, September 1964.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

, DANIELL, SALLIE G.--Research Scientist
Economic Development Laboratory
Engineering Experiment Station

Education

B.S., University of Alabama	1966
M.Ln., Emory University	1973

Employment History

Texas Instruments, Engineering Clerk	1966-1967
Pizitz Department Store, Assistant Buyer	1967-1968
American National Red Cross, Recreation Aide, South Vietnam	1968-1969
Kitchins Department Store, Sales Clerk and Artist	1970-1971
Atlanta Public Library, Pre-Librarian	1971-1972
Georgia Institute of Technology	
Assistant Research Scientist (hourly)	1972-1973
Assistant Research Scientist	1973-1977
Research Scientist	1977-Present
Metrics, Inc., Research Analyst (Consulting)	1977-Present

Experience Summary: At Georgia Tech, work has involved literature searches; collecting, indexing, cataloging, and retrieval of data and materials; preparation of methodologies; assimilation and dissemination of data for economic studies; conducting surveys and market analyses. As a practicing librarian, work has been in the area of informational services, including considerable work with government documents.

Current Fields of Interest

Business administration including marketing, economics, and management; and library science including organization, retrieval, and dissemination of information.

Major Reports and Publications

1. "Marketing of the Public Library," unpublished report in M.Ln. program, Division of Librarianship, Emory University, July 1972.
2. "Directory of Scientific Resources in Georgia, 1973-1974," Fourth Edition, Georgia Tech Report, March 1974, coauthor.
3. "Baseline Energy Data System: Methodology," Georgia Tech Report, June 1976, coauthor.
4. "Baseline Energy Data System: Data Base 1973," Georgia Tech Report, June 1976, coauthor.
5. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
6. "The Industrial City: Executive Summary," Georgia Tech Report, December 1977, coauthor.
7. "The Industrial City: Concepts and Design," Georgia Tech Report, December 1977, coauthor.

Major Reports and Publications (cont'd)

8. "The Potential for Industrial Development in the Industrial City Region," Georgia Tech Report, December 1977, coauthor.
9. "An Economic Definition of the Nuclear Industry," Metrics, Inc. Report, April 1978, coauthor.
10. "Directory of Public Service Resources and Interests for Local Governments Available from Georgia Institute of Technology," Inter-University Task Force Report, June 1978.
11. "A Design for a Venture Opportunities Information System," Georgia Tech Report, August 1978, coauthor.
12. "A Demonstration Project to Establish a Technology Delivery System for Small and Medium-Sized Firms," Georgia Tech Report, February 1979, coauthor.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

EELMAN, BRUCE W. -- Research Scientist

Education

B.S. Applied Mathematics, Georgia Institute of Technology	1971
M.B.A., University of West Florida	1978

Employment History

Monsanto Textiles Company	
Quality Control Engineer	1971-1974
Process Control Engineer	1974-1977
Senior Process Control Engineer	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Initial work at Monsanto in Quality Control entailed responsibility for the establishment of statistical sampling procedures, development of quality monitoring methods and procedures, development of equipment reliability testing methods, correlation of customer feedback and internal indices for development of internal control criteria and optimization of sampling procedures using cost vs. benefit approaches. Process control duties entailed routine process control of melt spun nylon yarns including mass and quality yields, productivity increases, development of operating procedures and cost standards, process improvement and optimization, experimental design and analysis and trouble shooting internal and customer quality problems. Additional responsibilities included testing and installation of new process equipment, new process development in response to customer requirements, process flow charts and layouts, economic analysis of various alternative projects, feasibility studies and project planning.

Current Fields of Interest

Use of statistical techniques for analysis and business decision-making; financial management and analysis; management theory and practice; economic development and business improvement; feasibility studies.

Major Reports and Publications

1. Authored approximately 50 operating instructions for processing nylon apparel yarn at Monsanto Textiles Company.
2. "Evaluation of Automatic Yarn Inspectors for Tire Yarn Beaming," Monsanto Textiles Company, 1972.
3. "Elimination of Yarn Acceptance Sampling in Tire Yarn Beaming", Monsanto Textiles Company, 1973.
4. "Effects of Segregating Process Reject and Heel and Incomplete Production on Tire Yarn Quality", Monsanto Textile Company, 1974.
5. "Quality Improvement of 70-34-L03," Monsanto Textiles Company, 1977.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

EDENS, LARRY R. -- Head, Savannah Area Office, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.Ch.E., Georgia Institute of Technology	1963
M.B.A., Armstrong State College	1976

Employment History

Research Cottrell, Inc., Engineering Assistant	1962
U. S. Army, Chemical Officer	1963-1965
E. I. du Pont de Nemours and Company, Inc., Process Engineer	1963-1967
Union Camp Corporation, Process Development Engineer	1967-1970
Gilman Paper Company, Process Control Group Leader	1970-1973
Georgia Institute of Technology	
Research Engineer	1973-Present
Head, Savannah Area Office, TDL/EES	1973-Present

Experience Summary: Conducted efficiency tests on electrostatic precipitation equipment. Worked on continuous, coupled-process nylon production, including development projects, cost studies, quality control, plant start-up, and general assistance to manufacturing sections. Was engaged in pilot plant design and operation and preliminary plant design for pulp mill by-product chemicals. Conducted and supervised process engineering studies for an integrated pulp and paper mill and supervised routine process control testing. Made statistical analyses of process and operating variables; conducted cost and capital budget justification studies. Work at Georgia Tech involves providing managerial and technical assistance to small industries including technical, marketing and financial analysis of new ventures and plant expansions, advising local communities on activities related to industrial and economic growth, and soliciting and conducting sponsored industrial and economic development studies.

Current Fields of Interest

Industrial development and chemical processing.

Major Reports and Publications

1. "The Economic Impact of Georgia's Deepwater Ports," Final Report on Project A-1565, December 1973, with D. S. Clifton
2. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," Final Report on Project A-1676, March 1975, with W. C. Howard and J. L. Lewis
3. "A Study of Economic Growth Indicators on Brantley, Camden, Glynn, Long and Wayne Counties, Georgia, 1965-1974," March 1975
4. "An Address Numbering Plan for the City of Hinesville," Final Report on Project A-1774, January 1976
5. "The Economic Impact of the Georgia Deepwater Ports," Georgia Tech Report, August 1977, with N. S. Gibson
6. "A Report of Title IX Implementation Assistance Provided to Motel Owners Located on U. S. Highway 301 in Georgia," Georgia Tech Report, December 1977, with W. C. Howard

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

ESCOFFERY, RONALD G. --Research Associate, II, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.A. - Howard University	1972
M.B.A.- Rutgers Graduate School of Business Administration	1973
- Chase Manhattan Bank Credit Training	1974

Employment History

Johnson & Johnson, Graduating Financial Intern	1973
Rutgers MESBIC, Student Consultant	1972-1973
Chase Manhattan Bank, Manager, Credit & Marketing Financial Analyst	1974-1975
George & Branday Ltd., Manager Investment Department	1975-1977
Escoffery, Bolton & Associates, President	1977-Present
F.A. Johnson & Associates, Inc. Director of Finance & Marketing	1979
Georgia Institute of Technology	1979-Present

Experience Summary: As a financial analyst and consultant, my experience have been in all phases of business, financial management and economic development, with emphasis on project and solution implementation, banking, budgeting, management and technical assistance to businessmen, loan packaging, financial counseling, feasibility studies, research for business development and expansion and trouble shooting business problems. I recently became involved in Community Revitalization projects and contributed in the developing of financing vehicles for the catalyst projects which enabled the project implementation.

Current Fields of Interest

All phases of economic development with special interest in business and commercial development, business problem identification, solutions and commercial revitalization.

Major Reports and Publications

1. "An Approach for an Economic Diversification Strategy for Bogalusa,"
1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

GIBSON, NICHOLAS S.--Research Scientist, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

B.A. in Economics, Duke University	1970
M.A. in Economics, Georgia State University	1976
Ph.D. in Economics, Georgia State University	In Progress

Employment History

Georgia Highway Express, Systems Cost Analyst	1970-1974
Georgia State University, Graduate Research Assistant	1975-1977
Georgia Institute of Technology Research Scientist, EDD, TDL, EES	1977-Present

Experience Summary: At Georgia Highway Express, performed cost, productivity, and efficiency studies for entire system and individual terminal operations; analyzed and devised new freight delivery system for Florida terminals. At Georgia State, performed library and computer research for several projects, including a study of the long-term effects of unemployment under a grant from the Department of Labor. At Georgia Tech, perform economic impact studies, statistical and economic analysis, regression analysis, energy-related economic analysis, and proposal development.

Current Fields of Interest

Various areas of economic analysis, including research in economic development, economic impact, international trade, and monetary analysis.

Major Reports and Publications

1. "Money, Interest, and Expectations," unpublished report in Ph.D. program, Georgia State University, September 1976.
2. "Municipal Bond Ratings: Risk, Uncertainty, and Changes in the Market," unpublished report in Ph.D. program, Georgia State University, March 1977.
3. "The Economic Impact of the Georgia Deepwater Ports," Georgia Tech Report, August 1977, coauthor.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

HOWARD, WILLIAM C.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

Diploma in Accounting, Greenleaf Business College	1947
B.B.A., Georgia State University	1963
Certification in Organization Management Syracuse University	1966
Graduate, American Industrial Development Council's Industrial Development Institute, University of Oklahoma	1973
OSHA Consultative Training Program for OSHA State Directors, University of Alabama	1978

Employment History

International Harvester Company, Member General Office Staff	1947-1948
Swift and Company, Industrial Engineer	1948-1952
U.S. Marine Corps, Administrative NCO	1952-1954
Swift and Company, Industrial Engineer, Member Industrial Relations Staff	1954-1963
Georgia Business and Industry Association, Assistant Vice President	1963-1966
Georgia Institute of Technology Research Scientist	1966-1974
Head, Manpower Resources Section, IDD, EES	1966-1972
Head, Special Projects Branch, IDD, EES	1972-1976
Senior Research Scientist	1974-Present

Experience Summary: At Swift and company, worked in Production and Incentive Department; checked standards and made time and motion studies; supervised timekeeping office, production scheduling program, direct cost program, suggestion plan, and various production departments; assisted plant superintendent, industrial relations manager and labor relations manager; trained new supervisors in the area of timekeeping, payroll, fringe benefits, and certain interpretations of the collective bargaining agreement. During Marine Corps tour, was Administrative Aide to Officer in Charge, Overseas Replacement Command. At Georgia Business and Industry Association, was responsible for all activities under the broad coverage of industrial relations. This included unemployment and workmen's compensation, occupational safety and health, economic education, and employer-employee relations. Also, was responsible for all the Association's public relations activities and programs. This included the Annual Accident Prevention Contest, The Georgia Medal Program, Annual Meeting and area meetings, the monthly publishing of the Georgia Employer, handling of legislative contact work at the session of the General Assembly; responsible for membership relations and guided the direction of numerous committees. As Head of IDD's Manpower Resources Section was responsible for collecting and analyzing information

Experience Summary (continued): on the state's manpower resources, by investigating and documenting current developments in the manpower field, by developing original and reliable manpower problems and opportunities, and by providing a wide range of manpower related management and technical assistance services to new and prospective businesses as well as to established firms which have problems affecting their expansion or diversification potential. As Head of IDD's Special Projects Branch was responsible for providing research support for all activities in the principal areas of industrial economics, housing resources, and manpower resources. The latter includes special studies of the quantity, quality, utilization, and development of manpower resources, including labor registrations, wage surveys, labor availability analyses, and studies of the need for and impact of vocational-technical training, and the provision of assistance to employers in developing and strengthening manpower selection and development programs. As a member of the Industrial Services Group, presently providing management and technical assistance to business and industry.

Current Fields of Interest

Manpower management; industrial training; labor productivity; industrial and economic development; public relations; special projects research and feasibility studies and occupational safety and health.

Major Reports and Publications

1. "Manpower Turnover and Absenteeism Study," EDA Special Study, September 1967
2. "Economic Impact of the Proposed Expansion of the Athens Area Vocational-Technical School," EDA Special Report, April 1968, coauthor
3. "A Registration of the Oconee Area Unemployed in Georgia," EDA Special Report, August 1968, project director and coauthor
4. "Economic Impact of the Proposed Vocational-Industrial Training Center to be located in Monroe (Walton County), Georgia," EDA Special Report, March 1969
5. "Economic Impact of the Proposed Expansion of the Southwire Company in Carrollton, Georgia," EDA Special Report, November 1969, coauthor
6. "Economic Impact of the Proposed Water and Sewerage System Improvements on Americus, Georgia," EDA Special Report, February 1970, coauthor
7. "A Systematic Approach to Developing Personnel Policies and Handbooks," IDD Publication, April 1970
8. "Personnel and Manpower" section of "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971
9. "Manpower Availability and Characteristics--A Staffing Experience," IDD Report (unpublished)
10. "Personnel and Manpower" section of "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971
11. "The Manpower Situation in the Gum Naval Stores Industry" section of "A Study of the Problems and Potentials of the Gum Naval Stores Industry," EDA Special Report, November 1971

Major Reports and Publications (continued)

12. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," IDD Report, January 1972, project director and coauthor
13. "Impact of the Industry on Employment and Revenue" section of "Alumina from Kaolin Potentials," IDD Report, April 1972
14. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," IDD Report, September 1972, project director and coauthor
15. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," IDD Report, January 1973, project director and coauthor
16. "Mississippi" and "Tennessee" sections of "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," IDD Report, March 1973
17. "Kentucky" section of "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," IDD Report, May 1973
18. "The Staffing Experience of a New Industrial Plant: A New Technique for Determining Manpower Availability," AIDC thesis requirement, August 1973
19. "Implementation Manual for Private Enterprise Housing," IDD Report, October 1973, coauthor
20. "Personnel" section of "Evaluation and Recommendations on the Production Operations of Sealy Mattress Company of Georgia, Inc., Tucker, Georgia," Special Report for the Small Business Administration, November 1973
21. "Human Resources Goals and Programs" section of "Economic Development Approaches for the Southeast," Regional Economic Development Plan for the Economic Development Administration, November 1973
22. "A Systematic Approach to Recruiting Minority Employees," IDD Report, 1974, coauthor
23. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," IDD Report, March 1975, coauthor
24. "Better Utilization of Human Resources," section in Employer-Employee Relations, Bi-Monthly Newsletter, Vol. 6, No. 7 (July-August 1975)
25. "How To Organize and Conduct a Seminar on the Development and Better Utilization of Human Resources," IDD Report, 1976
26. "A Follow-up Study of 1974-75 Graduates of Georgia Vocational Educational Program," Georgia Tech Report, June 1976, coauthor
27. "A Directory of Georgia Minority-Owned Businesses with Paid Employees," Project No. A-1935, June 1977, compiled with Edwin A. Bethea
28. "A Report of Tital IX Implementation Assistance Provided to Motel Owners Located on U.S. Highway 301 in Georgia," Georgia Tech Report, December 1977, coauthor

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

KEMPER, DANIEL C.--Research Engineer, Economic Development Division
Technology Development Laboratory, Engineering
Experiment Station

Education

B.I.E. (Co-op), Georgia Institute of Technology 1973
M.B.A. Candidate (Finance), Georgia State University

Employment History

Bean and Whitney, Inc., Telephone Engineer	1970-1973
Schweizerische Isola-Werke, Industrial Engineer	1972
AT&T Long Lines, Operations Supervisor	1973-1974
John H. Harland Co., Industrial Engineer	1974-1975
Senior Industrial Engineer	1975-1979
Georgia Institute of Technology	
Research Engineer	1979-Present

Experience Summary: As Telephone Engineer, responsible for numerous records verification projects under contract with New York Telephone and Southern Bell. As Industrial Engineer for Isola (Swiss Insulating Works, LTD.), developed a computerized format for break-even analyses of proposed products. As Operations Supervisor, managed 13 relatively inexperienced craftsmen performing maintenance on over 1600 private line telephone circuits and installation of 500 new circuits per month. Responsible for maintaining service and installation performance goals while seeing that all personnel received adequate training. As Senior Industrial Engineer for the Harland Company, had complete responsibility for the corporate Industrial Engineering program. Designed and implemented equipment layouts and material handling systems in 21 plant locations to achieve standardized work flow. Developed plans and specifications and acted as liaison with architects and contractors on a multi-million dollar construction program that included 16 new facilities and 5 renovations. Proposed and implemented cost reduction efforts such as capital equipment justifications, productivity improvement and an energy conservation program for a total annual savings of over a quarter of a million dollars.

Current Fields of Interest

Productivity improvement as it relates to the optimal utilization of all available resources; manufacturing feasibility studies; financial analysis; operations and facilities design.

Professional License

Licensed Professional Engineer in the State of Georgia, Registration
No. 10978

Professional Organizations

American Institute of Industrial Engineers--Senior Member
International Material Management Society--Member

Major Reports and Publications

1. "Mindestbestellmenge," Schweizerische Isola-Werke, July 1972
2. "A Trend Analysis System for Public Services in Fulton County,"
Georgia Institute of Technology, Department of Industrial and
Systems Engineering, May 1973, co-author
3. Author of numerous project proposals for The John H. Harland Company.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LANIER, DIANNE D. -- Research Associate, Marketing Research Group, Economic Development Laboratory, Engineering Experiment Station

Education

B.A. - University of Georgia	1974
M.B.A. - Georgia State University	1979

Employment History

Rich's	
Research Analyst	1976-1978
Marketing Information Service	
Research Analyst	1978
Project Manager	1979
Georgia Institute of Technology	
Research Associate	1979-present

Experience Summary: As a research analyst with Rich's, was responsible for liaison with independent field services, questionnaire design, sample determination, supervision of coding process, SPSS programming, analysis and report writing in conjunction with survey research effort. Evaluated research reports and surveys prepared by other firms for Rich's management. Received training in trade area research from Hammer, Siler, George/Gould Retail Consultants and authored a major study of six potential southeastern markets for Rich's. While a marketing research analyst at Marketing Information Service, provided assistance in preparing research proposals, methodologies, data analysis, reports and statistical processing of data. Also responsible for questionnaire design and creation of instructions for field personnel. As a project manager, directed all phases of the research process with particular emphasis on client liaison and initial problem definition via a consulting orientation. Specific duties included interface with internal and external staff members and involvement in all areas of design and analysis, including methodological design and interpretive report writing and presentation. As a research associate, activities include outreach to acquaint prospective clients with the market research capabilities available within the Georgia Tech Engineering Experiment Station's Economic Development Laboratory. Duties also include consultation with clients seeking assistance from the Economic Development Administration or Trade Adjustment Assistance Program, with particular emphasis on marketing strategy and implementation of market research survey results.

Professional Activities:

Member - American Marketing Association, Atlanta Chapter

Major Reports and Publications:

1. "The Modern Masculine Lifestyle", Advances in Consumer Research, Volume IV. Co-author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LEWIS, EDWIN L. -- Director, Southwest Georgia Area Office
Technology and Development Laboratory
Engineering Experiment Station

Education

B.S.I.E., Auburn University

Employment History

NASA, Operations Management Office, Kennedy Space Center	1967 - 1971
Talon, Division of Textron, Industrial Engineering Department	1972 - 1974
Georgia Institute of Technology	
Assistant Research Engineer, Southeast Georgia Area Office	1974 - 1977
Research Engineer	1977 - Present
Director, Southwest Georgia Area Office, TDL/EES	1977 - Present

Experience Summary: National Aeronautics and Space Administration duties included assisting contractors in preparation of test procedure manuals, and scheduling all tests performed on the Saturn V vehicles. Duties while at Talon included cost reduction programs, budget analysis and preparation, justification of capital expenditure requests, development of plant capacity data for use in scheduling, direct and indirect labor analysis and standards preparation, plant layouts, time studies, and methods of simplifications and improvements. At Georgia Tech, duties involve providing management and technical assistance to industries in South Georgia. These activities include all areas of industrial management and industrial engineering, and involve providing assistance with plant layout and materials handling, basic accounting and cost accounting, manufacturing and process controls, and general engineering assistance. Duties also involve providing local development groups and areawide development groups with assistance in all areas of economic development, including the identification and documentation of industrial sites, industrial prospect servicing, and the analysis of municipal service needs. Recent work has included the design and installation of solar energy agricultural crop dryers.

Current Fields of Interest

Manufacturing engineering and management assistance; energy conservation; the principles and practices of industrial development.

Major Reports and Publications

1. "Feasibility Study of an Industrial Resources and Services Facility in Tifton/Tift County," Final Report on Project A-1722, November, 1975, with the Coastal Plain Area Planning and Development Commission.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

'LOVELESS, PHILIP D.--Research Scientist

Education

B.B.A., East Texas State University	1971
M.B.A., Florida State University	1972

Employment History

U.S. Air Force, Weather Observer-Rawin	1965-1968
Texas Instruments, Inc., Production Scheduler	1968-1969
East Texas State University, Earth Science Laboratory Assistant	1969-1971
Florida Department of Commerce, Division of Economic Development, Economic Development Representative I, Economic Development Representative II, Administrator, Economic Development	1972-1976
Seminole Boat Company, Owner	1976-1977
Georgia Institute of Technology, Research Scientist	1977-Present

Experience Summary: Current and past work at Georgia Tech has been in the fields of management and technical assistance in areas of plant design layout, financial analysis, labor cost analysis, advertising design, and community industrial development programs. As owner of Seminole Boat Company, managed, designed, and marketed canoes and fishing boats. At Florida Department of Commerce, worked in fields of community industrial development and management/technical assistance to small business. Did industrial park design, industrial solicitation, industrial team training, and various management and technical assistance projects with Florida manufacturing firms. At Texas Instruments, scheduled and expedited work in printed circuit board shop. Designed program to compare rejected parts with overall production runs which aided in pinpointing problem area in circuit board shop.

Current Fields of Interest

Industrial development advertising effectiveness in small communities;
industrial engineering for mentally handicapped industrial work centers.

Major Reports and Publications

1. "Financial Feasibility Study and Presentation for Banks," for Bantam Furniture Company, Valdosta, Georgia, February 1978.
2. "Feedback" Newsletter, Florida Department of Commerce, Bureau of Research and Statistics, Summer, 1972.
3. "Shopping Center Design for Tommy Greene, Madison, Florida," 1973, with Leo Florez.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LUMPKIN, RONALD O.--Research Scientist, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.B.A. in Accounting and Finance, Georgia State University	1975
M.B.A. in Finance, Georgia State University	1977

Employment History

Rich's Inc.	1959-1962
Lockheed-Georgia Company	
Spares Support and Equipment Technician	1962-1966
Development Test Material Man	1966-1966
Customer Supply Liaison Man	1966-1968
Customer Supply Technical Group Supervisor	1968-1971
Supervisory Field Rep. (Logistic Support Manager-Edwards AFB)	1971-1972
Customer Supply Technical Group Supervisor	1972-1973
Complete Auto Transit (Subsidiary of Ryder)	
Regional Controller	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Involved in inventory control, receiving, distribution and retail merchandising with regional department store chain. Began with Lockheed in the Identification and sale of spare parts, equipment, manuals and training with control over scheduling, planning and delivery of hardware and services. Responsible for the design of a real time/random access procurement tracking and inventory control system from feasibility study phase through testing and implementation. Prepared procedures and instructions and conducted formal training for management and union personnel on mechanized systems and ancillary accounting functions. Had supervisory responsibility over organization that handled procurement/acquisition, inventory control, functional test and inspection, repairs, subcontracted rework, and accounting and control including data entry for dynamic test inventory valued at over \$200 million. Additional responsibilities included planning, budgeting, forecasting, quoting, labor relations, procedures, schedule control, and contractual obligations. As the Logistic Support Manager at Edwards AFB, California had all off-site support functions (acquisition, receiving, inspection, warehousing, packaging and crating, shipping, accounting control, reporting, etc.) during the Air Force testing of the C-5 aircraft. With Complete Auto involved in eliminating accounting/financial problems through internal auditing, reviewing existing methods, and initiating proper procedures. Involved in design and installation of D.O.S. mini-computer system, analysis of capital expenditures, cash flow management, tax management and cost analysis for rate negotiations.

Current Fields of Interest

Application of financial tools in the decision making process and other activities that relate to economic development and sound management and business practices.

Major Reports and Publications

1. "Project 923 - Real Time/Random Access System for C-5 Inventory Management," Lockheed-Georgia Company, 1967, Coauthor.
2. Author of approximately 130 procedures for Lockheed-Georgia Company.
3. "User Guide to Complete Auto Transit's Datapoint System," Complete Auto Transit, 1978, Author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

MULLER, JAMES C.--Research Engineer, Economic Development Division, Technology and Development Laboratory, Engineering Experiment Station

Education

B.M.E., Georgia Institute of Technology	1967
M.B.A. in Management, Georgia State	1972

Employment History

International Harvester, Design Engineer	1968
U.S. Army, Ordinance Officer	1968-1970
Southwire Company, Design Engineer	1972-1973
Assistant Manager, Design Engineering	1973-1974
Corning Glass Works, Senior Equipment Engineer	1974-1977
Equipment Development Engineer	1975-1977
Georgia Institute of Technology	
Research Engineer	1977-present

Experience Summary: As design engineer, designed the valve train for a family of six-cylinder engines in medium duty trucks. As test officer U.S. Army Armor and Engineering Board, conducted field test of experimental wheel and track vehicles. As platoon leader, commanded 98 men performing direct support maintenance on vehicles and armament of two battalion-size combat units. Assigned to General Staff, Support Command DaNang, monitored the readiness of all engineer construction and material handling equipment for all U.S. Army forces from Chu Lai to the DMZ, calling in general support resources when critical problems were identified. As assistant manager of designing engineering, provided engineering drawings to support all Southwire Continuous Rod projects; functioned as a design engineer, designing a complete continuous copper casting machine and bar preparation machine; did feasibility studies on the insulated scrap reclamation plant, designed the eventual system, and participated in the design of a system for recycling the plastic insulation material. As senior equipment engineer in charge of equipment development at Corning in the Electronic Products Division, developed six new and different pieces of production equipment taking them through all stages of development: conceptualizing, funding, designing, prototyping, debugging, fabricating, training operators, training maintenance personnel, commissioning, and documenting.

Current Fields of Interest

Manufacturing engineering and manufacturing management, in particular: feasibility studies on new ventures, analysis of current problems, equipment selection and development, cost reduction programs, automation, computer aided manufacturing.

Patents

U.S. Patent No. 3,877.509, Titled "Pour Pot Manipulator," inventor
U.S. Patent pending, Titled "Metering Mechanism," inventor
U.S. Patent pending, Titled "Automatic Metering System," coinventor

Professional License

Certified Manufacturing Engineer, Certificate No. 970285, Expiration Date, December 31, 1979.

Licensed Professional Engineer in the State of North Carolina, Registration No. 7943.

Professional Engineer's License in the State of Georgia applied for under reciprocity provision.

Business and Professional Societies

Society of Manufacturing Engineers--Senior Member.

Computer and Automated Systems Association--Charter Member.

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

RICE, GREGORY F. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

BA - De Paul University	1954
JD - De Paul University	1961
12 Semester Hours of Accounting - USAFI	1956

Licensed to practice law in the state of Illinois and the United States District Court, No. District of Illinois	1961
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Employment History

Jewel Companies - Buyer	1958-1965
Sears Roebuck & Company - Buyer/Merchandiser	1966-1970
The Lovable Company - Vice President of Operations	1971-1976
Southern Silk Mills - Vice President Marketing/Sales	1977-1978
Atlanta Protection Systems, Inc. - President	1978-present
Georgia Institute of Technology Senior Research Associate	1979-present

Experience Summary: As a buyer, determined selection, pricing and sales presentation of toys for retail food, discount and drug stores and for catalog operations. Prepared sales plans and P&L budget for same. Buyer/Merchandiser, determined composition of line for retail and catalog. Prepared sales and P&L budget for same. Negotiated long term buying arrangements and costs with vendors. Prepared sales and production planning schedules for vendors. Determined pricing of products for retail and catalog. Vice President of Operations was responsible for all manufacturing and staff support areas except finance. Act as marketing coordinator for company, responsible for unifying sales and manufacturing functions. Vice President Marketing/Sales, directed national 16 man representative sales force. Formulate marketing and sales plans and budgets for sales in excess of \$20MM, priced all products, determined overall P&L plan and administered the Marketing Department. President of Atlanta Protection Systems, in-home sales of residential burglar and fire alarm systems. Senior Research Associate, activities include outreach to acquaint prospective clients with TAAC Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both the client and EDA to facilitate application to EDA for implementation of technical and/or financial assistance.

Current Fields of Interest

The analysis and solution of management problems with emphasis on the interrelation of marketing, production and financial operations.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

SPRINGFIELD, ROBERT W. -- Research Engineer, Technology and Development
Laboratory, Engineering Experimental Station

Education

B.I.E., Georgia Institute of Technology 1969

Employment History

Colonial Stores, Inc., Retail Food Chain	
Industrial Engineer, Corporate Warehousing and Transportation Department	1969-1973
Summerour and Associates, Inc., Management Consultants	
Staff Consultant	1973-1975
Senior Consultant	1975-1977
Associate	1977-1979
Georgia Institute of Technology	
Research Engineer	1979-Present

Experience Summary: Began as a co-operative student with Colonial Stores and accepted a job on the corporate warehousing and transportation staff after graduation. Designed and installed new warehouse layouts, order-picking systems, operating procedures, and inventory control systems for food distribution centers. Prepared job descriptions and trained new employees for supervisory positions. Co-ordinated and designed management information systems in conjunction with data processing department. Wrote material handling equipment specifications and purchased all types of equipment for distribution centers. Made extensive analysis of product delivery to stores, warehouse material handling, inventory ordering, store material handling, equipment justification, and transportation systems complete with technical reports. As a management consultant, worked with both large and small companies solving problems of facilities design, employee productivity, personnel recruiting and training, cost and methods analysis, inventory control and production planning. As a staff and senior consultant, specialized in daily on site implementation of problem solutions and engineering programs with complete documentation of results. As an associate, responsible for marketing consulting services, preparing proposals, surveys, and supervising staff engineers performing on site implementation work.

Current Fields of Interest

Utilization of sound marketing, financial and management techniques that apply to manufacturing businesses. Operations management with relation to diagnosing and solving problems, cost reduction programs, and equipment selection.

Major Reports and Publications

1. "Proposed Design for the Hazelhurst Service Center", for the Edward Hyman Company, April 1973.
2. "Cutting Engineering Manual-Summersville", for Angelica, Inc., August 1973, Co-author.
3. "Industrial Engineering and Incentive Wage Manual for the Camden Finished Goods Warehouse", for Skyline Manufacturing Company, Inc., September 1974.
4. "Survey of the Distribution Facility", for Jonbil, Inc., November 1975.
5. "Results of An Assessment of Order Fulfillment Costs", for McGregor-Donniger, Inc., October 1975, Co-author.
6. "Survey Analysis of the Chicago Distribution Operations", for Humphrey's Leather Goods, January 1977.
7. "Industrial Engineering and Standard Data Manual", for Atlantic Products Corporation, August 1977.
8. "Facilities Utilization Study" for Skyline Manufacturing Company, Inc., November 1977.
9. Layout Concept for Central Cutting and Piece Goods Facility", for Noel Industries, Inc., February 1977.
10. "Economic Feasibility Study for the Proposed Relocation of Sewing, Finishing, and Distribution Activities", for the Tobias Kotzin Company, January 1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

TAYLOR, HARDY S. -- Chief, Business Development Division, Economic
Development Laboratory, Engineering Experiment
Station

Education

B.S. in Business Administration and Pre-Law, University of Alabama	1943
N.S.C.S., Harvard Graduate School of Business Administration	1944
Graduate School of Business Organization, University of Nebraska	1951
Defense Department Comptrollership School, Washington, D.C.	1955

Employment History

National Southern Products, Inc., Tuscaloosa, Alabama Research Assistant	1943
Turco Products, Inc., Atlanta, Georgia, Representative and Field Engineer	
U.S. Navy Supply and Fiscal Officer/Comptroller	1943-1964
Gladwin Industries, Inc., Atlanta, Georgia, Treasurer Controller	1964-1966
Georgia Institute of Technology Research Scientist	1966-1972
Senior Research Scientist	1972-present
Head, Management and Technical Assistance Section	1968-1979
Head, EDA Services Section	1970-1979
Director, Southeastern Trade Adjustment Center	1978-1979
Assistant Head, Industrial Services Branch, IDD/EES	1970-1976
Associate Chief, Industrial Development Division, EDL/EES	1976-1979
Chief, Business Development Division, EDD/EES	1979-present

Experience Summary: As Chief of the Business Development Division, is responsible for directing the overall EES program at Georgia Tech of Management and Technical Assistance to industry in Georgia and the Southeast. Is currently the director of one of thirty-two University Centers funded by the U.S. Department of Commerce, EDA, and director of the Southeastern Trade Adjustment Assistance Center, funded by the U.S. Department of Commerce, EDA, TAAC is one ten centers established in the U.S. and is responsible for providing indepth technical assistance to companies located in Georgia, Alabama, Florida, Mississippi, Tennessee, Kentucky, North Carolina and South Carolina. This center utilizes the services of other sub-centers located in their respective states. Has organized and utilized this consortium of centers in the Southeast to administer other regional assistance programs. Has published articles on business development and assistance to business and during the past fourteen years, has taken a leadership role in providing assistance in the southeastern region. Organized and was the first chairman of the National Association of Management and Technical Assistance Centers. Continues to serve on the Executive Committee and continues to provide leadership to this group. Assisted in the implementation of the U.S. Department of Agriculture's FmHA's Business and Industry loan program, the SBA and OMBE Minority Business Development Programs, the SBA SBI program and

Experience Summary (continued): Inventory Management concept at the Naval Aviation Supply Office, which is the worldwide inventory control point for all Naval Aviation spare parts and material. This concept was based on the maximum utilization of the latest Electronic Data Processing equipment and it resulted in the greatest advancement in the management of aviation material during the past several years. Served as Supply and Fiscal Office/Comptroller at several Naval Air Stations and directed a working staff of 75 to 300 civilian personnel. As the first U.S. Naval representative in Sicily, negotiated at the highest governmental levels in Sicily and in Rome in arriving at agreements and procedural methods for operation of a U.S. Naval Air Station. Additionally, recruited, interviewed, selected and hired the initial group of 100 civilian personnel. Also negotiated and approved contracts for procurement of equipment, supplies and services from European sources to provide complete support for a station population of 1,800 people. Developed the idea and published a catalog in connection with a Simplified Issue Procedure for General Stores Material. This idea has been further developed and is widely used throughout the Naval Supply System.

Current Fields of Interest

All phases of area development activity, including industrial and community development, financial and inventory management, and management development.

Major Reports and Publications

1. Published a catalog in connection with a Simplified Issue Procedure for General Stores Material
2. Author of numerous published company studies; procedural systems manuals; and operational plans
3. "Impact of Proposed Water and Sewerage System on Blakely, Georgia," EDA Special Report, February 1967, coauthor
4. "Economic Impact of a Proposed Water Storage Tank on Tennille, Georgia," EDA Special Report, April 1967
5. "Economic Impact of Proposed Water and Sewerage System on Cleveland, Georgia," EDA Special Report, May 1967, coauthor
6. "Simplified Inventory and Cost Control System for a Small Manufacturer," EDA Special Report, June 1967
7. "Economic Impact of Proposed Water and Sewerage System Improvements on Warrenton, Georgia," EDA Special Report, September or December 1967
8. "Economic Impact of Proposed Water and Sewerage System Improvements on Madison, Georgia," EDA Special Report, April 1968
9. "Economic Impact of the Proposed I-20 Regional Industrial Park at Camak, Georgia," EDA Special Report, January 1968
10. "Economic Impact of a Proposed Industrial Park to Be Located in Swainsboro, Georgia," EDA Special Report, January 1968, coauthor
11. "Economic Impact of the Proposed Establishment of Keller Industries, Inc. in Swainsboro, Georgia," EDA Special Report, February 1968, coauthor

Major Reports and Publications (continued)

12. "Economic Impact of a Proposed Industrial Park to Be Located in Milledgeville, Georgia," EDA Special Report, February 1968
13. "Economic Impact of Proposed Water and Sewerage Systems Improvements on the City of Sylvester and Worth County, Georgia," EDA Special Report
14. "Economic Impact of Proposed Sewerage System Improvements on Camilla, Georgia," EDA Special Report, March 1968, coauthor
15. "Economic Impact of Proposed Water and Sewerage Systems Improvements on Gibson, Georgia," EDA Special Report, April 1968, coauthor
16. "Economic Impact of a Proposed Industrial District to Be Located in Richmond County, Georgia," EDA Special Report, May 1968, coauthor
17. "The Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Annual Report, August 1968, coauthor
18. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, August 1970, coauthor
19. "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971, coauthor
20. "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971, coauthor
21. "Ways of Organizing a Business in Georgia," Georgia Tech Management and Technical Assistance Counseling Note, August 1971, coauthor
22. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, September 1971, coauthor
23. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, September 1972, coauthor
24. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, June 1973, coauthor
25. "Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Report, August 1973, coauthor
26. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1974, coauthor
27. "A Program of Technical Assistance to the Farmers Home Administration Business and Industry Loan Program," Georgia Tech Report, March 1975, coauthor
28. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1975, coauthor
29. "Feasibility of Restructuring the Long-Term Financing of Delta Diversified, Inc.," Georgia Tech Report, July 1976, coauthor
30. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, January 1977, coauthor
31. "Technical Assistance to Motels and Restaurant owners located on U.S. Highway 301" Georgia Tech Report, January 1978, co-author
32. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1977, co-author

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

WILENCHEK, STEPHEN B. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

B.S.I.M. - Georgia Institute of Technology	1960
M.B.A. - Harvard Business School	1964

Employment History

Citizens and Southern National Bank	
Trainee	1964-1966
Commercial Lending Officer	1966-1971
Vice President - Corporate Financial Planning	1971-1972
Vice President - Equipment Leasing	1972-1975
Vice President - Branch Manager	1975-1976
Vice President - Senior Credit Officer	1976-1979
Wilenchek & Associates	
Consultant	1979-present
Georgia Institute of Technology	
Senior Research Associate	1979-present

Experience Summary: Sold commercial banking services to and negotiated lines of credit with major national companies as well as local businesses. Managed \$19 million loan portfolio. Consulted with customers on financial strategy, mergers and acquisitions, and arranged private placements of debt. Organized and operated equipment leasing department. Within 2 years outstandings reached \$12 million. Served on troubled customer's finance committee and board of directors. During this time customer's operating losses were substantially eliminated and administrative procedures were greatly improved. Assumed management of commercial/retail bank branch having high percentage of problem loans. Systematically reduced problem loan balances by 25%, while increasing deposits by 40% and cutting expenses by 10%. Despite poor business conditions, generated new consumer and commercial loan business including the first SBA-guaranteed loan made by this bank to a contractor. As senior credit officer, administered diversified portfolio of problem commercial loans which initially totalled \$12 million. Developed specific strategies for each situation and reduced loans by \$4 million through sale of collateral, demands made upon guarantors, and refinancing of loans elsewhere. Identified losses and charged off uncollectible amounts. Acted as liaison with attorneys in numerous lawsuits concerning defaulted loans, and regarding litigation against the bank arising from loan transactions. As senior research associate, activities include outreach to acquaint prospective clients with Trade Adjustment Assistance Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both clients and Economic Development Administration to facilitate application to EDA for financial assistance.

Current Fields of Interest

Financial management, marketing management, market analysis, and the interaction of these factors in making strategic business decisions.

CHARTS

Chart 1
ECONOMIC CHARACTERISTICS OF EDA-DESIGNATED COUNTIES - GEORGIA

	Population Estimate 1977	% Net Migration 1970-1977	% Minority Population 1970	Median Years of Education Completed, 1970		Median Family Income (\$) 1969	% Below Poverty Income 1969	Estimated % Unemployed for May 1979	% Land In Farms 1974
				Male	Female				
UNITED STATES	216,383,000	1.6	12.4	12.1	12.1	9,590	13.7		44.9
GEORGIA	5,048,000	3.2	26.1	10.8	10.8	8,167	20.7	4.7	37.3
<u>Counties</u>									
Appling	15,100	10.8	21.0	8.8	10.0	5,284	37.1	4.3	49.7
Atkinson	5,900	-6.0	32.0	8.1	8.7	4,386	44.6	6.3	50.8
Bacon	9,400	7.2	13.3	8.2	9.0	5,323	31.2	4.1	59.3
Baker	4,000	(2)	53.4	7.9	8.8	3,947	45.9	4.3	69.2
Baldwin	31,800	-11.8	38.0	8.5	9.0	8,145	22.3	3.5	27.2
Banks	7,200	3.0	5.6	8.2	8.9	6,144	24.0	3.1	38.0
Barrow	19,400	9.4	17.1	9.1	9.5	7,263	18.1	4.2	43.8
Bartow	38,000	7.8	12.9	9.1	9.4	8,046	15.1	5.3	37.7
Ben Hill	14,900	9.0	31.4	8.7	9.6	6,077	31.9	3.7	39.4
Berrien	12,900	6.3	13.8	8.9	9.2	5,639	28.2	3.3	53.5
Bibb	144,000	-4.4	34.6	11.2	10.9	8,248	21.9	5.9	16.7
Bleckley	10,400	-2.6	22.6	9.1	9.5	6,644	28.4	2.9	66.7
Brantley	7,700	24.4	10.0	8.7	9.0	6,449	24.8	5.4	13.7
Brooks	14,500	1.2	46.4	8.8	9.6	4,783	42.3	4.0	67.3
Bryan	8,100	14.3	27.5	8.8	9.6	6,490	30.3	6.4	10.8
Bulloch	34,400	4.0	36.3	9.9	10.7	6,520	32.1	3.8	58.8
Burke	18,700	-3.1	60.2	7.8	8.5	4,498	52.7	6.8	50.9
Butts	12,300	10.0	43.0	9.0	9.9	7,011	23.8	4.4	34.6
Calhoun	6,700	-2.4	63.1	7.2	9.1	4,139	52.0	5.0	62.4
Camden	12,100	0.2	36.3	10.1	10.7	8,390	19.7	4.9	9.2
Candler	6,900	4.5	32.4	9.0	9.8	5,082	40.4	3.7	56.5
Carroll	53,800	10.7	16.4	10.0	10.0	7,617	18.3	4.8	28.2
Catoosa	34,000	12.1	1.3	10.9	10.8	8,653	13.0	4.6	37.4
Charlton	6,600	8.0	33.8	9.1	9.6	5,469	29.0	4.5	6.7
Chatham	189,900	-4.8	34.3	12.0	11.6	8,245	20.9	5.7	7.6

Chart 1 (Continued)

	Population Estimate 1977	% Net Migration 1970-1977	% Minority Population 1970	Median Years of Education Completed, 1970		Median Family Income (\$) 1969	% Below Poverty Income 1969	Estimated % Unemployed for May 1979	% Land In Farms 1974
				Male	Female				
Counties (Continued)									
Chattahoochee	16,600	-43.4	19.7	12.7	12.4	7,354	17.1	7.4	4.5
Chattooga	22,800	5.9	9.7	8.8	9.0	7,561	17.7	5.6	36.5
Cherokee	41,500	23.8	3.8	9.0	9.4	7,902	16.9	3.4	19.5
Clarke	70,500	1.2	20.4	12.8	12.3	8,220	20.4	3.7	24.9
Clay	3,500	-7.0	61.8	8.4	9.4	3,384	60.7	4.3	49.4
Clayton	136,300	25.4	4.7	12.0	11.9	10,965	5.9	4.4	10.2
Clinch	6,500	-6.2	31.9	8.0	9.0	5,525	36.3	5.5	6.4
Cobb	251,900	18.2	4.4	12.1	11.8	11,247	7.1	3.8	13.0
Coffee	24,900	2.1	25.9	8.7	9.9	5,828	32.9	4.6	63.8
Colquitt	34,100	0.1	23.5	9.2	10.1	6,137	29.3	4.7	66.8
Columbia	31,900	29.4	22.3	11.1	10.9	8,028	19.2	4.1	26.6
Cook	12,200	-6.1	31.4	8.8	9.5	6,606	30.3	3.4	61.0
Coweta	36,800	7.3	31.9	9.5	10.2	7,640	20.6	5.8	27.0
Crawford	6,700	12.1	53.2	8.3	8.9	4,996	42.8	6.2	28.8
Crisp	18,900	-1.9	40.3	9.0	9.7	6,423	32.4	5.2	66.0
Dade	11,600	9.3	1.2	8.6	9.1	6,593	22.4	4.6	31.5
Dawson	4,900	26.3	0.2	8.1	8.8	6,244	27.2	5.6	11.9
Decatur	24,500	2.9	41.9	8.6	9.5	5,441	39.6	3.5	52.2
DeKalb	456,000	2.1	13.9	12.7	12.4	12,137	7.1	4.0	4.1
Dodge	16,700	3.4	25.5	8.9	9.3	5,532	35.7	5.5	52.4
Dooley	11,100	1.2	50.2	8.4	9.4	4,943	46.0	4.6	70.0
Dougherty	95,900	-3.5	34.7	11.8	11.7	7,875	23.1	5.5	70.6
Douglas	47,000	52.4	9.3	10.3	10.5	9,298	12.3	4.1	7.8
Early	13,200	-0.1	46.2	8.2	9.3	4,857	49.4	3.9	67.9
Echols	2,200	10.8	26.1	9.3	9.9	5,676	31.5	4.4	6.2
Effingham	17,100	18.1	24.6	9.6	10.1	7,950	21.8	4.9	31.9

Chart 1 (Continued)

	Population Estimate 1977	% Net Migration 1970-1977	% Minority Population 1970	Median Years of Education Completed, 1970		Median Family Income (\$) 1969	% Below Poverty Income 1969	Estimated % Unemployed for May 1979	% Land In Farms 1974
				Male	Female				
Counties (Continued)									
Elbert	18,300	2.8	31.9	9.5	9.8	6,401	29.1	4.6	29.1
Emanuel	20,300	4.3	30.9	8.8	9.5	5,678	34.7	4.7	43.1
Evans	8,200	7.8	35.2	8.7	9.3	5,305	41.6	4.1	56.4
Fannin	14,700	7.6	0.4	8.6	8.7	5,704	24.6	7.4	8.6
Fayette	21,100	76.8	17.4	10.4	10.7	9,429	14.3	3.2	29.5
Floyd	79,600	3.3	13.1	10.2	10.2	8,285	15.4	4.7	41.1
Forsyth	22,700	24.5	0.1	8.8	9.2	7,381	17.7	3.6	39.9
Franklin	14,200	7.7	12.2	9.6	10.0	6,421	20.3	5.3	44.3
Fulton	568,200	-11.1	39.3	12.1	11.8	9,359	17.6	5.6	14.0
Gilmer	11,500	24.2	0.5	7.9	8.4	5,736	27.9	4.7	14.3
Glascock	2,500	12.3	24.4	7.2	8.5	5,058	42.1	6.7	36.2
Glynn	49,200	-9.3	25.2	11.9	11.7	7,958	17.3	4.1	4.6
Gordon	27,600	10.0	5.2	8.9	9.1	7,807	15.1	5.0	42.3
Grady	19,800	6.0	35.8	8.8	9.5	5,428	35.2	4.5	72.8
Greene	10,800	1.4	51.9	8.6	9.5	5,973	33.1	4.6	30.7
Gwinnett	128,300	63.0	5.2	10.5	10.7	9,629	10.3	3.3	13.8
Habersham	24,300	11.9	5.8	9.4	9.9	7,025	17.1	3.5	20.3
Hall	69,200	9.8	10.2	9.8	10.1	7,788	17.7	4.1	26.9
Hancock	9,100	-5.7	73.8	7.5	8.9	4,801	47.8	4.6	21.8
Haralson	17,700	6.7	7.8	9.4	9.7	7,239	17.5	5.2	20.7
Harris	12,700	6.0	45.1	9.1	9.6	6,566	29.7	4.2	25.8
Hart	16,700	0.5	23.4	9.5	9.7	6,649	26.6	4.8	51.1
Heard	6,400	16.3	23.0	8.9	9.4	6,758	23.5	2.7	18.6
Henry	29,300	15.6	32.1	10.0	10.4	8,177	20.0	4.3	27.3
Houston	73,900	7.0	17.0	12.4	12.1	9,356	13.7	4.4	41.6
Irwin	8,400	2.3	33.5	8.6	9.5	5,099	43.8	3.2	64.5
Jackson	23,500	5.3	12.8	8.8	9.0	7,256	19.4	4.1	44.8
Jasper	6,800	15.2	49.4	8.8	9.9	6,074	34.9	3.2	33.5
Jeff Davis	10,900	7.7	18.8	8.9	9.6	6,003	26.3	3.9	48.6

Chart 1 (Continued)

Counties (continued)	Population Estimate 1977	% Net Migration 1970-1977	% Minority Population 1970	Median Years of Education Completed, 1970		Median Family Income (\$) 1969	% Below Poverty Income 1969	Estimated % Unemployed for May 1979	% Land In Farms 1974
				Male	Female				
Oglethorpe	8,300	5.6	37.3	8.1	9.1	6,012	28.0	4.0	29.8
Paulding	23,800	27.7	7.6	8.9	9.2	7,563	18.3	4.4	15.1
Peach	19,200	12.9	57.2	10.4	10.6	7,822	27.9	5.2	57.7
Pickens	10,900	9.6	3.5	8.3	8.7	7,357	20.8	5.7	17.3
Pierce	11,300	15.9	18.1	8.8	9.7	6,222	26.8	4.7	56.9
Pike	8,700	15.4	40.5	8.5	9.2	6,652	28.2	4.3	41.9
Polk	31,600	2.2	15.8	9.2	9.2	7,254	20.3	4.7	28.4
Pulaski	8,400	2.3	36.9	8.9	9.9	6,083	36.9	5.1	60.3
Putnam	9,100	3.6	48.9	9.3	10.4	7,996	27.0	4.1	27.2
Quitman	2,100	-10.6	60.2	6.8	8.3	3,968	54.1	6.4	30.8
Rabun	9,100	5.1	0.8	9.4	9.9	6,056	25.1	4.1	6.2
Randolph	8,800	-0.1	55.8	8.0	9.2	4,097	50.6	7.3	49.7
Richmond	158,500	-9.3	30.9	12.0	11.4	7,994	20.1	5.8	18.7
Rockdale	30,400	56.8	17.4	10.2	10.4	8,882	15.7	3.7	24.9
Schley	3,200	0.5	45.0	8.3	9.8	5,750	29.6	4.5	71.4
Scriven	13,400	3.5	46.8	8.1	9.0	4,811	38.6	3.3	52.9
Seminole	8,100	9.2	35.2	8.9	10.0	6,518	29.0	4.2	67.0
Spalding	45,300	8.3	26.8	9.9	9.7	8,074	19.4	4.7	37.9
Stephens	22,600	6.2	11.9	9.8	10.0	7,225	17.8	5.1	18.3
Stewart	5,600	-16.3	64.5	7.8	9.1	4,813	48.0	5.6	23.9
Sumter	27,800	-4.2	44.5	9.4	10.0	6,719	31.7	5.4	64.6
Talbot	6,400	-6.0	68.0	7.7	9.0	5,245	41.7	5.1	22.5
Tallferro	2,100	-13.3	63.6	7.6	8.2	4,416	51.4	3.4	26.8
Tattnall	17,200	0.1	30.9	8.9	9.5	5,582	35.3	3.8	49.3
Taylor	7,600	-7.8	44.8	8.2	8.9	5,746	36.5	6.0	32.5
Telfair	11,800	-1.0	34.5	8.3	9.3	5,310	35.5	3.7	36.0
Terrell	11,200	-7.6	59.6	8.7	9.9	5,447	42.4	4.9	77.0
Thomas	37,800	3.8	39.8	9.1	9.9	6,368	32.1	4.7	67.7

Chart 1 (Continued)

	Population Estimate 1977	% Net Migration 1970-1977	% Minority Population 1970	Median Years of Education Completed, 1970		Median Family Income (\$) 1969	% Below Poverty Income 1969	Estimated % Unemployed for May 1979	% Land In Farms 1974
				Male	Female				
Counties (continued)									
Tift	31,700	7.5	26.6	9.5	10.0	6,788	27.5	3.9	82.4
Toombs	21,600	6.6	26.9	9.3	9.7	5,995	31.0	6.0	43.9
Towns	5,000	8.8	0.1	8.7	8.9	4,917	30.4	4.1	12.2
Tretlen	6,200	3.8	32.7	7.6	8.9	4,972	38.1	4.5	45.4
Troup	45,700	-1.6	31.8	9.3	9.5	7,250	25.2	4.6	22.8
Turner	9,000	-4.0	35.3	8.6	9.7	5,693	33.6	3.5	76.7
Twiggs	8,200	-6.6	56.3	7.5	8.6	5,399	39.3	6.7	17.3
Union	8,200	15.9	(Z)	8.2	8.4	4,563	36.0	5.5	16.8
Upson	24,300	(Z)	28.3	9.1	9.5	7,699	18.8	3.6	25.7
Walker	53,800	-0.4	4.8	9.8	9.9	8,111	15.3	5.2	35.0
Walton	30,000	20.7	27.8	8.9	9.2	7,745	20.0	3.5	42.1
Ware	36,100	1.4	22.5	10.1	10.2	7,032	25.7	5.0	12.8
Warren	6,200	-10.1	59.1	7.4	9.0	5,297	43.5	5.3	42.6
Washington	17,000	- 7.1	53.7	7.9	9.3	5,679	38.8	4.5	38.4
Wayne	19,100	0.2	21.1	10.0	10.2	6,909	25.6	4.5	22.5
Webster	2,600	4.4	58.4	7.5	9.2	4,419	46.1	1.7	48.8
Wheeler	4,800	1.8	30.5	7.7	8.5	4,936	36.4	3.6	47.4
White	9,100	12.0	4.9	8.9	9.4	5,950	23.9	3.4	17.2
Whitfield	61,300	2.1	4.0	9.2	9.3	8,289	13.7	4.9	27.5
Wilcox	7,100	0.2	31.4	8.6	9.5	4,923	39.9	4.7j	46.9
Wilkes	10,300	-1.2	47.3	9.2	10.2	5,829	35.4	3.4	40.0
Wilkinson	9,900	0.1	46.2	8.2	9.4	6,511	29.3	3.5	17.9
Worth	17,100	8.5	37.5	8.9	9.5	5,388	39.8	4.3	65.6

Z less than 50 persons or less than 0.05 percent.

NOTE: All Georgia counties are not included.

Chart 2

This work program, which encompasses Chart 2, has been waived by paragraph five of the grant amendment offer dated the 26th day of June 1972.

Chart 3

REGIONAL ECONOMIC DEVELOPMENT CENTER
 GEORGIA INSTITUTE OF TECHNOLOGY
 ACTIVITY REPORT
 August 1, 1979 to October 31, 1979

100

	<u>Stablization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Development</u>		<u>TOTAL</u>	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current
ONGOING (BEGINNING)	7	9	7	9	7	8	0	1	21	27
NEW	12	5	9	7	12	1	2	1	35	14
DISCONTINUED	10	4	7	4	11	2	1	0	29	10
ONGOING (ENDING)	9	10	9	12	8	7	1	2	27	31
TOTAL ACTIVE DURING QUARTER	19	14	16	16	19	9	2	2	56	41

Percentage of Efforts as Measured by Cost*

	<u>This Period</u>	<u>Previous Period</u>
Business Stablization	34	34
Business Expansion	39	29
New Venture	22	34
Community Development	5	3

*Cost is interpreted to mean Budget Cost for Period of Reporting

Chart 4

SUMMARY OF PROJECT ACTIVITY BY TYPE AND SUBREGION

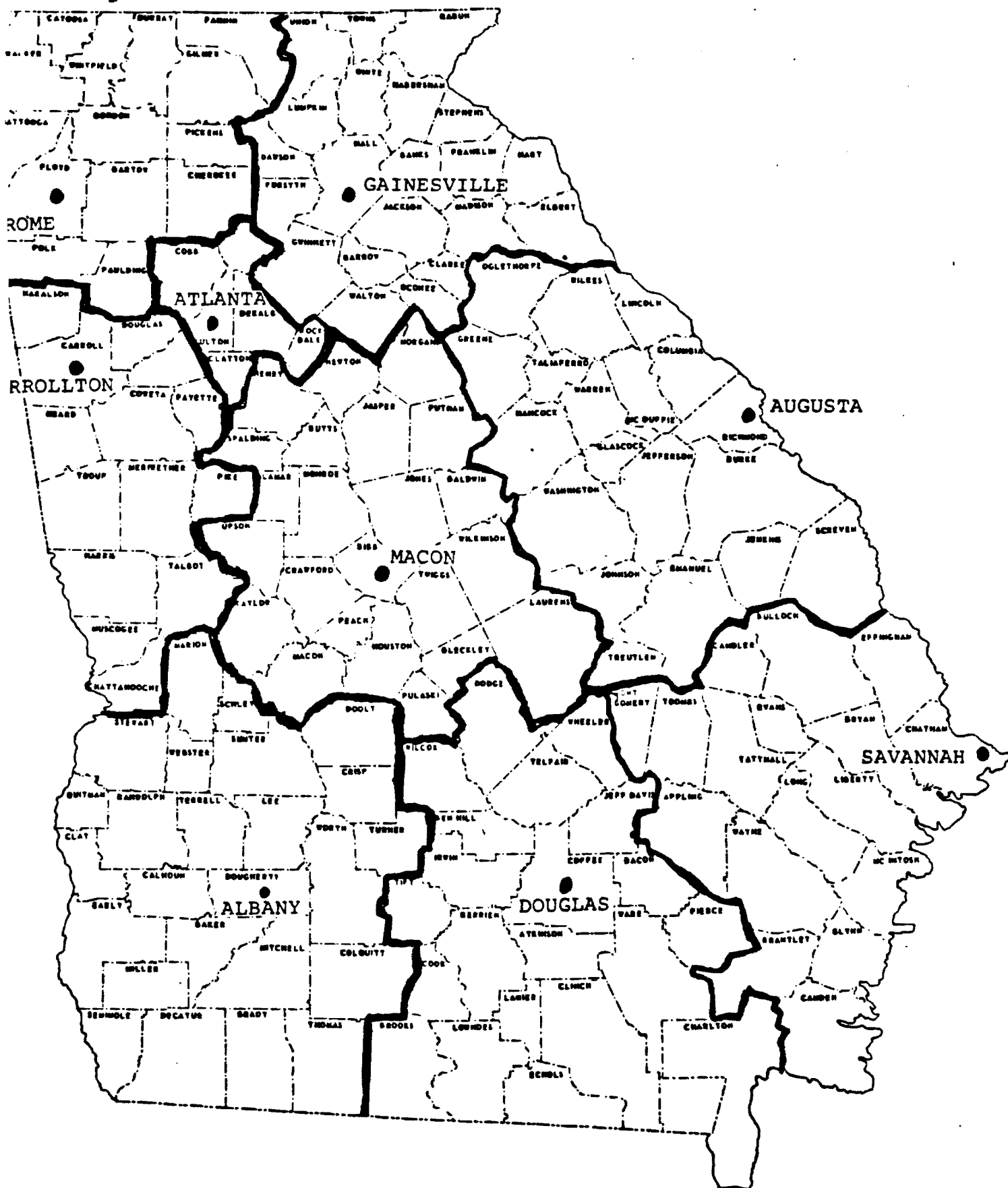
<u>Subregion</u>	<u>New Venture</u>	<u>Business Expansion</u>	<u>Business Stablization</u>	<u>Community Development</u>	<u>Current Costs % of Total</u>
CENTRAL SAVANNAH RIVER EDD	3	2	1	0	15
SOUTH GEORGIA EDD	2	4	2	0	19
GEORGIA MOUNTAINS	1	0	1	0	5
HEART OF GEORGIA EDD	0	1	0	0	2
NORTHEAST GEORGIA EDD	0	0	0	0	0
OCONEE AREA EDD	0	0	0	0	0
SOUTHEAST GEORGIA EDD	0	3	3	0	15
SOUTHWEST GEORGIA EDD	1	2	3	0	15
MIDDLE FLINT EDD	0	0	2	0	5
CHATTAHOOCHEE-FLINT EDD	0	0	0	0	0
COASTAL AREA EDD	1	0	0	0	2
LOWER CHATTAHOOCHEE EDD	0	0	0	0	0
PROJECTS OUTSIDE EDD'S	<u>1</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>22</u>
TOTAL	9	16	14	2	100

Chart 5
JOB IMPACT SUMMARY

<u>Subregion</u>	<u>Business Stabilization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Econ. Develop.</u>		<u>Other</u>	
	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>
Central Savannah River EDD	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0
Coastal Plain EDD	"	0	"	0	"	0	"	0	"	0
Georgia Mountains EDD	"	0	"	0	"	0	"	0	"	0
Heart of Georgia EDD	"	0	"	0	"	0	"	0	"	0
Northeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Oconee Area EDD	"	0	"	0	"	0	"	0	"	0
Southeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Southwest Georgia EDD	"	0	"	0	"	0	"	0	"	0
Middle Flint EDD	"	0	"	0	"	0	"	0	"	0
Chattahoochee-Flint EDD	"	0	"	0	"	0	"	0	"	0
Coastal Area EDD	"	0	"	0	"	0	"	0	"	0
Lower Chattahoochee EDD	"	0	"	0	"	0	"	0	"	0
Projects Outside EDD's	"	0	"	0	"	0	"	0	"	0

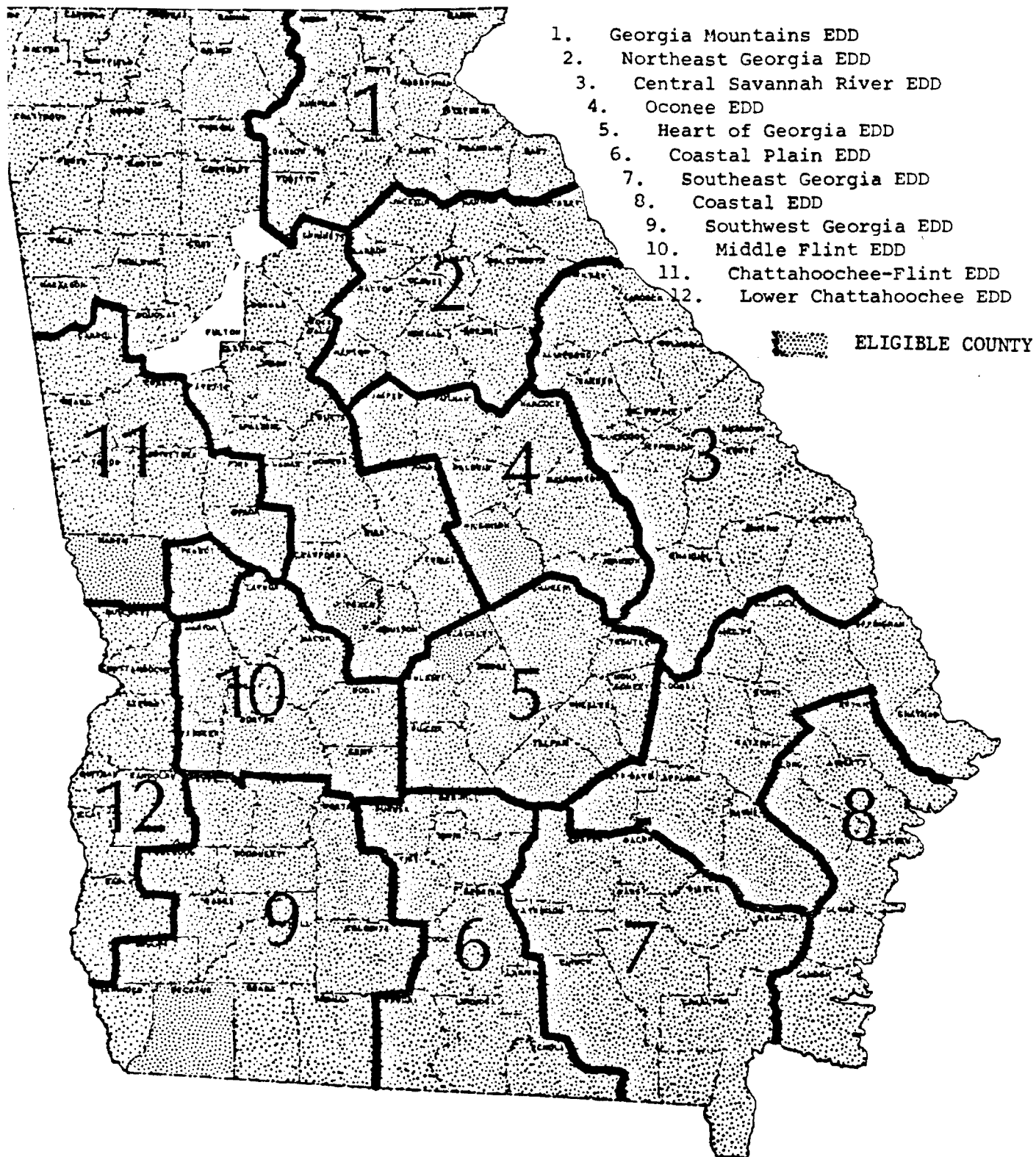
MAPS

Economic Development Laboratory
AREA OFFICE LOCATIONS



Map 2

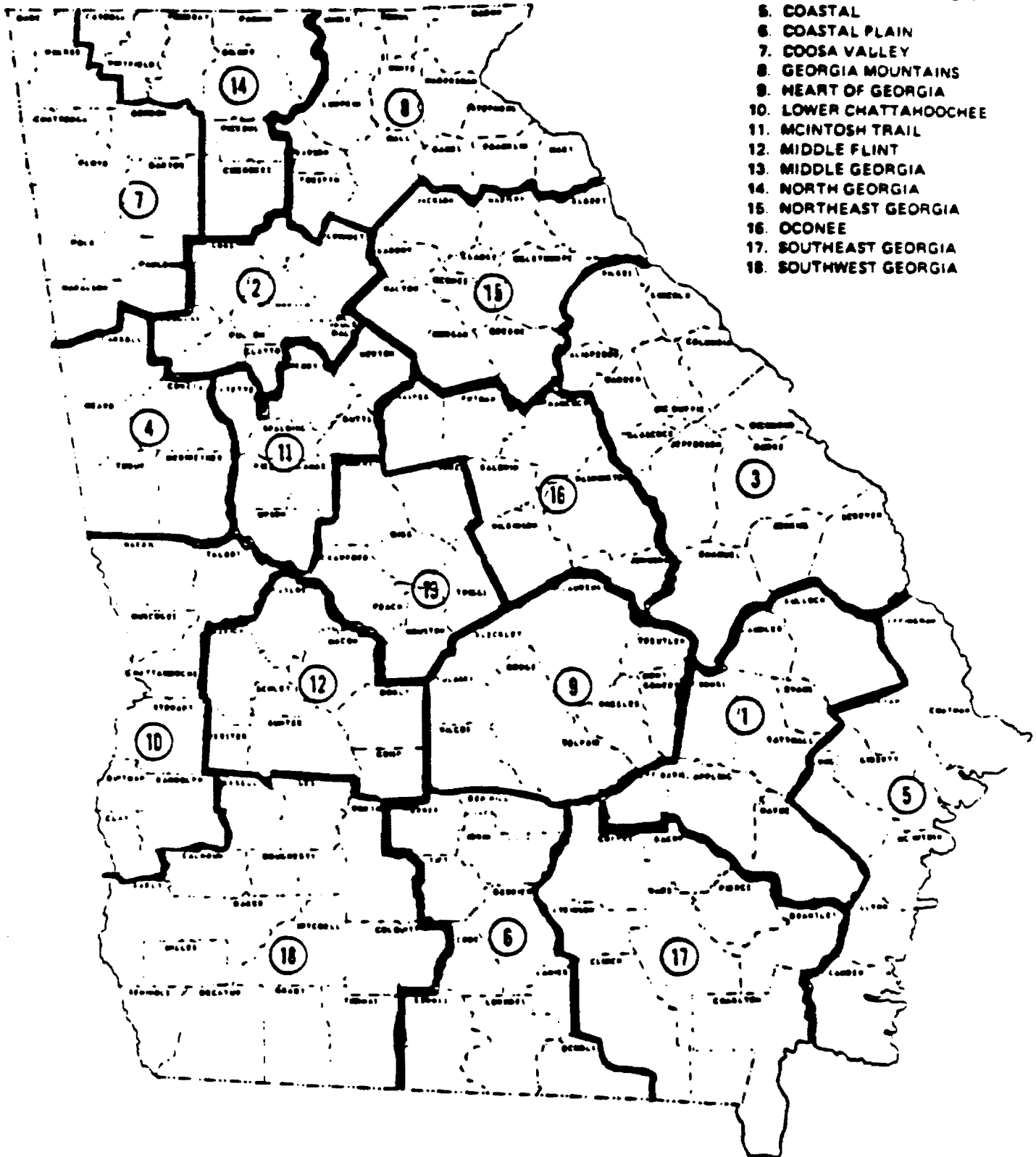
ECONOMIC DEVELOPMENT DISTRICTS



Map 3

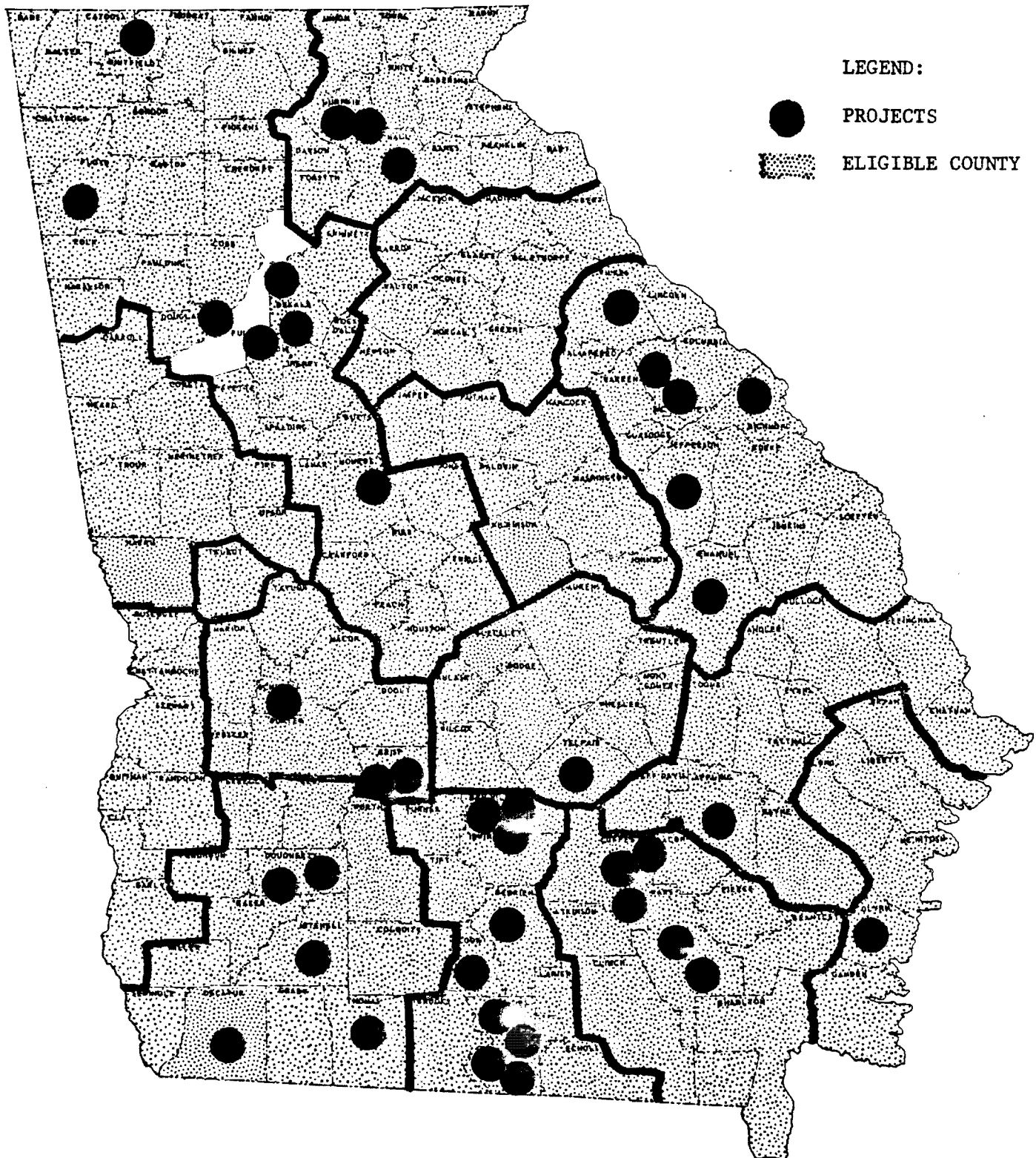
AREA PLANNING AND DEVELOPMENT COMMISSION BOUNDARIES

1. ALTAMAHA-GEORGIA SOUTHERN
2. ATLANTA REGIONAL
3. CENTRAL SAVANNAH RIVER
4. CHATTAHOOCHEE-FLINT
5. COASTAL
6. COASTAL PLAIN
7. COOSA VALLEY
8. GEORGIA MOUNTAINS
9. HEART OF GEORGIA
10. LOWER CHATTAHOOCHEE
11. MCINTOSH TRAIL
12. MIDDLE FLINT
13. MIDDLE GEORGIA
14. NORTH GEORGIA
15. NORTHEAST GEORGIA
16. OCONEE
17. SOUTHEAST GEORGIA
18. SOUTHWEST GEORGIA



Map 4

PROJECTS CONDUCTED BY COUNTY



Project No. A-2018
Grant No. 04-06-01567-3

A PROGRAM
OF MANAGEMENT AND TECHNICAL ASSISTANCE
IN DESIGNATED EDA COUNTIES IN GEORGIA

Quarterly Report

November, December, January
1979-80

by

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This technical assistance program was accomplished by professional consultants under a grant from the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the grantee and do not necessarily reflect the views of the Economic Development Administration.

Economic Development Laboratory
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
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I. Background Information

A. Economic Characteristics of Service Area

To be reported only in the first quarterly progress report and the final report.

B. Organization and Establishment of Center

To be reported only in the first quarterly progress report and the final report.

II. Program Administration

A. Program Objectives

To be reported only in the first quarterly progress report and the final report.

B. Technical Assistance Services

To be reported only in the first quarterly progress report and the final report.

C. Project Personnel

To be reported only in the first quarterly progress report and the final report.

D. Phasing of Work Program

This work program which encompasses Chart 2 has been waived by paragraph five of the grant amendment offer dated the 27th day of June 1972.

E. Relationship to other Development Efforts

In furthering the EDA objectives in Georgia, the Economic Development Laboratory works closely with representatives of the following organizations:

Georgia State Office of Planning and Budget - Georgia Department of Industry and Trade - Economic Development District - Area Planning and Development Commissions - Chambers of Commerce - local industrial development groups - Coastal Plains Regional Commission - Small Business Administration - EDA Economic Development Representatives.

Particular attention is directed to working with the EDD's and APDC's on individual projects. When an assistance project is opened these organizations are notified that EDL will be working in their area, and a monthly progress report of activity on projects within their area is furnished.

Cooperation with the above-mentioned organizations is enhanced by EDL activities other than EDA within the state wherein EDL personnel are in almost constant contact with these groups.

III. Strategy for Subregions

To be reported only in the first quarterly progress report and the final report.

IV. Technical Assistance Projects

A. Location

Map 3 identifies the counties in which work was performed under the program and indicates the number of projects conducted in each county.

B. Highlights of Project Activity

Chart 3 summarizes the highlights of project activity by major program categories. Chart 4 summarizes the project activity by type and subregion to indicate the distribution of effort throughout the state. Chart 5 summarizes the project activity by type and subregion to indicate the job impact.

The following project was selected for special mention:

Project 851: An equipment manufacturer in Ben Hill County has a substantial investment in an electrostatic powder painting system. This system is currently operating at about 30 percent efficiency. Assistance has been requested to find ways of increasing the efficiency of the painting system. EES staff personnel have been in contact with the company and work is progressing. This company has been served by EES before so it is believed that the management is satisfied with EES services.

C. Project Summaries

The 34 individual projects which were active during the quarter under the program of management and technical assistance to business, industrial firms, and communities in designated Georgia counties are listed by Economic Development Districts and described on the following pages. These summary descriptions include an identification of each project by number, type, and location; a brief description of the work performed; and a statement of the results achieved. The 30 projects which were still active as of January 31, 1980 are listed under "Ongoing Projects" in each EDD.

CENTRAL SAVANNAH RIVER ECONOMIC DEVELOPMENT DISTRICT

General

The Central Savannah River Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Screven, Taliaferro, Warren and Wilkes. The Growth Centers are Augusta (Richmond County) and Swainsboro (Emanuel County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 830: Assistance to an individual interested in establishing a cold mix asphalt plant in Jefferson County

Nature of Problem: An individual interested in establishing a cold mix asphalt plant in Jefferson County requested EES assistance in documenting the feasibility of such a venture.

Work Performed: EES personnel have conducted an investigation for the company and prepared background information for the company's use.

Results: The project is continuing.

Project 895: Assistance to an aluminum products manufacturer in Emanuel County

Nature of Problem: This firm is engaged in the manufacture and sale of aluminum storm doors, and has recently been acquired by owners/management inexperienced in the business. Assistance is requested in two major areas:

- (1) Analysis of the market for each storm door model produced by the firm. There are presently 18 different models being manufactured, and it is felt that a firm of this size should limit itself to fewer models in order to optimize production efficiency.
- (2) Analysis of the detailed layout of production machinery and assembly operations with recommendations for improvement.

The firm now employs about 25 people. Management feels that limiting the number of models and streamlining production operations can lead to an increase in employment.

Work Performed: Preliminary work for further project development was accomplished.

Results: The project is continuing.

Project 905: Assistance to wooden pallet manufacturing company in McDuffie County

Nature of Problem: The owners of this wooden pallet manufacturing company requested EES assistance in marketing and production. The company desires assistance in the area of marketing to increase its sales volume and diversify its product mix and volume. With regard to production, the owners requested assistance to improve material flow, plant layout, and material handling equipment and techniques.

Work Performed: Members of the EES staff met with the owners and, as a result, provided the company with initial information about the pallet market. Additional information was provided at a later date concerning the market and several possible products for diversification of the company's line. At a subsequent meeting, the impact of the Iranian situation on the company was discussed. The firm also requested assistance in responding to an advertised opportunity for business in a foreign country. EES staff personnel arranged for assistance to the company through the International Division of the Georgia Department of Industry and Trade.

Results: The project is continuing.

Project 924: Assistance to an individual in Richmond County interested in the manufacture of bowling pins

Nature of Problem: The owner of a bowling establishment requested assistance in determining the feasibility of manufacturing bowling pins in his area. The assistance requested includes: (1) analysis of bowling pin construction, (2) identification of required machinery and equipment for manufacture, (3) information concerning capital costs, and (4) estimates of operating costs. If the venture is determined to be feasible and a manufacturing facility is established, it is estimated that 10 persons would be employed.

Work Performed: EES staff personnel obtained bowling pins specifications for the owner and are continuing to develop needed information.

Results: The project is continuing.

Project 938: Assistance to an individual engaged in the amusement business in Wilkes County

Nature of Problem: An individual in Wilkes County who is in the business of selling fish bait is interested in developing a product line of potting soil. EES has been requested to conduct a market survey for the proposed new product line. If the project is successful, it is anticipated that 34 new jobs will be created.

Work Performed: EES personnel have visited with the owner of the company and discussed the possibilities of the new line. Further investigation will be required.

Results: The project is continuing.

Project 941: Assistance to a rubber products manufacturer interested in solving its marketing problems in McDuffie County

Nature of Problem: The owner of a firm that manufactures a variety of rubber products using discarded automobile/truck tires as raw materials has requested assistance in the area of marketing, analysis, production operations, and the location of closer and better organized marketing effort and improved production operations. The firm could increase its employment by 16 to 21 persons.

Work Performed: EES personnel have met with the owner and defined the firm's marketing problems and identified approaches through which EES can best assist in finding solutions. Information is being furnished the company concerning cryogenic freezing for use in separating the rubber from steel belts in the steel belted rubber waste materials. Assistance was provided in locating sheet metal clip supplies and the development of a list of potential customers. EDL staff has furnished additional information on production and marketing of rubber products to the firm.

Results: The project is continuing.

SOUTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The South Georgia Economic Development District consists of 10 counties, all of which are eligible Redevelopment Area counties: Ben Hill, Berrien, Brooks, Cook, Echols, Irwin, Lanier, Lowndes, Tift, and Turner. The Growth Centers are Valdosta (Lowndes County) and Tifton (Tift County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 942: Assistance to a wood products firm in the establishment of a new pallet manufacturing company in Cook County

Nature of Problem: Investors from an established company are exploring the feasibility of starting a pallet manufacturing company in Cook County using solely owned sources for hardwood supplies. Assistance in conducting a market study has been requested.

Work Performed: A conference with the principals was conducted at which time plans for the market study were discussed.

Results: The project is continuing.

Project 943: Assistance to a box manufacturing company in Lowndes County

Nature of Problem: A box manufacturing company in Lowndes County is having a problem in the lack of warehouse space and the need for improved inventory and material handling processes. The company has requested assistance in developing an improved plant layout.

Work Performed: EES personnel have completed an initial plant survey in preparation for the development of a new improved plant layout.

Results: The project is continuing.

Project 944: Assistance to the owner of a manufacturing firm in Lowndes County in developing expansion plans

Nature of Problem: The owner of a firm in Lowndes County is interested in increasing the firm's growth. The owner indicates the need for management assistance in the area of sales and financing.

Work Performed: A detailed interview was conducted with the owner at which goals were established and a brief was formulized.

Results: The project is continuing.

Project 947: Assistance to a recreational vehicle manufacturing firm in Ben Hill County

Nature of Problem: A firm in Ben Hill County is experiencing production difficulties due to plant layout and poor production processes.

Work Performed: EES personnel have visited the plant to determine material flows and required operations. Further assistance will be given.

Results: The project is continuing.

Project 948: Assistance to a manufacturer of irrigation equipment in Ben Hill County

Nature of Problem: A firm in Ben Hill County is manufacturing a new product which involves a new type of electronic control circuit. No one in the area manufactures such a circuit. The company is interested in establishing a manufacturing capability in the area so that the item will be available for use in the company's new product. Assistance has been requested in establishing such a capability in the area.

Work Performed: EES personnel have assisted the company initiate a project setup, draw schematics, and locate sources of supplies. Investigation of sources of controls was undertaken, including cost estimates.

Results: The project is continuing.

Project 851: Assistance to an equipment manufacturer in Ben Hill County

Nature of Problem: This company has a substantial investment in an electrostatic powder painting system. This system is currently operating at about 30 percent efficiency. Assistance has been requested to find ways for improving the efficiency of the system.

Work Performed: EES personnel are in communication with the company and will furnish assistance.

Results: The project is continuing.

GEORGIA MOUNTAINS ECONOMIC DEVELOPMENT DISTRICT

General

The Georgia Mountains Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, and White. The Growth Centers are Gainesville (Hall County) and Toccoa (Stephens County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

HEART OF GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Heart of Georgia Economic Development District consists of nine counties, all of which are eligible Redevelopment Area counties: Bleckley, Dodge, Laurens, Montgomery, Pulaski, Telfair, Treutlen, Wheeler, and Wilcox. The Growth Center is Dublin/East Dublin (Laurens County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

NORTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Northeast Georgia Economic Development District consists of 10 counties, all of which are eligible Redevelopment Area counties: Barrow, Clarke, Elbert, Greene, Jackson, Madison, Morgan, Oconee, Oglethorpe, and Walton. The Growth Center is Athens (Clarke County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

OCONEE AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Oconee Area Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Baldwin, Hancock, Jasper, Johnson, Putnam, Washington, and Wilkinson. The Growth Center is Milledgeville (Baldwin County).

Discontinued Projects

None

Ongoing Projects

There are no projects currently under way in this area.

SOUTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southeast Georgia Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Atkinson, Bacon, Brantley, Charlton, Clinch, Coffee, Pierce, and Ware. The Growth Center is Waycross (Ware County).

Discontinued Projects

None

Ongoing Projects

There are now two projects under way in this area.

Project 913: Assistance to a rebuilder of railroad cars in Ware County

Nature of Problem: A company in Ware County is interested in expanding its market and establishing a second plant in Atkinson County. As part of its expansion plan, the company has requested assistance in the development of a promotional brochure.

Work Performed: Initially, the company principal requested assistance in preparing a promotional brochure. Photographs were taken and work on the brochure was undertaken. Subsequently, assistance was requested and furnished in the matter of heating a paint room and a paint coating system for rail cars. Also assistance was furnished in the matter of locating sources of investment capital for development financing.

Results: The project is continuing.

Project 945: Assistance to a poultry concern in Coffee County

Nature of Problem: A concern involved as a distributor of diversified agriculture equipment is having problems in obtaining supplies from out of state at reasonable cost and supply availability. The company is interested in manufacturing some items locally and has requested assistance in determining the feasibility of local manufacturing.

Work Performed: EES personnel have assisted the company in developing drawings of some equipment parts and in selecting potential vendors. Follow-up information was furnished the company. Management is now considering alternatives.

Results: The project is continuing.

SOUTHWEST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southwest Georgia Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Baker, Calhoun, Colquitt, Decatur, Dougherty, Grady, Lee, Miller, Mitchell, Seminole, Terrell, Thomas, and Worth. The Growth Centers are Albany (Dougherty County) and Bainbridge (Decatur County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 826: Assistance to an automobile component manufacturer in Dougherty County

Nature of Problem: This newly established manufacturer of an automobile fuel economizer device requested EES assistance in locating sources of supply for component parts of the product.

Work Performed: The EES staff made follow-up contact with the firm. The manufacturer has now located a supplier for most of the needed component parts, but continues to need help in locating rubber hoses and associated parts. The specifications for these hoses and parts have been obtained from the company. The firm appears to be having outstanding success in the sales of its products. It is anticipated that further assistance will be required in plant and production facilities in the near future.

Results: The project is continuing.

Project 880: Assistance to an agricultural equipment manufacturer in Thomas County

Nature of Problem: This firm recently acquired a 60,000-square-foot manufacturing building and requested EES assistance with several problem areas in the start-up of production of irrigation equipment.

Work Performed: The EES staff completed work on a system for metal preparation and coating for the company. Work was initiated on the development of a management information system for use with materials and labor scheduling and for effective cost control and analysis. The EES staff member made a return visit to the firm and determined that work on metal preparation and coating was progressing well. Work is also proceeding to provide the firm with information on newer manufacturing equipment and the production of rigid hoses. These requirements have been discussed with management.

Results: The project is continuing.

Project 922: Assistance to a firm in Mitchell County that manufactures automotive equipment

Nature of Problem: A concern in Mitchell County initially requested assistance in obtaining information relating to company procedures in the event of a union election. Subsequently, company management requested information about and assistance in the development and manufacturing of new products.

Work Performed: EES personnel met with management and arranged for the company to receive necessary information relating to union matters. Technical information and advice was also furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading docks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant. Work is continuing on system design for the production line.

Results: The project is continuing.

Project 923: Request by manufacturer of farm machinery in Dougherty County for assistance in patents and trademarks procedures

Nature of Problem: A manufacturer of farm machinery has requested assistance concerning the processing of their product and matters relating to patents and trademarks.

Work Performed: A meeting with the project engineer of the firm was arranged by an EES staff member. The U.S. Department of Commerce's Patents and Trademark Division was requested to provide information concerning patent classification and sub-classifications and appropriate forms. The EES staff member conducted a literature search relative to peanut blanching patents at the Georgia Tech Library. The company also identified certain vibration problems it was having with some of its equipment. EES personnel visited the plant, made measurements, and offered a solution which would eliminate the vibration problem. Technical assistance is continuing to be furnished as relates to industrial engineering.

Results: The project is continuing.

Project 930: Assistance to an individual in Dougherty County for toothpaste market information

Nature of Problem: An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line.

Work Performed: EES staff personnel have met the individual to discuss the possibility of conducting market research in connection with the new product line.

Results: The project is continuing.

Project 946: Assistance to a company in Colquitt County interested in locating a source of forging operations

Nature of Problem: The owner of a company has requested assistance in locating a Georgia source for both forging and salt bath quenching operations.

Work Performed: EES personnel have located the source for forging operations and are furnishing further assistance to the company.

Results: The project is continuing.

MIDDLE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Flint Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Crisp, Dooly, Macon, Marion, Schley, Sumter, Taylor, and Webster. The Growth Center is Americus (Sumter County).

Discontinued Projects

None

Ongoing Projects

There are two projects under way in this area.

Project 932: Assistance to an irrigation equipment manufacturing company in Crisp County

Nature of Problem: An irrigation equipment manufacturing company in Crisp County requested assistance in the redesign of certain items of equipment manufactured by the company.

Work Performed: EES personnel met with the owner of the company and made an initial analysis of the problem and determined that assistance would be required in the area of mechanical and electromechanical engineering. Further investigations are under way.

Results: The project is continuing.

Project 934: Assistance to a company in Schley County in the development of a new production layout

Nature of Problem: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout and needs to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout.

Work Performed: EES personnel have met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company. Technical discussions are under way concerning the laminating of plastics.

Results: The project is continuing.

CHATTAHOOCHEE-FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Chattahoochee-Flint Economic Development District consists of nine counties, of which three are eligible Redevelopment Area counties: Heard, Meriwether, and Pike. The Growth Centers are Carrollton (Carroll County) and LaGrange (Troup County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

COASTAL AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Coastal Area Economic Development District consists of six counties, all of which are eligible Redevelopment Area counties: Bryan, Camden, Glynn, Liberty, Long, and McIntosh. The Growth Centers are Brunswick (Glynn County) and Hinesville (Liberty County).

Discontinued Projects

During the period, one project was discontinued in this area.

Project 915: Assistance to a new venture in metal reclaiming in Glynn County

Nature of Problem: A company requested assistance in the planning and preparation of financial data for the establishment of a metal reclaiming plant. The plant will be designed to produce zinc, ammonium chloride and various metals from industrial by-products.

Work Performed: A meeting was held with the principal to discuss the type of assistance needed and the design of an action plan. Samples of new ventures studies were supplied. Assistance was provided in investigating sources of financing for a feasibility study for a new plant in Claxton. Sources of funds could not be located. Further assistance at this time is not required.

Results: The project is closed.

Ongoing Projects

There are no projects currently under way in this area.

LOWER CHATTAHOOCHEE ECONOMIC DEVELOPMENT DISTRICT

General

The Lower Chattahoochee Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Chattahoochee, Clay, Early, Muscogee, Quitman, Randolph, and Stewart. The Growth Center is Columbus (Muscogee County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

PROJECTS OUTSIDE OF ECONOMIC DEVELOPMENT DISTRICTS

General

During the period ten projects were active in counties outside of the Economic Development Districts.

Discontinued Projects

During the period, three projects were discontinued in this area.

Project 903: Assistance to a metal fabricating and machine company in Appling County

Nature of Problem: The owner of a small general machine shop and fabrication business believes that it has reached its potential operating volume due to the limited size of the market and local competitors. To further expand the business, he requested assistance in developing a special product line of industrial services which will permit him to extend his market area. Plant layout and a cleaning process information were also requested.

Work Performed: Members of the EES staff met with the owner of the company and discussed plans for selecting potential products or services to be investigated. Assistance was provided on metal cleaning and painting operations, and plant layout for a plant expansion. Further assistance to this company will be provided under a sponsored contract.

Results: The project is closed.

Project 935: Assistance to a manufacturing firm in Whitfield County

Nature of Problem: A manufacturing firm in Whitfield County requested assistance in determining an optimal way to lay out a planned expansion of its manufacturing facilities. The expansion will add 27,500 square feet to the existing facility and improve material flow and handling. Twenty-four (24) new employees are expected to be employed as a result of the planned expansion. This concern received assistance from EES when it was started. It now employs 140 persons.

Work Performed: EES personnel consulted with the firm's Vice President and visited the plant to collect information. Assistance was specifically requested for plant layout information with respect to a proposed expansion. A second visit to the plant was made at which time a 27,500 square-foot expansion was discussed with the possibility of 24 new employees. Management's new plans were reviewed by EES personnel, and two plant layouts and material handling drawings were prepared and furnished the company. Subsequently, a contract was let for the 27,500 square foot expansion. Further assistance is not needed at this time.

Results: The project is closed.

Project 937: Assistance to a solar heating manufacturer in Floyd County

Nature of Problem: An individual in Floyd County set up a small company to manufacture solar water heaters. The company has four full-time employees. Assistance has been requested on manufacturing operations and marketing strategies.

Work Performed: EES personnel visited the principal of the company and discussed marketing strategies and the company's growth potential. At the suggestion of EES advisors, the company has decided to concentrate on the commercial market. A letter/questionnaire was prepared for the company to be mailed to prospects. Assistance was also requested in the design for a water heater that would resist the effects of galvanic action between copper and zinc to be used in construction of the tank. Assistance was obtained from the Chemical Engineering Department of Georgia Tech. Subsequently, assistance was furnished the company on certification of collectors so bids could be made to federal agencies. Further assistance is not required at this time.

Results: The project is closed.

Ongoing Projects

There are now eight projects currently under way in this area.

Project 927: Assistance to an agricultural concern in Evans County

Nature of Problem: An egg processing plant in Evans County audit controls several units which produce the eggs for processing. The company wants to install a mini-computer to replace posting machines and manual systems for maintaining records on feed, replacement birds, and medicine.

Work Performed: EES personnel visited the company and discussed company goals and operations as they apply to automatic data processing. Investigations have commenced concerning hardware and software packages that might be used by the company. Software packages were reviewed together with needs for programs, space, file size and operation.

Results: The project is continuing.

Project 929: Assistance to a local government in DeKalb County shopping district revitalization

Nature of Problem: An area within the City of Decatur, Georgia, which has a relatively large minority population has suffered from blight and out-migration of business. The city and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC), which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the center area.

Work Performed: EES personnel have met with the principal, who is Director of Economic Development for the CDC, and have examined approaches that can be undertaken to solve the problem.

Results: The project is continuing.

Project 931: Assistance to an individual in Coweta County interested in investigating the feasibility of purchasing and reopening a meat processing plant

Nature of Problem: An individual in Coweta County is interested in investigating the feasibility of purchasing and reopening a meat processing plant. The plant and equipment was in operation but was closed because of the death of the owner. The owners of the business are willing to sell, since they are not interested in operating the facility. EES has been asked to evaluate the company and its potential to be a profitable business.

Work Performed: EES personnel have contacted the interested individual and will initiate a work program in the near future.

Results: The project is continuing.

Project 936: Assistance to a textile concern in Monroe County

Nature of Problem: This company is having some mechanical problems with its equipment, and there is a need to reduce the noise level produced by certain equipment. The company desires recommendations from a design standpoint which will lower the noise level of existing equipment to acceptable levels or information showing that it is not feasible to undertake a retrofit of the equipment.

Work Performed: Company officials have been contacted and a work plan is being developed.

Results: The project is continuing.

Project 939: Assistance to a community development agency in DeKalb County

Nature of Problem: A community development agency in DeKalb County has requested assistance in efforts to revitalize the commercial business district in Decatur.

Work Performed: EES personnel have been in communication with the agency and plans are being made to further investigate the possibility of EES assistance.

Results: The project is continuing.

Project 940: Assistance to a paper products company for diversification of its operations

Nature of Problem: A minority owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and development of a business plan to go into institutionalized distribution of paper and related products.

Work Performed: EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company. Assistance has been furnished in developing capital requirements and in locating warehouse space. The company is being incorporated and plans to be in operation in January 1980.

Results: The project is continuing.

Project 949: Assistance to a dairy concern in Bulloch County which is experiencing transient electric voltage problems

Nature of Problem: The electrical shocking of dairy cows by transient voltages has resulted in severe losses in milk production for a dairy farm in Bulloch County. The problem has existed since about 1973, but has become critical during the last two years. Steps need to be taken to prevent shocking of cows in the dairy barn areas. Steps recommended by other organizations have not produced satisfactory results.

Work Performed: A staff member visited the dairy and obtained background information on the problem. Further information is being obtained to determine the reason for the transient voltages and to seek alternative solutions to the problem. Data on area and state milk production were furnished the dairy together with production data from the shock areas. Electrical protection devices were discussed with the manager. Atkins' production rates were compared with data from two dairy associations. Preparations were made to check neutral to ground voltages at the dairy barn.

Results: The project is continuing.

Project 850: Assistance to an aquarium manufacturer in Cherokee County

Nature of Problem: The owner of an aquarium manufacturing company is seeking to diversify his product line to offset losses due to the decline in sales of aquariums. The owner has proposed a new product line and has requested that the merits of the line be evaluated.

Work Performed: An EDL staff assistant has visited the plant to gather information for the basis of a determination of the need for a market study.

Results: The project is continuing.

V. EVALUATION OF PROGRAM

In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of further reviewing existing projects and eliminating those that did not appear to justify further effort and searching out new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 3 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition, 4 projects were completed and closed out, leaving 30 active projects at the end of the quarter.

Conclusions regarding the overall impact of this program must be based upon a collective evaluation of the individual projects and their respective results. This evaluation should include not only a recognition of the fact that a deliberate attempt has been made to state the significance of EDL efforts in realistic terms, but also a consideration of the following special points concerning the results reported:

1. In many cases, the contributions of EDL staff personnel were major factors in management decisions to act or not to act on a specific plan of development. This was particularly true in those cases involving the development of new ventures.
2. In some situations, the end result would have been the same regardless of EDL participation. In such cases, EDL staff personnel helped to facilitate the achievement of an already determined goal.
3. In certain projects, EDL staff personnel filled a negative role by determining that a proposed course of action was not economically sound. The project staff felt that such actions, where they were taken, were in the best interests of all parties in the project. It is not enough to provide support for sound proposals; the unsound ones also must be identified.

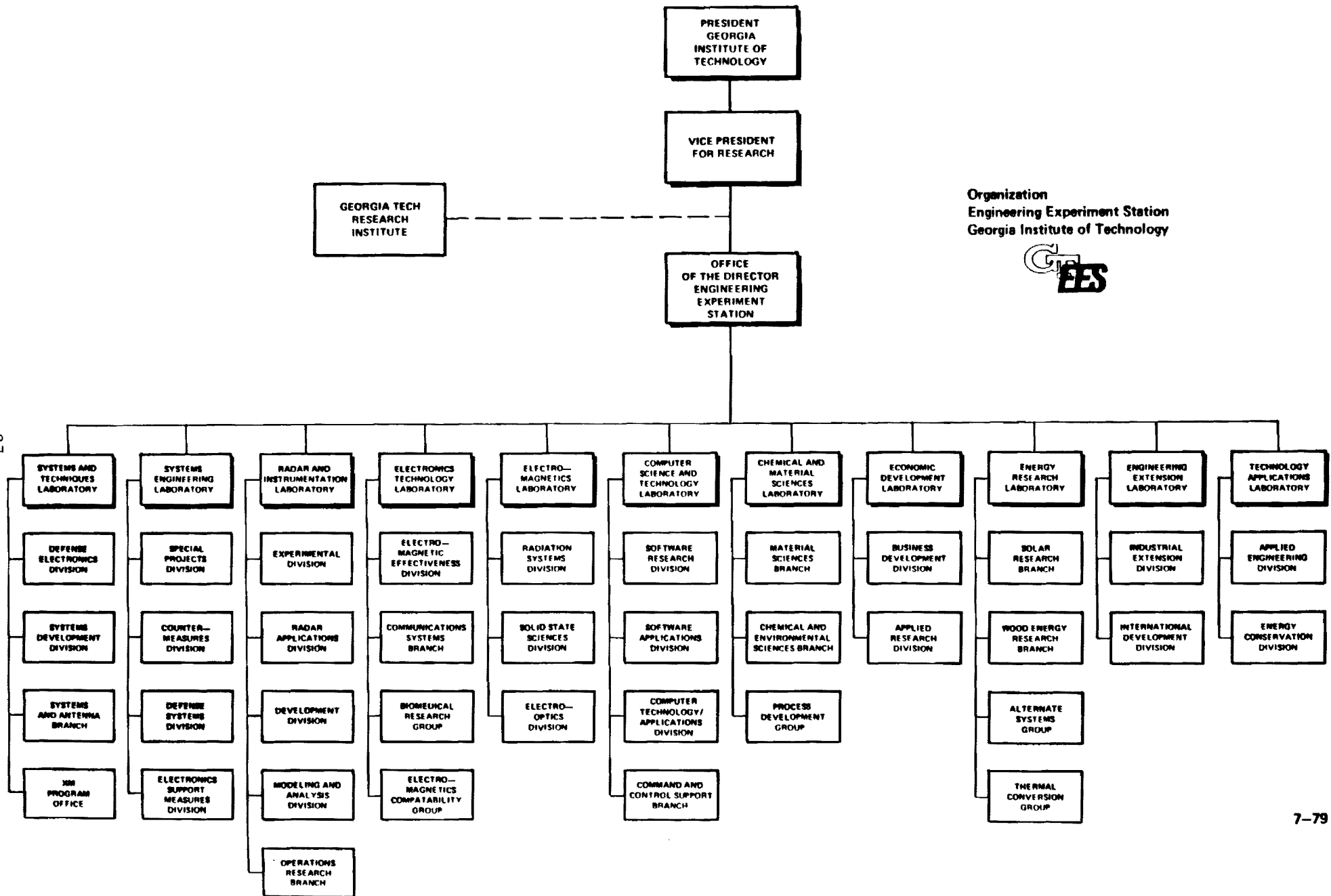
Because of the preceding considerations, it is not practical to attempt to quantify results of this type program solely in terms of jobs created. Further, since it was the first program of its kind in a state-supported university, it is impossible to judge its merit on a comparative basis. It is necessary, therefore, to evaluate the program by empirical means. Several observations indicate that the management and technical assistance program to business and industry in Georgia has been beneficial:

1. After a modest start, the program has grown both in quantity of projects and in the comprehensiveness of the assistance offered. The program has been well received throughout Georgia and is being supported by the firms that have been assisted.
2. Consultants of all types have been kept apprised of Georgia Tech's management and technical assistance efforts and have worked in conjunction with EDL to further the program. All parties concerned seem to feel that the program is mutually beneficial.

3. Success of the original program has led to expansion of the project by the U.S. Department of Commerce's Economic Development Administration in Georgia and initiation of comparable programs by agencies in other states.
4. As a result of previous M & TA experience, EDL personnel provided counsel to the federal government in an effort to bridge the gap between the accumulated findings of governmental, education, and private research and the information needs of business and industry. This counsel eventually resulted in the passing of the State Technical Services Act of 1965.

EXHIBITS

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Organization
Engineering Experiment Station
Georgia Institute of Technology



Exhibit 1

Exhibit 2

ECONOMIC DEVELOPMENT LABORATORY

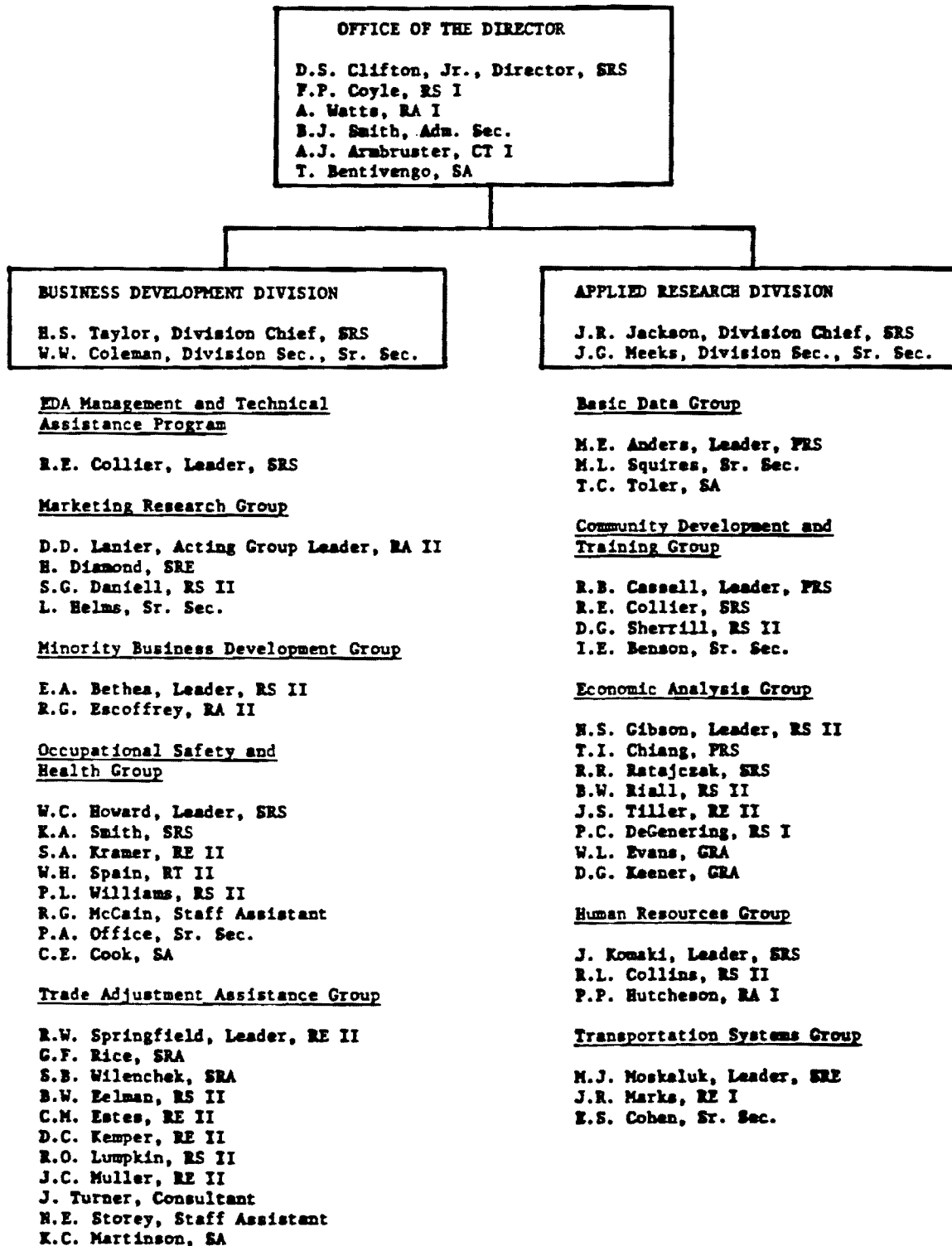


Exhibit 3
BIOGRAPHICAL SKETCHES

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

BETHEA, EDWIN A.--Research Scientist, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

B.S., Knoxville College	1953
M.S.W., Howard University	1962
Certificate of Completion, Howard University's Small Business Guidance Center	1969
Certificate of Completion, CPM and PERT for Project Managers, Continuing Education Department, Georgia Institute of Technology	1974
Georgia Institute of Technology Basic Industrial Development Continuing Education Course, Certificate of Completion	1976
Emory University How to Start and Manage a Successful Business-- Continuing Education Course, Certificate of Completion	1977

Employment History

District of Columbia, Department of Public Welfare, Caseworker, Child Welfare Division	1962-1965
Far East Community Services, Inc., Community Organizer- Youth Community Organizer	1965-1966
United Planning Organization, Community Organization Specialist (training officer), Economic Development Specialist	1966-1968
Youth Enterprises, Inc., Executive Director	1968-1970
Consultant Employers Office of Economic Opportunity; Manpower Assistance Project Inc.; University Research Corp.; Xerox Corp- oration; Commerce Department, Economic Development Administration	1969-1970
Volunteers for International Technical Assistance, Director-Washington, D.C.; Director-East Central Regional Office	1970-1972
Georgia Institute of Technology Research Scientist	1972-Present

Experience Summary: Directed a regional office for technical assistance that provided services to minority and economically disadvantaged groups in mid Atlantic region; this entailed establishing, structuring, and supervising new program offices in several states within the region. Program developer for minority economic ventures and community development project; the responsibilities included establishing a working relationship with community groups, federal, state and local government agencies, and/or

Experience Summary (continued): private agencies whose interests were similar. Organized and managed a minority firm for the purpose of establishing "spin-off" business ventures and the training of minority entrepreneurs. Managed and developed programs aimed toward helping groups initiate and implement economic and social changes in their community such as employment practices, bureaucratic procedures, etc. Assisted quasi government and government department directors in community planning. Developed and directed programs relating to youth activities in the areas of training, proposal development, community improvement and change and economic developments.

Current Fields of Interest

Minority business development, industrial and community development, manpower management and motivation, transportation and new economic systems.

Major Reports and Publications

1. "South Georgia Crafts - Study of Markets in Georgia, Product Quality and Management Structure," Georgia Tech Report, 1972
2. "Survey of Georgia Minority Business," Georgia Tech Report, 1973, co-author
3. "Market Study for Sea Island Handicraft Cooperative," Georgia Tech Report, 1973
4. "Feasibility Study for Skating Rink in Columbus, Ga.," Georgia Tech Report, coauthor, 1975
5. "A National Cultural Center at Tuskegee, Alabama. (A feasibility study)," Georgia Tech Report, 1975
6. "Market Study for Westgate Hardware Store," Georgia Tech Report, 1976
7. "Final Report on Technical Assistance to Selected Community Action Agencies in Georgia," Georgia Tech Report, 1976
8. A Directory and Survey of Minority-Owned Business in the State of Georgia with Pond Employees, Georgia Tech Report, 1977, co-author
9. "Research and Demonstration Project" - Regional Office of Minority Business Enterprise = Quarterly Reports. June 1977 and October 1977. Georgia Tech Report 1977

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

CLIFTON, DAVID S., Jr.-Director, Economic Development Laboratory
Engineering Experiment Station

Education

B.I.E., Georgia Institute of Technology	1966
M.B.A. in Economics, Georgia State University	1970
Ph.D. Candidate in Economics, Georgia State University (all but dissertation completed)	

Employment History

Lockheed-Georgia Company	
Associate Customer Facilities Engineer	1966-1969
Customer Facilities Engineer	1969-1970
Georgia Institute of Technology	
Assistant Research Economist	1970-1973
Research Scientist	1973-1977
Senior Research Scientist	1977-Present
Head, Industrial Economics Section, IDD, EDL, EES	1974-1977
Manager, Economic Research, IDD, EDL, EES	1977-1978
Chief, Economic Development Division, TDL, EES	1977-1979
Director, Economic Development Laboratory, EES	1979-Present

Experience Summary: Gathered data, made preparatory investigations, analyzed and arrived at solutions for customer facilities problems. Provided technical assistance in planning and design of new construction or major alternations of customer facilities. Completed economic feasibility studies for prospective aircraft customers. Georgia Tech assignment involves industry feasibility studies; regression analysis; product/market studies; transportation studies; economic impact studies; domestic/international training; and proposal development/project management; energy alternatives; and energy food plantation concepts.

Current Fields of Interest

Market analysis; economic feasibility studies; international trade; energy research; technology assessment; basic research in economic and industrial development; research management.

Major Reports and Publications

1. "Long Cycles in Residential Construction," unpublished report in M.B.A. program, Georgia State University, December 1969.
2. "The Market for Boxboard Containers for the Coastal Plain Region of Georgia," EDA Report, May 1970.
3. "The Southeastern Modular Housing Market," EDA Report, May 1970.
4. "The Calico Scallop Market," EDA Report, June 1970.
5. "The Southeastern Market for Plastic Bathroom Fixtures in Residential Construction," EDA Report, July 1970.

6. "Georgia Retail Florist Store Sales," EDA Report, September 1970.
7. "Market Survey of Garden Center Buyers," EDA Report, October 1970.
8. "The Potential Impact of Jumbo-Jet Air Cargo Transportation on Georgia," Georgia Tech Report, October 1970, coauthor.
9. "Industrial Air Pollution: Particulate Control Equipment Market," EDA Report, December 1970.
10. "The Market for Leaf Springs," EDA Report, February 1971.
11. "Economic Factors Affecting the Feasibility of Locating a Vegetable Processing Plant in the Vicinity of Americus, Georgia," Georgia Tech Report, May 1971, coauthor.
12. "Carbonized Bark for Briquetting Purposes," Georgia Tech Report, July 1971, coauthor.
13. "A Survey of Selected Users of Spun Sheet Metal in Alabama and Georgia," EDA Report, July 1971.
14. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," Georgia Tech Report, January 1972, coauthor.
15. "Georgia as a Center for Charcoal and Charcoal Briquette Production," Atlanta Economic Review, March 1972, coauthor.
16. "A Survey of Export Proceeds Instability Research with a Report on the Export Proceeds Instability of Colombia," unpublished report in Ph.D. program, Georgia State University, June 1972.
17. Transportation Analysis in "Peanut Processing Opportunities," Southwest Georgia Area Planning and Development Commission Report, June 1972.
18. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," Georgia Tech Report, September 1972, coauthor.
19. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," Georgia Tech Report, January 1973, coauthor.
20. "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," Georgia Tech Report, March 1973, coauthor.
21. "A Survey of Empirical Evidence of the Heckscher-Ohlin Theory of International Trade," unpublished report in Ph.D. program, Georgia State University, April 1973.
22. "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," Georgia Tech Report, May 1973, coauthor.
23. "Georgia Employment and Population Projections with Special Reference to Water-Using Industries," Georgia Tech Report, July 1973, coauthor.
24. "The Little-Mirrlees Cost-Benefit Method for Industrial Project Analysis in Developing Countries," unpublished report in Ph.D. program, Georgia State University, August 1973.
25. "Economic Development Approaches for the Southeast," Georgia Tech Report, November 1973, editor.
26. "The Economic Impact of Georgia's Deepwater Ports," Georgia Tech Report, December 1973, coauthor.
27. "Southeastern Trends of Selected Industries," Georgia Tech Report, April 1974, coauthor.
28. "An Analysis of Merchandising Methods for Eggs," Georgia Tech Report, June 1974.
29. "A Productivity Program for the Engineering Experiment Station," Georgia Tech Report, November 1974, coauthor.
30. "Economic Data Relative to the Central Georgia Steam Plant," Georgia Tech Report, February 14, 1975, coauthor.

31. "A Training Program on the Analysis and Evaluation of Industrial Projects," Georgia Tech Report, June 1975, coauthor.
32. "A Program to Assist Business and Industry in Coping with the Energy Crisis," Georgia Tech Report, September 1975, coauthor.
33. "Energy in Georgia, Uses, Program Needs, Policy and Recommendations," prepared by State Energy Office and Georgia Tech, December 1975, coauthor.
34. "Impact of the Engineering Experiment Station on the Economy of Georgia, Fiscal Years 1973 and 1974," Georgia Tech Report, February 1976, coauthor.
35. "Baseline Energy Data System: Methodology," Volume 1, Georgia State Energy Office, June 1976, coauthor.
36. "Baseline Energy Data System: Data Base 1973," Volume 2, Georgia State Energy Office, June 1976, coauthor.
37. "Baseline Energy Data System: Energy Supply Network," Volume 3, Georgia State Energy Office, June 1976, coauthor.
38. "Baseline energy Data System: Energy Indicators," Volume 4, Georgia State Energy Office, June 1976.
39. "Market Information System for Vada Builders, Inc.," Georgia Tech Report, November 1976, coauthor.
40. PROJECT FEASIBILITY ANALYSIS: A Guide to Profitable New Ventures, John Wiley & Sons, Inc., April 1977, coauthor.
41. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
42. "The Industrial City: Executive Summary," Volume 1, Georgia Tech Report, December 1977, coauthor.
43. "The Industrial City: Concept and Design," Volume 2, Georgia Tech Report, December 1977, coauthor.
44. "The Potential for Industrial Development In the Industrial City Region," Volume 3, Georgia Tech Report, December 1977, coauthor.
45. "A Design for a Venture Opportunities Information System," Atlanta Regional Office of Minority Business Enterprise, August 1978, coauthor.
46. "Regional Forums on Appropriate Technology," National Science Foundation, February 1979, coauthor.
47. "Market Potentials of Wood Fuel in the Southeast," Georgia Tech Report, June 1979, coauthor.

Papers and Presentations

1. "Analysis and Evaluation of Industrial Projects," presented at the Institute for Small-Scale Industries, University of the Philippines, June 23-27, 1975, Manila.
2. "Project Feasibility Analysis," presented at the Instituto de Administracion Cientifica de las Empresas, August 10-12, 1978, Mexico City.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

COLLIER, ROBERT E.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.S., Texas Agricultural and Mechanical University	1939
M.S., The George Washington University	1966

Employment History

Sears Robuck & Company, El Paso, Management Training	1939
U. S. Marine Corps, General Duty Officer	1940-1966
Spindletop Research Center, Inc., Director, Training Services	1971-1972
Georgia Institute of Technology	
Research Scientist	1966-1970
Head, Economic Development Training Section, IDD-EES	1968-1970
Senior Research Scientist	1972-Present

Experience Summary: While on active duty with the Marine Corps, performed a variety of line and staff assignments involving administration, education, training, and logistics. As Research Scientist in the Management and Technical Assistance Section, IDD-EES, furnished management guidance and technical assistance to prospective and established business and industrial firms; also provided assistance in establishing sound new business ventures which utilize local resources and manpower. As head of the Economic Development Training Section, IDD-EES, developed handbooks, manuals, lesson plans, visual presentations and other materials for industrial and economic development training; also conducted training courses in the principles and techniques of industrial, economic and community development under sponsorship of the Economic Development Administration and the Small Business Administration. As Director, Training Services, National Area Development Institute, Spindletop Research, Inc., planned and conducted seminars and workshops for professionals and local leaders involved in area development activities. Courses were directed to the needs of individuals from economic development districts, community action agencies, governmental agencies, business organizations, farm organizations, utilities, cooperatives, public agencies and universities who were involved in area development programs. As Senior Research Scientist, Community Development Branch, IDD-EES, participated in training programs and conducted community development research projects. As head of Education and Training Branch, is responsible for the development and conduct of laboratory training activities.

Current Fields of Interest

Management theory and practice, public administration, management information systems, economic development training, public technology, and inter-governmental operations.

Major Reports and Publications

1. "Site Relocation Guide for Georgia Retail Business, Industrial Series No. 2," Georgia Tech Report, April 1967.
2. "Internship Program in Regional Economic Development," A Training Program Prepared for the Economic Development Administration under Contract C-239-62L Neg., 1967.
3. "Final Report: Training Program in Economic Development, April 1, 1968-March 31, 1969," Economic Development Administration Contract No. OER-208-G-68-3, May 1969.
4. "Final Report: Development of a Community Development Training Program for the Small Business Administration, June 19, 1968-July 1, 1969," Small Business Administration Contract No. 1474-FA-68, July 1969.
5. "Final Report: Training Programs in Economic Development, April 1, 1969-March 31, 1970," Economic Development Administration Contract No. OER-208-G-69-2, May 1970.
6. "Advanced Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
7. "Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
8. "Industrial Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
9. "Basic Economic Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
10. "Training Program for Planning and Development Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
11. "Training Program for Staff Information Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970, coauthor.
12. "Exploring the Dimensions of Area Development," The National Area Development Institute Special Seminar Sponsored under a Ford Foundation Program, 1971.
13. "Final Report: Leadership Training Programs in Selected Georgia Communities, May 31, 1972-September 30, 1973," Coastal Plains Regional Commission Contract No. 10240033, September 1973, coauthor.
14. "Economic Development Approaches for the Southeast," A Study Prepared for the Economic Development Administration under Grant No. 04-6-09029-6, 1973, coauthor.
15. "Final Report: Leadership Training Programs in Selected Georgia Communities," Coastal Planning Regional Commission Contract No. 10040037, 1975, coauthor.
16. "Guidelines for Industrial Extension Personnel," Prepared under AID Grant No. AID/CM/TA/G-73-18, 1974, editor.
17. "Analysis and Evaluation of Industrial Projects," A Seminar with Text Prepared under AID Grant No. AID/CM/TA/G-73-18, 1975, coauthor.

Major Reports and Publications (continued)

18. "Guidelines for an Energy Audit and an Energy Impact Statement," prepared under HUD Grant CPA-GA-04-06-1056, June 1976, coauthor.
19. "Final Report: Substate Energy Management," prepared under contract with the Georgia State Energy Office, February 15, 1976, coauthor.
20. "Final Report: Planning for the Interorganizational Networking of a State Economic Development Council," Prepared under contract with the Office of Economic Research, Economic Development Administration under Grant No. OER-577-G-77-22 1977.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

DIAMOND, HARVEY--Senior Research Engineer, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

St. Johns University	1941-1942
B.S. in Textile Engineering, North Carolina State College	1942-1946

Employment History

Cohn-Hall-Marx, Converter and Assistant Designer	1946-1947
American Woolen Company, Designer and Assistant Buyer	1947-1950
Dux Mixture Hardware Company, Partner	1950-1960
Georgia Institute of Technology	
Assistant Research Engineer	1960-1965
Research Engineer	1965-1967
Senior Research Engineer	1967-Present

Experience Summary: Economic feasibility studies; plant location analyses; market research to identify manufacturing and nonmanufacturing business opportunities; raw materials and intermediate products availability studies; marketing strategies; purchasing and marketing development and procedures; evaluation of export markets; small-scale industry entrepreneurship; liaison with prospects on industrial location possibilities; evaluation and development of area resources; transportation studies; management and technical assistance to prospective and established business; product diversification studies; manpower resources; industrial economic analyses; purchasing and marketing of hardware, wholesale and retail; textile designing; textile converting. Coeditor of monthly metalworking bulletin.

Current Fields of Interest

Market analyses; plant location criteria; economic feasibility analyses; import-export potentials; small-scale industries.

Major Reports and Publications

1. "Studies of Selected Industries in the Southeast River Basins: Textiles," Georgia Tech Report, March 1961, coauthor. '
2. "Plumbing Fixture Fittings: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, June 1962.
3. "Strengths and Weaknesses of Atlanta's Metalworking Industry," Georgia Tech Report, August 1962.
4. "Pipe Fittings and Valves: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, September 1962.
5. "Flat Glass: A Manufacturing Opportunity in Georgia," Georgia Tech Report, June 1963.
6. "Glass Wool Insulation: A Manufacturing Opportunity in Georgia," Georgia Tech Report, September 1964.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

DANIELL, SALLIE G.--Research Scientist
Economic Development Laboratory
Engineering Experiment Station

Education

B.S., University of Alabama	1966
M.Ln., Emory University	1973

Employment History

Texas Instruments, Engineering Clerk	1966-1967
Pizitz Department Store, Assistant Buyer	1967-1968
American National Red Cross, Recreation Aide, South Vietnam	1968-1969
Kitchins Department Store, Sales Clerk and Artist	1970-1971
Atlanta Public Library, Pre-Librarian	1971-1972
Georgia Institute of Technology	
Assistant Research Scientist (hourly)	1972-1973
Assistant Research Scientist	1973-1977
Research Scientist	1977-Present
Metrics, Inc., Research Analyst (Consulting)	1977-Present

Experience Summary: At Georgia Tech, work has involved literature searches; collecting, indexing, cataloging, and retrieval of data and materials; preparation of methodologies; assimilation and dissemination of data for economic studies; conducting surveys and market analyses. As a practicing librarian, work has been in the area of informational services, including considerable work with government documents.

Current Fields of Interest

Business administration including marketing, economics, and management; and library science including organization, retrieval, and dissemination of information.

Major Reports and Publications

1. "Marketing of the Public Library," unpublished report in M.Ln. program, Division of Librarianship, Emory University, July 1972.
2. "Directory of Scientific Resources in Georgia, 1973-1974," Fourth Edition, Georgia Tech Report, March 1974, coauthor.
3. "Baseline Energy Data System: Methodology," Georgia Tech Report, June 1976, coauthor.
4. "Baseline Energy Data System: Data Base 1973," Georgia Tech Report, June 1976, coauthor.
5. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
6. "The Industrial City: Executive Summary," Georgia Tech Report, December 1977, coauthor.
7. "The Industrial City: Concepts and Design," Georgia Tech Report, December 1977, coauthor.

Major Reports and Publications (cont'd)

8. "The Potential for Industrial Development in the Industrial City Region," Georgia Tech Report, December 1977, coauthor.
9. "An Economic Definition of the Nuclear Industry," Metrics, Inc. Report, April 1978, coauthor.
10. "Directory of Public Service Resources and Interests for Local Governments Available from Georgia Institute of Technology," Inter-University Task Force Report, June 1978.
11. "A Design for a Venture Opportunities Information System," Georgia Tech Report, August 1978, coauthor.
12. "A Demonstration Project to Establish a Technology Delivery System for Small and Medium-Sized Firms," Georgia Tech Report, February 1979, coauthor.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

EDENS, LARRY R. -- Head, Savannah Area Office, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.Ch.E., Georgia Institute of Technology	1963
M.B.A., Armstrong State College	1976

Employment History

Research Cottrell, Inc., Engineering Assistant	1962
U. S. Army, Chemical Officer	1963-1965
E. I. du Pont de Nemours and Company, Inc., Process Engineer	1963-1967
Union Camp Corporation, Process Development Engineer	1967-1970
Gilman Paper Company, Process Control Group Leader	1970-1973
Georgia Institute of Technology	
Research Engineer	1973-Present
Head, Savannah Area Office, TDL/EES	1973-Present

Experience Summary: Conducted efficiency tests on electrostatic precipitation equipment. Worked on continuous, coupled-process nylon production, including development projects, cost studies, quality control, plant start-up, and general assistance to manufacturing sections. Was engaged in pilot plant design and operation and preliminary plant design for pulp mill by-product chemicals. Conducted and supervised process engineering studies for an integrated pulp and paper mill and supervised routine process control testing. Made statistical analyses of process and operating variables; conducted cost and capital budget justification studies. Work at Georgia Tech involves providing managerial and technical assistance to small industries including technical, marketing and financial analysis of new ventures and plant expansions, advising local communities on activities related to industrial and economic growth, and soliciting and conducting sponsored industrial and economic development studies.

urrent Fields of Interest

Industrial development and chemical processing.

ajor Reports and Publications

1. "The Economic Impact of Georgia's Deepwater Ports," Final Report on Project A-1565, December 1973, with D. S. Clifton
2. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," Final Report on Project A-1676, March 1975, with W. C. Howard and J. L. Lewis
3. "A Study of Economic Growth Indicators on Brantley, Camden, Glynn, Long and Wayne Counties, Georgia, 1965-1974," March 1975
4. "An Address Numbering Plan for the City of Hinesville," Final Report on Project A-1774, January 1976
5. "The Economic Impact of the Georgia Deepwater Ports," Georgia Tech Report, August 1977, with N. S. Gibson
6. "A Report of Title IX Implementation Assistance Provided to Motel Owners Located on U. S. Highway 301 in Georgia," Georgia Tech Report, December 1977, with W. C. Howard

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

EELMAN, BRUCE W. -- Research Scientist

Education

B.S. Applied Mathematics, Georgia Institute of Technology	1971
M.B.A., University of West Florida	1978

Employment History

Monsanto Textiles Company	
Quality Control Engineer	1971-1974
Process Control Engineer	1974-1977
Senior Process Control Engineer	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Initial work at Monsanto in Quality Control entailed responsibility for the establishment of statistical sampling procedures, development of quality monitoring methods and procedures, development of equipment reliability testing methods, correlation of customer feedback and internal indices for development of internal control criteria and optimization of sampling procedures using cost vs. benefit approaches. Process control duties entailed routine process control of melt spun nylon yarns including mass and quality yields, productivity increases, development of operating procedures and cost standards, process improvement and optimization, experimental design and analysis and trouble shooting internal and customer quality problems. Additional responsibilities included testing and installation of new process equipment, new process development in response to customer requirements, process flow charts and layouts, economic analysis of various alternative projects, feasibility studies and project planning.

Current Fields of Interest

Use of statistical techniques for analysis and business decision-making; financial management and analysis; management theory and practice; economic development and business improvement; feasibility studies.

Major Reports and Publications

1. Authored approximately 50 operating instructions for processing nylon apparel yarn at Monsanto Textiles Company.
2. "Evaluation of Automatic Yarn Inspectors for Tire Yarn Beaming," Monsanto Textiles Company, 1972.
3. "Elimination of Yarn Acceptance Sampling in Tire Yarn Beaming", Monsanto Textiles Company, 1973.
4. "Effects of Segregating Process Reject and Heel and Incomplete Production on Tire Yarn Quality", Monsanto Textile Company, 1974.
5. "Quality Improvement of 70-34-L03," Monsanto Textiles Company, 1977.

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

ESCOFFERY, RONALD G. --Research Associate, II, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.A. - Howard University	1972
M.B.A.- Rutgers Graduate School of Business Administration	1973
- Chase Manhattan Bank Credit Training	1974

Employment History

Johnson & Johnson, Graduating Financial Intern	1973
Rutgers MESBIC, Student Consultant	1972-1973
Chase Manhattan Bank, Manager, Credit & Marketing Financial Analyst	1974-1975
George & Branday Ltd., Manager Investment Department	1975-1977
Escoffery, Bolton & Associates, President	1977-Present
F.A. Johnson & Associates, Inc. Director of Finance & Marketing	1979
Georgia Institute of Technology	1979-Present

Experience Summary: As a financial analyst and consultant, my experience have been in all phases of business, financial management and economic development, with emphasis on project and solution implementation, banking, budgeting, management and technical assistance to businessmen, loan packaging, financial counseling, feasibility studies, research for business development and expansion and trouble shooting business problems. I recently became involved in Community Revitalization projects and contributed in the developing of financing vehicles for the catalyst projects which enabled the project implementation.

Current Fields of Interest

All phases of economic development with special interest in business and commercial development, business problem identification, solutions and commercial revitalization.

Major Reports and Publications

1. "An Approach for an Economic Diversification Strategy for Bogalusa,"
1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

HOWARD, WILLIAM C.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

Diploma in Accounting, Greenleaf Business College	1947
B.B.A., Georgia State University	1963
Certification in Organization Management Syracuse University	1966
Graduate, American Industrial Development Council's Industrial Development Institute, University of Oklahoma	1973
OSHA Consultative Training Program for OSHA State Directors, University of Alabama	1978

Employment History

International Harvester Company, Member General Office Staff	1947-1948
Swift and Company, Industrial Engineer	1948-1952
U.S. Marine Corps, Administrative NCO	1952-1954
Swift and Company, Industrial Engineer, Member Industrial Relations Staff	1954-1963
Georgia Business and Industry Association, Assistant Vice President	1963-1966
Georgia Institute of Technology Research Scientist	1966-1974
Head, Manpower Resources Section, IDD, EES	1966-1972
Head, Special Projects Branch, IDD, EES	1972-1976
Senior Research Scientist	1974-Present

Experience Summary: At Swift and company, worked in Production and Incentive Department; checked standards and made time and motion studies; supervised timekeeping office, production scheduling program, direct cost program, suggestion plan, and various production departments; assisted plant superintendent, industrial relations manager and labor relations manager; trained new supervisors in the area of timekeeping, payroll, fringe benefits, and certain interpretations of the collective bargaining agreement. During Marine Corps tour, was Administrative Aide to Officer in Charge, Overseas Replacement Command. At Georgia Business and Industry Association, was responsible for all activities under the broad coverage of industrial relations. This included unemployment and workmen's compensation, occupational safety and health, economic education, and employer-employee relations. Also, was responsible for all the Association's public relations activities and programs. This included the Annual Accident Prevention Contest, The Georgia Medal Program, Annual Meeting and area meetings, the monthly publishing of the Georgia Employer, handling of legislative contact work at the session of the General Assembly; responsible for membership relations and guided the direction of numerous committees. As Head of IDD's Manpower Resources Section was responsible for collecting and analyzing information

Experience Summary (continued): on the state's manpower resources, by investigating and documenting current developments in the manpower field, by developing original and reliable manpower problems and opportunities, and by providing a wide range of manpower related management and technical assistance services to new and prospective businesses as well as to established firms which have problems affecting their expansion or diversification potential. As Head of IDD's Special Projects Branch was responsible for providing research support for all activities in the principal areas of industrial economics, housing resources, and manpower resources. The latter includes special studies of the quantity, quality, utilization, and development of manpower resources, including labor registrations, wage surveys, labor availability analyses, and studies of the need for and impact of vocational-technical training, and the provision of assistance to employers in developing and strengthening manpower selection and development programs. As a member of the Industrial Services Group, presently providing management and technical assistance to business and industry.

Current Fields of Interest

Manpower management; industrial training; labor productivity; industrial and economic development; public relations; special projects research and feasibility studies and occupational safety and health.

Major Reports and Publications

1. "Manpower Turnover and Absenteeism Study," EDA Special Study, September 1967
2. "Economic Impact of the Proposed Expansion of the Athens Area Vocational-Technical School," EDA Special Report, April 1968, coauthor
3. "A Registration of the Oconee Area Unemployed in Georgia," EDA Special Report, August 1968, project director and coauthor
4. "Economic Impact of the Proposed Vocational-Industrial Training Center to be located in Monroe (Walton County), Georgia," EDA Special Report, March 1969
5. "Economic Impact of the Proposed Expansion of the Southwire Company in Carrollton, Georgia," EDA Special Report, November 1969, coauthor
6. "Economic Impact of the Proposed Water and Sewerage System Improvements on Americus, Georgia," EDA Special Report, February 1970, coauthor
7. "A Systematic Approach to Developing Personnel Policies and Handbooks," IDD Publication, April 1970
8. "Personnel and Manpower" section of "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971
9. "Manpower Availability and Characteristics--A Staffing Experience," IDD Report (unpublished)
10. "Personnel and Manpower" section of "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971
11. "The Manpower Situation in the Gum Naval Stores Industry" section of "A Study of the Problems and Potentials of the Gum Naval Stores Industry," EDA Special Report, November 1971

Major Reports and Publications (continued)

12. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," IDD Report, January 1972, project director and coauthor
13. "Impact of the Industry on Employment and Revenue" section of "Alumina from Kaolin Potentials," IDD Report, April 1972
14. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," IDD Report, September 1972, project director and coauthor
15. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," IDD Report, January 1973, project director and coauthor
16. "Mississippi" and "Tennessee" sections of "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," IDD Report, March 1973
17. "Kentucky" section of "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," IDD Report, May 1973
18. "The Staffing Experience of a New Industrial Plant: A New Technique for Determining Manpower Availability," AIDC thesis requirement, August 1973
19. "Implementation Manual for Private Enterprise Housing," IDD Report, October 1973, coauthor
20. "Personnel" section of "Evaluation and Recommendations on the Production Operations of Sealy Mattress Company of Georgia, Inc., Tucker, Georgia," Special Report for the Small Business Administration, November 1973
21. "Human Resources Goals and Programs" section of "Economic Development Approaches for the Southeast," Regional Economic Development Plan for the Economic Development Administration, November 1973
22. "A Systematic Approach to Recruiting Minority Employees," IDD Report, 1974, coauthor
23. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," IDD Report, March 1975, coauthor
24. "Better Utilization of Human Resources," section in Employer-Employee Relations, Bi-Monthly Newsletter, Vol. 6, No. 7 (July-August 1975)
25. "How To Organize and Conduct a Seminar on the Development and Better Utilization of Human Resources," IDD Report, 1976
26. "A Follow-up Study of 1974-75 Graduates of Georgia Vocational Educational Program," Georgia Tech Report, June 1976, coauthor
27. "A Directory of Georgia Minority-Owned Businesses with Paid Employees," Project No. A-1935, June 1977, compiled with Edwin A. Bethea
28. "A Report of Title IX Implementation Assistance Provided to Motel Owners Located on U.S. Highway 301 in Georgia," Georgia Tech Report, December 1977, coauthor

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

KEMPER, DANIEL C.--Research Engineer, Economic Development Division
Technology Development Laboratory, Engineering
Experiment Station

Education

B.I.E. (Co-op), Georgia Institute of Technology 1973
M.B.A. Candidate (Finance), Georgia State University

Employment History

Bean and Whitney, Inc., Telephone Engineer 1970-1973
Schweizerische Isola-Werke, Industrial Engineer 1972
AT&T Long Lines, Operations Supervisor 1973-1974
John H. Harland Co., Industrial Engineer 1974-1975
Senior Industrial Engineer 1975-1979
Georgia Institute of Technology
Research Engineer 1979-Present

Experience Summary: As Telephone Engineer, responsible for numerous records verification projects under contract with New York Telephone and Southern Bell. As Industrial Engineer for Isola (Swiss Insulating Works, LTD.), developed a computerized format for break-even analyses of proposed products. As Operations Supervisor, managed 13 relatively inexperienced craftsmen performing maintenance on over 1600 private line telephone circuits and installation of 500 new circuits per month. Responsible for maintaining service and installation performance goals while seeing that all personnel received adequate training. As Senior Industrial Engineer for the Harland Company, had complete responsibility for the corporate Industrial Engineering program. Designed and implemented equipment layouts and material handling systems in 21 plant locations to achieve standardized work flow. Developed plans and specifications and acted as liaison with architects and contractors on a multi-million dollar construction program that included 16 new facilities and 5 renovations. Proposed and implemented cost reduction efforts such as capital equipment justifications, productivity improvement and an energy conservation program for a total annual savings of over a quarter of a million dollars.

Current Fields of Interest

Productivity improvement as it relates to the optimal utilization of all available resources; manufacturing feasibility studies; financial analysis; operations and facilities design.

Professional License

Licensed Professional Engineer in the State of Georgia, Registration
No. 10978

Professional Organizations

American Institute of Industrial Engineers--Senior Member
International Material Management Society--Member

Major Reports and Publications

1. "Mindestbestellmenge," Schweizerische Isola-Werke, July 1972
2. "A Trend Analysis System for Public Services in Fulton County,"
Georgia Institute of Technology, Department of Industrial and
Systems Engineering, May 1973, co-author
3. Author of numerous project proposals for The John H. Harland Company.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LANIER, DIANNE D. -- Research Associate, Marketing Research Group, Economic Development Laboratory, Engineering Experiment Station

Education

B.A. - University of Georgia	1974
M.B.A. - Georgia State University	1979

Employment History

Rich's	
Research Analyst	1976-1978
Marketing Information Service	
Research Analyst	1978
Project Manager	1979
Georgia Institute of Technology	
Research Associate	1979-present

Experience Summary: As a research analyst with Rich's, was responsible for liaison with independent field services, questionnaire design, sample determination, supervision of coding process, SPSS programming, analysis and report writing in conjunction with survey research effort. Evaluated research reports and surveys prepared by other firms for Rich's management. Received training in trade area research from Hammer, Siler, George/Gould Retail Consultants and authored a major study of six potential southeastern markets for Rich's. While a marketing research analyst at Marketing Information Service, provided assistance in preparing research proposals, methodologies, data analysis, reports and statistical processing of data. Also responsible for questionnaire design and creation of instructions for field personnel. As a project manager, directed all phases of the research process with particular emphasis on client liaison and initial problem definition via a consulting orientation. Specific duties included interface with internal and external staff members and involvement in all areas of design and analysis, including methodological design and interpretive report writing and presentation. As a research associate, activities include outreach to acquaint prospective clients with the market research capabilities available within the Georgia Tech Engineering Experiment Station's Economic Development Laboratory. Duties also include consultation with clients seeking assistance from the Economic Development Administration or Trade Adjustment Assistance Program, with particular emphasis on marketing strategy and implementation of market research survey results.

Professional Activities:

Member - American Marketing Association, Atlanta Chapter

Major Reports and Publications:

1. "The Modern Masculine Lifestyle", Advances in Consumer Research, Volume IV. Co-author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LEWIS, EDWIN L. -- Director, Southwest Georgia Area Office
Technology and Development Laboratory
Engineering Experiment Station

Education

B.S.I.E., Auburn University

Employment History

NASA, Operations Management Office, Kennedy Space Center	1967 - 1971
Talon, Division of Textron, Industrial Engineering Department	1972 - 1974
Georgia Institute of Technology	
Assistant Research Engineer, Southeast Georgia Area Office	1974 - 1977
Research Engineer	1977 - Present
Director, Southwest Georgia Area Office, TDL/EES	1977 - Present

Experience Summary: National Aeronautics and Space Administration duties included assisting contractors in preparation of test procedure manuals, and scheduling all tests performed on the Saturn V vehicles. Duties while at Talon included cost reduction programs, budget analysis and preparation, justification of capital expenditure requests, development of plant capacity data for use in scheduling, direct and indirect labor analysis and standards preparation, plant layouts, time studies, and methods of simplifications and improvements. At Georgia Tech, duties involve providing management and technical assistance to industries in South Georgia. These activities include all areas of industrial management and industrial engineering, and involve providing assistance with plant layout and materials handling, basic accounting and cost accounting, manufacturing and process controls, and general engineering assistance. Duties also involve providing local development groups and areawide development groups with assistance in all areas of economic development, including the identification and documentation of industrial sites, industrial prospect servicing, and the analysis of municipal service needs. Recent work has included the design and installation of solar energy agricultural crop dryers.

Current Fields of Interest

Manufacturing engineering and management assistance; energy conservation; the principles and practices of industrial development.

Major Reports and Publications

1. "Feasibility Study of an Industrial Resources and Services Facility in Tifton/Tift County," Final Report on Project A-1722, November, 1975, with the Coastal Plain Area Planning and Development Commission.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LOVELESS, PHILIP D.--Research Scientist

Education

B.B.A., East Texas State University	1971
M.B.A., Florida State University	1972

Employment History

U.S. Air Force, Weather Observer-RAWIN	1965-1968
Texas Instruments, Inc., Production Scheduler	1968-1969
East Texas State University, Earth Science Laboratory Assistant	1969-1971
Florida Department of Commerce, Division of Economic Development, Economic Development Representative I, Economic Development Representative II, Administrator, Economic Development	1972-1976
Seminole Boat Company, Owner	1976-1977
Georgia Institute of Technology, Research Scientist	1977-Present

Experience Summary: Current and past work at Georgia Tech has been in the fields of management and technical assistance in areas of plant design layout, financial analysis, labor cost analysis, advertising design, and community industrial development programs. As owner of Seminole Boat Company, managed, designed, and marketed canoes and fishing boats. At Florida Department of Commerce, worked in fields of community industrial development and management/technical assistance to small business. Did industrial park design, industrial solicitation, industrial team training, and various management and technical assistance projects with Florida manufacturing firms. At Texas Instruments, scheduled and expedited work in printed circuit board shop. Designed program to compare rejected parts with overall production runs which aided in pinpointing problem area in circuit board shop.

Current Fields of Interest

Industrial development advertising effectiveness in small communities;
industrial engineering for mentally handicapped industrial work centers.

Major Reports and Publications

1. "Financial Feasibility Study and Presentation for Banks," for Bantam Furniture Company, Valdosta, Georgia, February 1978.
2. "Feedback" Newsletter, Florida Department of Commerce, Bureau of Research and Statistics, Summer, 1972.
3. "Shopping Center Design for Tommy Greene, Madison, Florida," 1973, with Leo Florez.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LUMPKIN, RONALD O.--Research Scientist, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.B.A. in Accounting and Finance, Georgia State University	1975
M.B.A. in Finance, Georgia State University	1977

Employment History

Rich's Inc.	1959-1962
Lockheed-Georgia Company	
Spares Support and Equipment Technician	1962-1966
Development Test Material Man	1966-1966
Customer Supply Liaison Man	1966-1968
Customer Supply Technical Group Supervisor	1968-1971
Supervisory Field Rep. (Logistic Support Manager-Edwards AFB)	1971-1972
Customer Supply Technical Group Supervisor	1972-1973
Complete Auto Transit (Subsidiary of Ryder)	
Regional Controller	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Involved in inventory control, receiving, distribution and retail merchandising with regional department store chain. Began with Lockheed in the Identification and sale of spare parts, equipment, manuals and training with control over scheduling, planning and delivery of hardware and services. Responsible for the design of a real time/random access procurement tracking and inventory control system from feasibility study phase through testing and implementation. Prepared procedures and instructions and conducted formal training for management and union personnel on mechanized systems and ancillary accounting functions. Had supervisory responsibility over organization that handled procurement/acquisition, inventory control, functional test and inspection, repairs, subcontracted rework, and accounting and control including data entry for dynamic test inventory valued at over \$200 million. Additional responsibilities included planning, budgeting, forecasting, quoting, labor relations, procedures, schedule control, and contractual obligations. As the Logistic Support Manager at Edwards AFB, California had all off-site support functions (acquisition, receiving, inspection, warehousing, packaging and crating, shipping, accounting control, reporting, etc.) during the Air Force testing of the C-5 aircraft. With Complete Auto involved in eliminating accounting/financial problems through internal auditing, reviewing existing methods, and initiating proper procedures. Involved in design and installation of D.O.S. mini-computer system, analysis of capital expenditures, cash flow management, tax management and cost analysis for rate negotiations.

Current Fields of Interest

Application of financial tools in the decision making process and other activities that relate to economic development and sound management and business practices.

Major Reports and Publications

1. "Project 923 - Real Time/Random Access System for C-5 Inventory Management," Lockheed-Georgia Company, 1967, Coauthor.
2. Author of approximately 130 procedures for Lockheed-Georgia Company.
3. "User Guide to Complete Auto Transit's Datapoint System," Complete Auto Transit, 1978, Author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

MULLER, JAMES C.--Research Engineer
Economic Development Laboratory
Engineering Experiment Station

Education

B.M.E., Georgia Institute of Technology	1967
M.B.A. in Management, Georgia State University	1972

Employment History

International Harvester, Design Engineer	1968
U.S. Army, Ordnance Officer	1968-1970
Southwire Company, Design Engineer	1972-1973
Assistance Manager, Design Engineer	1973-1974
Corning Glass Works, Senior Equipment Engineer	1974-1977
Equipment Development Engineer	1975-1977
Georgia Institute of Technology	
Research Engineer	1977-present

Experience Summary: As design engineer, designed the valve train for a family of six-cylinder engines in medium duty trucks. As test officer U.S. Army Armor and Engineering Board, conducted field test of experimental wheel and track vehicles. As platoon leader, commanded 98 men performing direct support maintenance on vehicles and armament of two battalion-size combat units. Assigned to General Staff, Support Command DaNang, monitored the readiness of all engineer construction and material handling equipment for all U.S. Army forces from Chu Lai to the DMZ. As assistant manager of design engineering, provided engineering drawings to support all Southwire Continuous Rod projects; functioned as a design engineer, designing a complete continuous copper casting machine and bar preparation machine; did feasibility studies on an insulated scrap reclamation plant, designed the eventual system, and participated in the design of a system for recycling the plastic insulation material. As senior equipment engineer in charge of equipment development at Corning in the Electronic Products Division, developed six new and different pieces of production equipment taking them through all stages of development: conceptualizing, funding, designing, prototyping, debugging, fabricating, training operators, training maintenance personnel, commissioning, and documenting.

Current Fields of Interest

Manufacturing engineering and manufacturing management, in particular: Feasibility studies on new ventures, analysis of current problems, equipment selection and development, cost reduction programs, automation, computer aided manufacturing.

Patents

U.S. Patent No. 3,877,509, Titled "Pour Pot Manipulator," inventor.
U.S. Patent pending, Titled "Automatic Metering System," coinventor.

Professional Licenses

Licensed Professional Engineer in the State of Georgia, Reg. No. 11429.

Licensed Professional Engineer in the State of North Carolina, No. 7943.

Certified Manufacturing Engineer, Cert. No. 970285, Exp. Date, Dec. 31, 1982.

Business and Professional Societies

Society of Manufacturing Engineers--Senior Member.

Computer and Automated System Association--Charter Member.

Major Reports and Publications

1. "Technical Assistance to Mulvey Supply Company, Hollywood, Florida," Georgia Tech Final Report, April 1978.
2. "Production and Profitability Analysis of Miami Lacer Corporation," Georgia Tech Report, November, 1978.
3. "Energy Conservation and Management in Vocational/Technical Schools," Georgia Tech Report, September, 1978, with James Clark.
4. "A Craftsman's Guide to Energy Conservation," textbook to be used in Vocational/Technical Schools in Georgia, November 1978, with Esther Burks, Tom McGowan, and William Studstill.
5. "Trade Adjustment Assistance Provided to the Atlanta Umbrella Company," Georgia Tech Report, December 1978.
6. "Precision Metals Inc., An Economic Analysis," Georgia Tech Report, January 1979.
7. "Feasibility of Reopening the Southern Electric Steel Mill, Birmingham, Alabama," Georgia Tech Report, May 1979.
8. "Diagnosis of Butler Furniture Industries", Georgia Tech Report, August 1979.
9. "The Feasibility of Obtaining Metalworking Support Facilities for South-West Georgia Manufacturers," Georgia Tech Report, August 1979, with Harvey Diamond.
10. "Feasibility of Producing Metal Stampings in Southwest Georgia," Georgia Tech Report, January 1980, with Harvey Diamond.
11. "The Feasibility of Manufacturing Machine Shop Products in Southwest Georgia," January 1980, with Harvey Diamond.

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

RICE, GREGORY F. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

BA - De Paul University	1954
JD - De Paul University	1961
12 Semester Hours of Accounting - USAFI	1956

Licensed to practice law in the state of Illinois and the United States District Court, No. District of Illinois	1961
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Employment History

Jewel Companies - Buyer	1958-1965
Sears Roebuck & Company - Buyer/Merchandiser	1966-1970
The Lovable Company - Vice President of Operations	1971-1976
Southern Silk Mills - Vice President Marketing/Sales	1977-1978
Atlanta Protection Systems, Inc. - President	1978-present
Georgia Institute of Technology Senior Research Associate	1979-present

Experience Summary: As a buyer, determined selection, pricing and sales presentation of toys for retail food, discount and drug stores and for catalog operations. Prepared sales plans and P&L budget for same. Buyer/Merchandiser, determined composition of line for retail and catalog. Prepared sales and P&L budget for same. Negotiated long term buying arrangements and costs with vendors. Prepared sales and production planning schedules for vendors. Determined pricing of products for retail and catalog. Vice President of Operations was responsible for all manufacturing and staff support areas except finance. Act as marketing coordinator for company, responsible for unifying sales and manufacturing functions. Vice President Marketing/Sales, directed national 16 man representative sales force. Formulate marketing and sales plans and budgets for sales in excess of \$20MM, priced all products, determined overall P&L plan and administered the Marketing Department. President of Atlanta Protection Systems, in-home sales of residential burglar and fire alarm systems. Senior Research Associate, activities include outreach to acquaint prospective clients with TAAC Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both the client and EDA to facilitate application to EDA for implementation of technical and/or financial assistance.

Current Fields of Interest

The analysis and solution of management problems with emphasis on the interrelation of marketing, production and financial operations.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

SPRINGFIELD, ROBERT W. -- Research Engineer, Technology and Development
Laboratory, Engineering Experimental Station

Education

B.I.E., Georgia Institute of Technology 1969

Employment History

Colonial Stores, Inc., Retail Food Chain	
Industrial Engineer, Corporate Warehousing and Transportation Department	1969-1973
Summerour and Associates, Inc., Management Consultants	
Staff Consultant	1973-1975
Senior Consultant	1975-1977
Associate	1977-1979
Georgia Institute of Technology	
Research Engineer	1979-Present

Experience Summary: Began as a co-operative student with Colonial Stores and accepted a job on the corporate warehousing and transportation staff after graduation. Designed and installed new warehouse layouts, order-picking systems, operating procedures, and inventory control systems for food distribution centers. Prepared job descriptions and trained new employees for supervisory positions. Co-ordinated and designed management information systems in conjunction with data processing department. Wrote material handling equipment specifications and purchased all types of equipment for distribution centers. Made extensive analysis of product delivery to stores, warehouse material handling, inventory ordering, store material handling, equipment justification, and transportation systems complete with technical reports. As a management consultant, worked with both large and small companies solving problems of facilities design, employee productivity, personnel recruiting and training, cost and methods analysis, inventory control and production planning. As a staff and senior consultant, specialized in daily on site implementation of problem solutions and engineering programs with complete documentation of results. As an associate, responsible for marketing consulting services, preparing proposals, surveys, and supervising staff engineers performing on site implementation work.

Current Fields of Interest

Utilization of sound marketing, financial and management techniques that apply to manufacturing businesses. Operations management with relation to diagnosing and solving problems, cost reduction programs, and equipment selection.

Major Reports and Publications

1. "Proposed Design for the Hazelhurst Service Center", for the Edward Hyman Company, April 1973.
2. "Cutting Engineering Manual-Summersville", for Angelica, Inc., August 1973, Co-author.
3. "Industrial Engineering and Incentive Wage Manual for the Camden Finished Goods Warehouse", for Skyline Manufacturing Company, Inc., September 1974.
4. "Survey of the Distribution Facility", for Jonbil, Inc., November 1975.
5. "Results of An Assessment of Order Fulfillment Costs", for McGregor-Donniger, Inc., October 1975, Co-author.
6. "Survey Analysis of the Chicago Distribution Operations", for Humphrey's Leather Goods, January 1977.
7. "Industrial Engineering and Standard Data Manual", for Atlantic Products Corporation, August 1977.
8. "Facilities Utilization Study" for Skyline Manufacturing Company, Inc., November 1977.
9. Layout Concept for Central Cutting and Piece Goods Facility", for Noel Industries, Inc., February 1977.
10. "Economic Feasibility Study for the Proposed Relocation of Sewing, Finishing, and Distribution Activities", for the Tobias Kotzin Company, January 1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

TAYLOR, HARDY S. -- Chief, Business Development Division, Economic
Development Laboratory, Engineering Experiment
Station

Education

B.S. in Business Administration and Pre-Law, University of Alabama	1943
N.S.C.S., Harvard Graduate School of Business Administration	1944
Graduate School of Business Organization, University of Nebraska	1951
Defense Department Comptrollership School, Washington, D.C.	1955

Employment History

National Southern Products, Inc., Tuscaloosa, Alabama Research Assistant	1943
Turco Products, Inc., Atlanta, Georgia, Representative and Field Engineer	
U.S. Navy Supply and Fiscal Officer/Comptroller	1943-1964
Gladwin Industries, Inc., Atlanta, Georgia, Treasurer Controller	1964-1966
Georgia Institute of Technology Research Scientist	1966-1972
Senior Research Scientist	1972-present
Head, Management and Technical Assistance Section	1968-1979
Head, EDA Services Section	1970-1979
Director, Southeastern Trade Adjustment Center	1978-1979
Assistant Head, Industrial Services Branch, IDD/EES	1970-1976
Associate Chief, Industrial Development Division, EDL/EES	1976-1979
Chief, Business Development Division, EDD/EES	1979-present

Experience Summary: As Chief of the Business Development Division, is responsible for directing the overall EES program at Georgia Tech of Management and Technical Assistance to industry in Georgia and the Southeast. Is currently the director of one of thirty-two University Centers funded by the U.S. Department of Commerce, EDA, and director of the Southeastern Trade Adjustment Assistance Center, funded by the U.S. Department of Commerce, EDA, TAAC is one ten centers established in the U.S. and is responsible for providing indepth technical assistance to companies located in Georgia, Alabama, Florida, Mississippi, Tennessee, Kentucky, North Carolina and South Carolina. This center utilizes the services of other sub-centers located in their respective states. Has organized and utilized this consortium of centers in the Southeast to administer other regional assistance programs. Has published articles on business development and assistance to business and during the past fourteen years, has taken a leadership role in providing assistance in the southeastern region. Organized and was the first chairman of the National Association of Management and Technical Assistance Centers. Continues to serve on the Executive Committee and continues to provide leadership to this group. Assisted in the implementation of the U.S. Department of Agriculture's FmHA's Business and Industry loan program, the SBA and OMBE Minority Business Development Programs, the SBA SBI program and

Experience Summary (continued): Inventory Management concept at the Naval Aviation Supply Office, which is the worldwide inventory control point for all Naval Aviation spare parts and material. This concept was based on the maximum utilization of the latest Electronic Data Processing equipment and it resulted in the greatest advancement in the management of aviation material during the past several years. Served as Supply and Fiscal Office/Comptroller at several Naval Air Stations and directed a working staff of 75 to 300 civilian personnel. As the first U.S. Naval representative in Sicily, negotiated at the highest governmental levels in Sicily and in Rome in arriving at agreements and procedural methods for operation of a U.S. Naval Air Station. Additionally, recruited, interviewed, selected and hired the initial group of 100 civilian personnel. Also negotiated and approved contracts for procurement of equipment, supplies and services from European sources to provide complete support for a station population of 1,800 people. Developed the idea and published a catalog in connection with a Simplified Issue Procedure for General Stores Material. This idea has been further developed and is widely used throughout the Naval Supply System.

Current Fields of Interest

All phases of area development activity, including industrial and community development, financial and inventory management, and management development.

Major Reports and Publications

1. Published a catalog in connection with a Simplified Issue Procedure for General Stores Material
2. Author of numerous published company studies; procedural systems manuals; and operational plans
3. "Impact of Proposed Water and Sewerage System on Blakely, Georgia," EDA Special Report, February 1967, coauthor
4. "Economic Impact of a Proposed Water Storage Tank on Tennille, Georgia," EDA Special Report, April 1967
5. "Economic Impact of Proposed Water and Sewerage System on Cleveland, Georgia," EDA Special Report, May 1967, coauthor
6. "Simplified Inventory and Cost Control System for a Small Manufacturer," EDA Special Report, June 1967
7. "Economic Impact of Proposed Water and Sewerage System Improvements on Warrenton, Georgia," EDA Special Report, September or December 1967
8. "Economic Impact of Proposed Water and Sewerage System Improvements on Madison, Georgia," EDA Special Report, April 1968
9. "Economic Impact of the Proposed I-20 Regional Industrial Park at Camak, Georgia," EDA Special Report, January 1968
10. "Economic Impact of a Proposed Industrial Park to Be Located in Swainsboro, Georgia," EDA Special Report, January 1968, coauthor
11. "Economic Impact of the Proposed Establishment of Keller Industries, Inc. in Swainsboro, Georgia," EDA Special Report, February 1968, coauthor

Major Reports and Publications (continued)

12. "Economic Impact of a Proposed Industrial Park to Be Located in Milledgeville, Georgia," EDA Special Report, February 1968
13. "Economic Impact of Proposed Water and Sewerage Systems Improvements on the City of Sylvester and Worth County, Georgia," EDA Special Report
14. "Economic Impact of Proposed Sewerage System Improvements on Camilla, Georgia," EDA Special Report, March 1968, coauthor
15. "Economic Impact of Proposed Water and Sewerage Systems Improvements on Gibson, Georgia," EDA Special Report, April 1968, coauthor
16. "Economic Impact of a Proposed Industrial District to Be Located in Richmond County, Georgia," EDA Special Report, May 1968, coauthor
17. "The Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Annual Report, August 1968, coauthor
18. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, August 1970, coauthor
19. "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971, coauthor
20. "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971, coauthor
21. "Ways of Organizing a Business in Georgia," Georgia Tech Management and Technical Assistance Counseling Note, August 1971, coauthor
22. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, September 1971, coauthor
23. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, September 1972, coauthor
24. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, June 1973, coauthor
25. "Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Report, August 1973, coauthor
26. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1974, coauthor
27. "A Program of Technical Assistance to the Farmers Home Administration Business and Industry Loan Program," Georgia Tech Report, March 1975, coauthor
28. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1975, coauthor
29. "Feasibility of Restructuring the Long-Term Financing of Delta Diversified, Inc.," Georgia Tech Report, July 1976, coauthor
30. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, January 1977, coauthor
31. "Technical Assistance to Motels and Restaurant owners located on U.S. Highway 301" Georgia Tech Report, January 1978, co-author
32. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1977, co-author

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

TURNER, JAMES H., JR.--Financial Consultant, Business Development Division,
Economic Development Laboratory, Engineering
Experiment Station

Education

B.S. In Accounting, University of Alabama	1952
U.S. Army Finance Officers School	1953
M.S. in Accounting, University of Alabama	1955
C.P.A. Certificate, Certified Public Accountant	1959
P.M.D. Certificate, Program for Management Development, Harvard University Graduate School of Business Administration	1968
F.L.M.I. Certificate, Specialty in Administrative Management, from Life Office Management Association	1971
American College of Life Underwriters: C.L.U. Certificate, Chartered Life Underwriter	1975
Graduate Course in Financial Counseling	1976

Employment History

U.S. Army Finance Officer	1952-1954
King, Oliver and Company Public Accountants, Staff Accountant	1955-1959
James H. Turner, Jr., Certified Public Accountant, Practiced in Own Name	1959-1961
Pioneer Home Owners Life Insurance Co., Inc., Assistant Treasurer	1961-1964
Kennesaw Life & Accident Insurance Company, Executive Vice President & Treasurer	1964-1977
Lifesurance Corporation, Executive Vice President & Treasurer	1973-1977
Tillinghast, Nelson, & Warren Inc., Chief Financial and Administrative Officer	1977-1979
Georgia Institute of Technology, Financial Consultant	1980 - Present

Experience Summary: Served two years active duty as Finance Officer in U.S. Army. Worked in public accounting for six years for a large number of clients in a wide variety of types of business. Have been responsible for investments and internal operations of insurance companies. Had responsibility for operations of financial services holding company and its subsidiaries which included a computer company and insurance companies. Worked as Chief Financial and Chief Administrative Officer for an international management and actuarial consulting firm.

Current Fields of Interest

Services to business firms in the areas of finance, management and marketing.

Professional Affiliations

American Institute of Certified Public Accountants,
Alabama Society of Certified Public Accountants,
Georgia Society of Certified Public Accountants,
Beta Alpha Psi, Honorary Accounting Fraternity

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

WILENCHEK, STEPHEN B. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

B.S.I.M. - Georgia Institute of Technology	1960
M.B.A. - Harvard Business School	1964

Employment History

Citizens and Southern National Bank	
Trainee	1964-1966
Commercial Lending Officer	1966-1971
Vice President - Corporate Financial Planning	1971-1972
Vice President - Equipment Leasing	1972-1975
Vice President - Branch Manager	1975-1976
Vice President - Senior Credit Officer	1976-1979
Wilenchek & Associates	
Consultant	1979-present
Georgia Institute of Technology	
Senior Research Associate	1979-present

Experience Summary: Sold commercial banking services to and negotiated lines of credit with major national companies as well as local businesses. Managed \$19 million loan portfolio. Consulted with customers on financial strategy, mergers and acquisitions, and arranged private placements of debt. Organized and operated equipment leasing department. Within 2 years outstandings reached \$12 million. Served on troubled customer's finance committee and board of directors. During this time customer's operating losses were substantially eliminated and administrative procedures were greatly improved. Assumed management of commercial/retail bank branch having high percentage of problem loans. Systematically reduced problem loan balances by 25%, while increasing deposits by 40% and cutting expenses by 10%. Despite poor business conditions, generated new consumer and commercial loan business including the first SBA-guaranteed loan made by his bank to a contractor. As senior credit officer, administered diversified portfolio of problem commercial loans which initially totalled \$12 million. Developed specific strategies for each situation and reduced loans by \$4 million through sale of collateral, demands made upon guarantors, and refinancing of loans elsewhere. Identified losses and charged off uncollectible amounts. Acted as liaison with attorneys in numerous lawsuits concerning defaulted loans, and regarding litigation against the bank arising from loan transactions. As senior research associate, activities include outreach to acquaint prospective clients with Trade Adjustment Assistance Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both clients and Economic Development Administration to facilitate application to EDA for financial assistance.

Current Fields of Interest

Financial management, marketing management, market analysis, and the interaction of these factors in making strategic business decisions.

CHARTS

Chart 3

REGIONAL ECONOMIC DEVELOPMENT CENTER
 GEORGIA INSTITUTE OF TECHNOLOGY
 ACTIVITY REPORT
 November 1, 1979 to January 31, 1980

	<u>Stablization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Development</u>		<u>TOTAL</u>	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current
ONGOING (BEGINNING)	9	10	9	12	8	7	1	2	27	31
NEW	5	2	7	1	1	0	1	0	14	3
DISCONTINUED	4	0	4	3	2	1	0	0	10	4
ONGOING (ENDING)	10	12	12	10	7	6	2	2	31	30
TOTAL ACTIVE DURING QUARTER	14	12	16	13	9	7	2	2	41	34

Percentage of Efforts as Measured by Cost*

	<u>This Period</u>	<u>Previous Period</u>
Business Stablization	35	34
Business Expansion	38	39
New Venture	21	22
Community Development	6	5

*Cost is interpreted to mean Budget Cost for Period of Reporting

Chart 4

SUMMARY OF PROJECT ACTIVITY BY TYPE AND SUBREGION

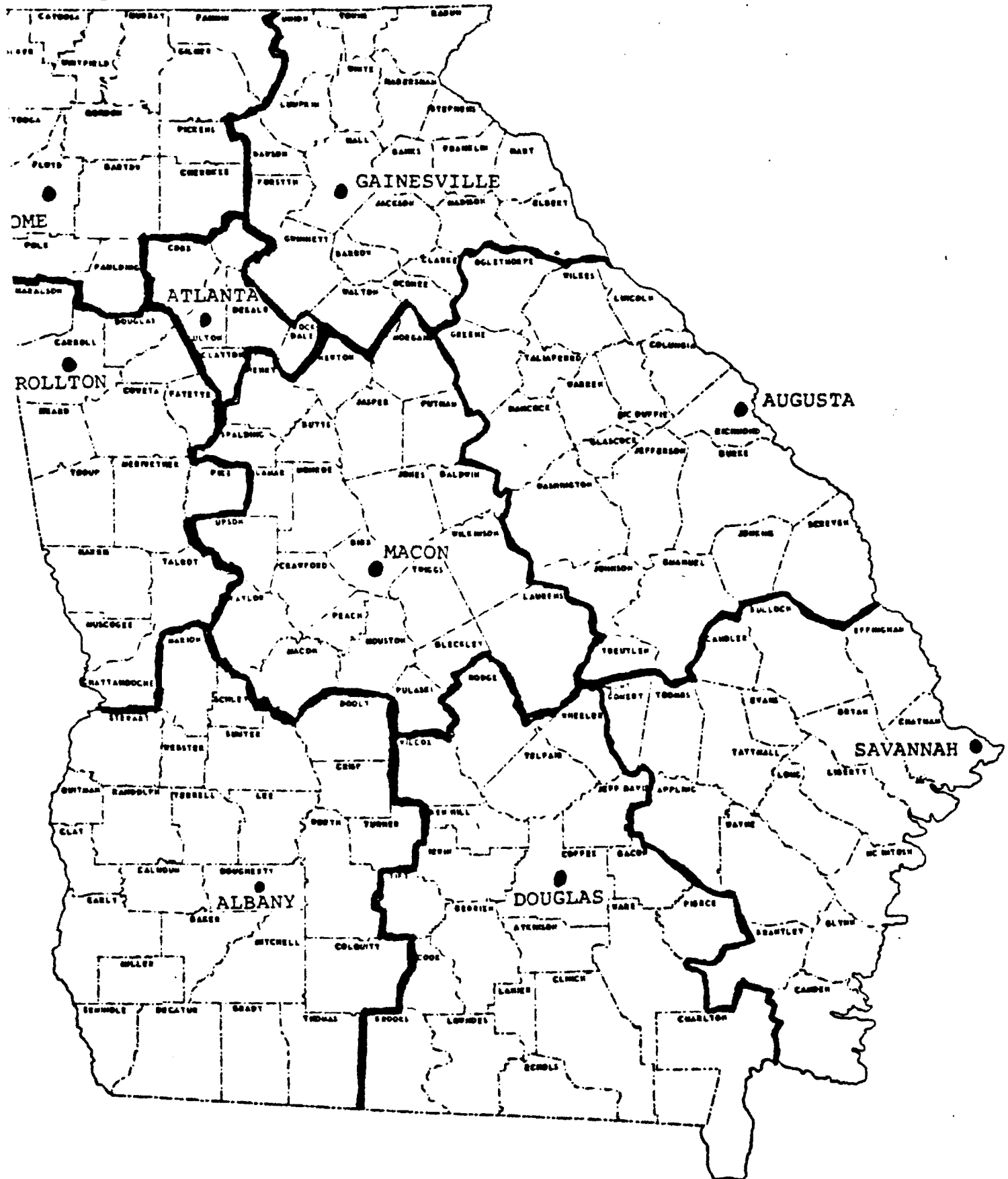
<u>Subregion</u>	<u>New Venture</u>	<u>Business Expansion</u>	<u>Business Stablization</u>	<u>Community Development</u>	<u>Current Costs % of Total</u>
CENTRAL SAVANNAH RIVER EDD	3	3	0	0	18
SOUTH GEORGIA EDD	1	4	0	0	14
GEORGIA MOUNTAINS EDD	0	0	0	0	0
HEART OF GEORGIA EDD	0	0	0	0	0
NORTHEAST GEORGIA EDD	0	0	0	0	0
OCONEE AREA EDD	0	0	0	0	0
SOUTHEAST GEORGIA EDD	0	1	0	0	3
SOUTHWEST GEORGIA EDD	1	2	3	0	18
MIDDLE FLINT EDD	0	0	2	0	6
CHATTAHOOCHEE-FLINT EDD	1	0	1	0	6
COASTAL AREA EDD	0	0	0	0	0
LOWER CHATTAHOOCHEE EDD	0	0	0	0	0
PROJECTS OUTSIDE EDD'S	<u>4</u>	<u>1</u>	<u>5</u>	<u>2</u>	<u>35</u>
TOTAL	10	11	11	2	100

Chart 5
JOB IMPACT SUMMARY

Subregion	Business Stabilization		Business Expansion		New Venture		Community Economic Development		Other	
	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual
Central Savannah River EDD	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0
Georgia Mountains EDD	"	0	"	0	"	0	"	0	"	0
Heart of Georgia EDD	"	0	"	0	"	0	"	0	"	0
Northeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Oconee Area EDD	"	0	"	0	"	0	"	0	"	0
Southeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Southwest Georgia EDD	"	0	"	0	"	0	"	0	"	0
Middle Flint EDD	"	0	"	0	"	0	"	0	"	0
Chattahoochee-Flint EDD	"	0	"	0	"	0	"	0	"	0
Coastal EDD	"	0	"	0	"	0	"	0	"	0
South Georgia EDD	"	0	"	0	"	0	"	0	"	0
Lower Chattahoochee EDD	"	0	"	0	"	0	"	0	"	0
Projects Outside EDD's	"	0	"	3	"	0	"	0	"	0
Total	"	0	"	37	"	0	"	0	"	0

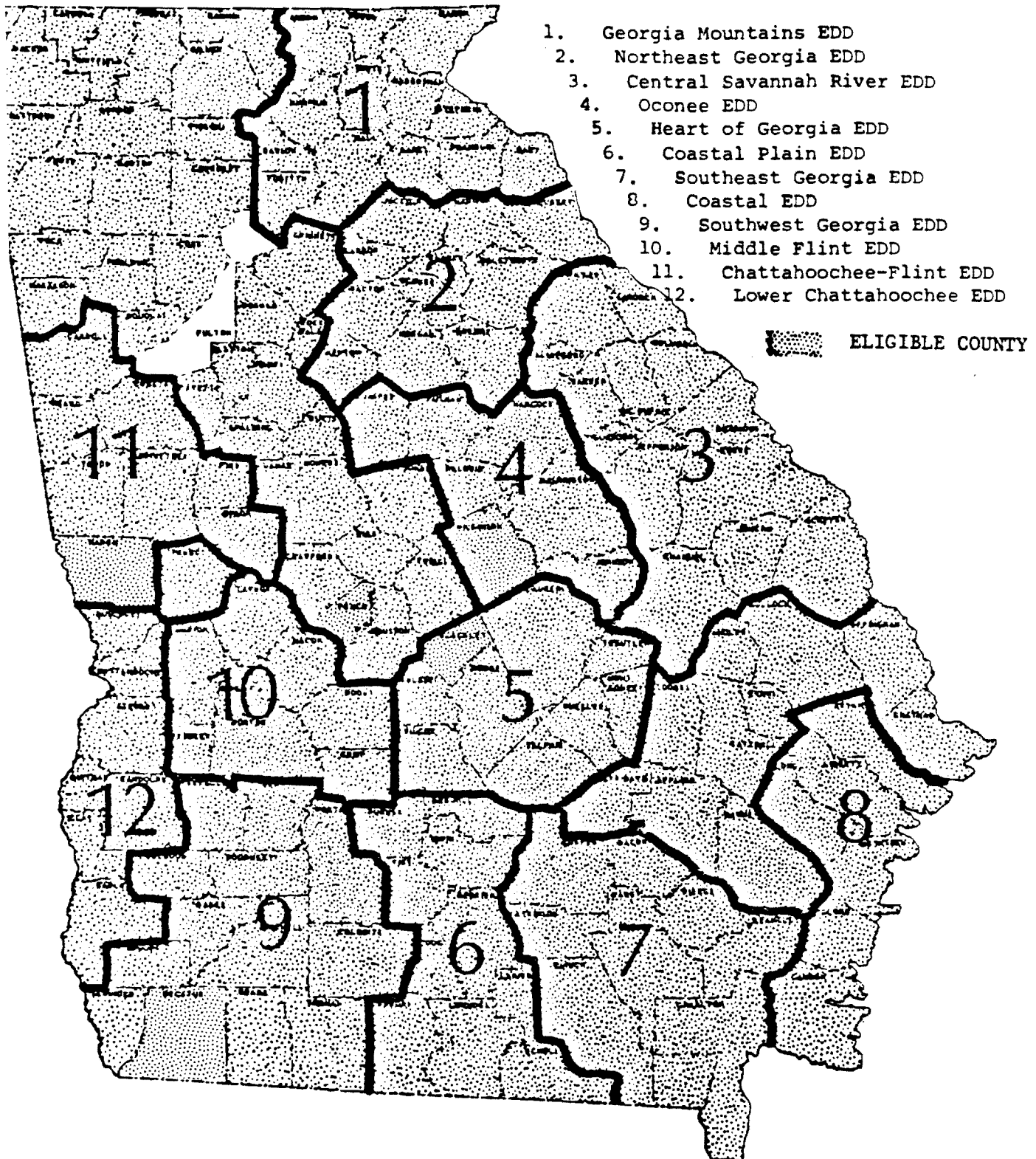
MAPS

Map 1
Economic Development Laboratory
AREA OFFICE LOCATIONS



Map 2

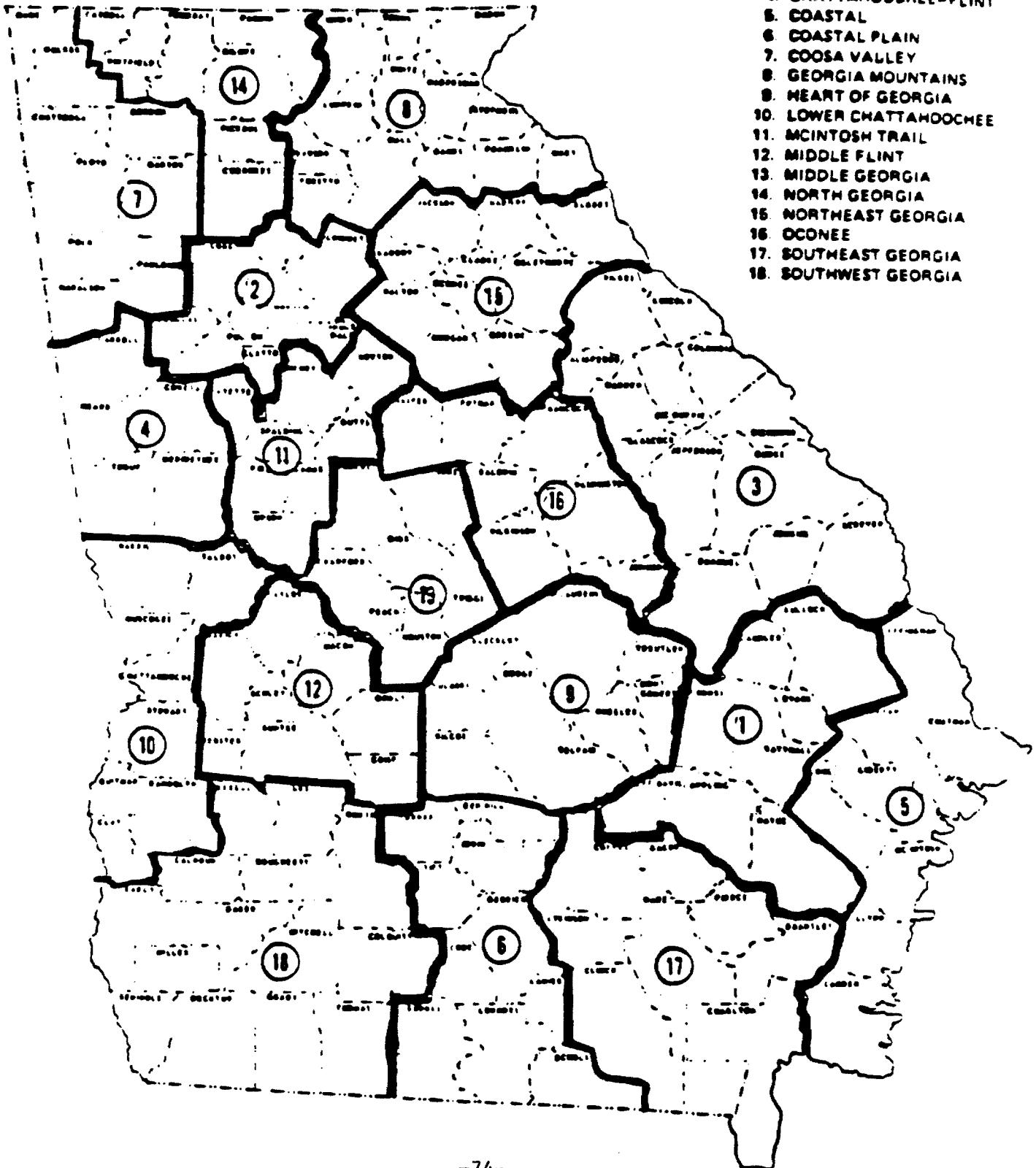
ECONOMIC DEVELOPMENT DISTRICTS



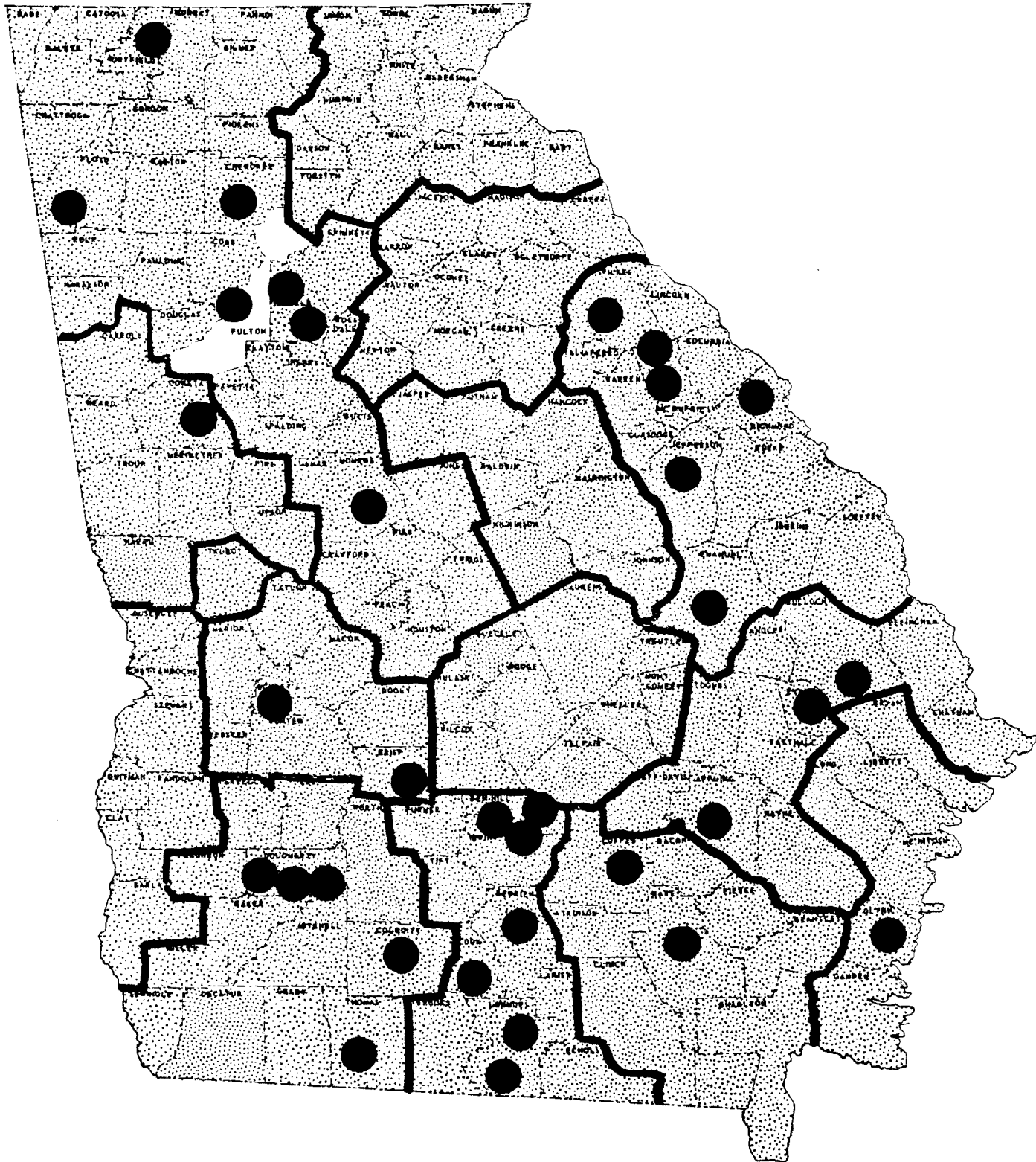
Map 3

AREA PLANNING AND DEVELOPMENT COMMISSION BOUNDARIES

1. ALTAMAHA-GEORGIA SOUTHERN
2. ATLANTA REGIONAL
3. CENTRAL SAVANNAH RIVER
4. CHATTAHOOCHEE-FLINT
5. COASTAL
6. COASTAL PLAIN
7. COOSA VALLEY
8. GEORGIA MOUNTAINS
9. HEART OF GEORGIA
10. LOWER CHATTAHOOCHEE
11. MCINTOSH TRAIL
12. MIDDLE FLINT
13. MIDDLE GEORGIA
14. NORTH GEORGIA
15. NORTHEAST GEORGIA
16. OCONEE
17. SOUTHEAST GEORGIA
18. SOUTHWEST GEORGIA



Map 4
PROJECTS CONDUCTED BY COUNTY



Project No. A-2018
Grant No. 04-06-01567-3

A PROGRAM
OF MANAGEMENT AND TECHNICAL ASSISTANCE
IN DESIGNATED EDA COUNTIES IN GEORGIA

Quarterly Report
February, March, April
1980

by

Hardy S. Taylor
Senior Research Scientist

Robert E. Collier
Senior Research Scientist

This technical assistance program was accomplished by professional consultants under a grant from the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the grantee and do not necessarily reflect the views of the Economic Development Administration.

Economic Development Laboratory
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
May 1980

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I. Background Information

A. Economic Characteristics of Service Area

To be reported only in the first quarterly progress report and the final report.

B. Organization and Establishment of Center

To be reported only in the first quarterly progress report and the final report.

II. Program Administration

A. Program Objectives

To be reported only in the first quarterly progress and the final report.

B. Technical Assistance Services

To be reported only in the first quarterly progress and the final report.

C. Project Personnel

To be reported only in the first quarterly progress report and the final report.

D. Phasing of Work Program

This work program which encompasses Chart 2 has been waived by paragraph five of the grant amendment offer dated the 27th day of June 1972.

E. Relationship to Other Development Efforts

In furthering the EDA objective in Georgia, the Economic Development Laboratory works closely with representatives of the following organizations:

Georgia State Office of Planning and Budget - Georgia Department of Industry and Trade - Economic Districts - Area Planning and Development Commissions - Chambers of Commerce - local industrial development groups - Coastal Plains Regional Commission - Appalachian Regional Commission - Small Business Administration - EDA Economic Development Representatives.

Particular attention is directed to working with the EDD's and APDC's on individual projects. When an assistance project is opened, these organizations are notified that EDL will be working in their areas, and monthly progress reports of activity on projects within their areas are furnished.

Cooperation with the above-mentioned organizations is enhanced by EDL activities other than EDA within the state wherein EDL personnel are in almost constant contact with these groups.

III. Strategy for Subregions

To be reported only in the first quarterly progress report and the final report. Maps 1 and 2 show location of organizations involved in the program.

IV. Technical Assistance Projects

A. Location

Map 3 identifies the counties in which work was performed under the program and indicates the number of projects conducted in each county.

B. Highlights of Project Activity

Chart 3 summarizes the highlights of project activity by major program categories. Chart 4 summarizes the project activity by type and subregion to indicate the distribution of effort throughout the state. Chart 5 summarizes the project activity by type and subregion to indicate the job impact.

The following projects were selected for special mention because management of the firms have reported significant increases in productivity as a result of project activity:

Project 922: A concern in Mitchell County initially requested assistance in obtaining information relating to union matters. Technical information and advice was also furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading docks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant. Work is continuing on system improvement of the production line. Management reports an estimation of 20 percent improvement in productivity as a result of project work.

Project 934: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout needed to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout.

EES personnel have met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company. Technical discussions are under way concerning the laminating of plastics. Management reports an estimated 50 percent increase in productivity as a result of project work.

C. Project Summaries

The 36 individual projects which were active during the quarter under the program of management and technical assistance to business, industrial firms, and communities in designated Georgia counties are listed by Economic Development Districts and described on the following pages. These summary descriptions include an identification of each project by number, type, and location; a brief description of the work performed; and a statement of the results achieved. The 31 projects which were still active as of April 30, 1980, are listed under "Ongoing Projects" in each EDD.

ALTAMAHA GEORGIA SOUTHERN ECONOMIC DEVELOPMENT DISTRICT

General

The Altamaha Georgia Southern Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Appling, Bulloch, Candler, Evans, Jeff Davis, Tattnall, Toombs and Wayne. The Economic Development Centers are Hazlehurst (Jeff Davis County), Statesboro (Bulloch County) and Vidalia (Toombs County).

Discontinued Projects

During the period one project was discontinued in this area.

Project 927: Assistance to an agricultural concern in Evans County

Nature of Problem: An egg processing plant in Evans County audit controls several units which produce the eggs for processing. The company wants to install a minicomputer to replace posting machines and manual systems for maintaining records on feed, replacement birds, and medicine.

Work Performed: EES personnel visited the company and discussed company goals and operations as they apply to automatic data processing. Investigations have commenced concerning hardware and software packages that might be used by the company. Software packages were reviewed together with needs for programs, space, file size and operation. Subsequently, the owner decided to take no further action at this time.

Results: The project is closed.

Ongoing Projects

There are now three projects under way in this area.

Project 949: Assistance to a dairy concern in Bulloch County which is experiencing transient electric voltage problems

Nature of Problem: The electrical shocking of dairy cows by transient voltages has resulted in severe losses in milk production for a dairy farm in Bulloch County. The problem has existed since about 1973, but has become critical during the last two years. Steps need to be taken to prevent shocking of cows in the dairy barn areas. Steps recommended by other organizations have not produced satisfactory results.

Work Performed: A staff member visited the dairy and obtained background information on the problem. Further information is being obtained to determine the reason for the transient voltages and to seek alternative solutions to the problem. Data on area and state milk production were furnished the dairy together with production data from the shock areas. Electrical protection devices were discussed with the manager. The dairy's production rates were compared with data from two dairy associations. Preparations were made to check neutral to ground voltages at the dairy barn.

Results: The project is continuing.

Project 955: Assistance to an equipment manufacturer in Evans County

Nature of Problem: A company in Evans County which previously manufactured mostly logging and flat-bed truck trailers has recently started manufacturing cabs and canopies for heavy off-road construction equipment. This type equipment is now required by OSHA regulations. The company needs additional financing to develop markets and expand production facilities for the new product line. Assistance has been requested in preparing and development of loan packages information.

Work Performed: An initial meeting was held with company principals and a representative of the Altamaha Georgia Southern Area Planning and Development Commission. Further discussions have been held with company representatives concerning details of the need for specific information for financial statements.

Results: The project is continuing.

Project 958: Assistance to a group in Evans County that is interested in establishing an aluminum foundry

Nature of Problem: A group in Evans County is interested in establishing an aluminum foundry in the Claxton-Statesboro area. Much of the production equipment is owned by the group. Market survey work is needed to determine the demand for products. Also site location assistance is required.

Work Performed: EES staff personnel have been in communication with the group and have established a work plan which will be put into operation when time is available.

Results: The project is continuing.

CENTRAL SAVANNAH RIVER ECONOMIC DEVELOPMENT DISTRICT

General

The Central Savannah River Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Screven, Taliaferro, Warren, and Wilkes. The Economic Development Centers are Augusta (Richmond County) and Swainsboro (Emanuel County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 830: Assistance to an individual interested in establishing a cold mix asphalt plant in Jefferson County

Nature of Problem: An individual interested in establishing a cold mix asphalt plant in Jefferson County requested EES assistance in documenting the feasibility of such a venture.

Work Performed: EES personnel have conducted an investigation for the company and prepared background information for the company's use.

Results: The project is continuing.

Project 895: Assistance to an aluminum products manufacturer in Emanuel County

Nature of Problem: This firm is engaged in the manufacture and sale of aluminum storm doors and has recently been acquired by owners/management inexperienced in the business. Assistance is requested in two major areas:

- (1) Analysis of the market for each storm door model produced by the firm. There are presently 18 different models being manufactured, and it is felt that a firm of this size should limit itself to fewer models in order to optimize production efficiency.

- (2) Analysis of the detailed layout of production machinery and assembly operations with recommendations for improvement.

The firm now employs about 25 people. Management feels that limiting the number of models and streamlining production operations can lead to an increase in employment.

Work Performed: Preliminary work for further project development was accomplished.

Results: The project is continuing.

Project 905: Assistance to a wooden pallet manufacturing company in McDuffie County

Nature of Problem: The owners of this wooden pallet manufacturing company requested EES assistance in marketing and production. The company desires assistance in the area of marketing to increase its sales volume and diversify its product mix and volume. With regard to production, the owners requested assistance to improve material flow, plant layout, and material handling equipment and techniques.

Work Performed: Members of the EES staff met with the owners and, as a result, provided the company with initial information about the pallet market. Additional information was provided at a later date concerning the market and several possible products for diversification of the company's line. At a subsequent meeting, the impact of the Iranian situation on the company was discussed. The firm also requested assistance in responding to an advertised opportunity for business in a foreign country. EES staff personnel arranged for assistance to the company through the International Division of the Georgia Department of Industry and Trade.

Results: The project is continuing.

Project 924: Assistance to an individual in Richmond County interested in the manufacturing of bowling pins

Nature of Problem: The owner of a bowling establishment requested assistance in determining the feasibility of manufacturing bowling pins in his area. The assistance requested includes: (1) analysis of bowling pin construction, (2) identification of required machinery and equipment for manufacturing, (3) information concerning capital costs, and (4) estimates of operating costs. If the venture is determined to be feasible and a manufacturing facility is established, it is estimated that 10 persons would be employed.

Work Performed: EES staff personnel obtained bowling pin specifications for the owner and are continuing to develop needed information.

Results: The project is continuing.

Project 938: Assistance to an individual engaged in the amusement business in Wilkes County

Nature of Problem: An individual in Wilkes County who is in the business of selling fish bait is interested in developing a product line of potting soil. EES has been requested to conduct a market survey for the proposed new product line. If the project is successful, it is anticipated that 34 new jobs will be created.

Work Performed: EES personnel have visited the owner of the company and discussed the possibilities of the new line. Further investigation will be required.

Results: The project is continuing.

Project 941: Assistance to a rubber products manufacturer interested in solving its market problems in McDuffie County

Nature of Problem: The owner of a firm that manufactures a variety of rubber products using discarded automobile/truck tires as raw materials has requested assistance in the area of market analysis, production operations, and the location of closer and better markets. The firm could increase its employment by 16 to 21 persons.

Work Performed: EES personnel have met with the owner and defined the firm's marketing problems and identified approaches through which EES can best assist in finding solutions. Information is being furnished the company concerning cryogenic freezing for use in separating the rubber from steel belts in the steel-belted rubber waste materials. Assistance was provided in locating sheet metal clip supplies and the development of a list of potential customers. EDL staff has furnished additional information on production, marketing, and advertising of rubber products to the firm.

Results: The project is continuing.

CHATTAHOOCHEE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Chattahoochee-Flint Economic Development District consists of five counties, all of which are eligible Redevelopment Area counties: Carroll, Coweta, Heard, Meriwether, and Troup. The Economic Development Centers are Carrollton (Carroll County) and LaGrange (Troup County).

Discontinued Projects

None

Ongoing Projects

There is now one project under way in this area.

Project 931: Assistance to an individual in Coweta County is interested in investigating the feasibility of purchasing and reopening a meat processing plant

Nature of Problem: An individual in Coweta County is interested in investigating the feasibility of purchasing and reopening a meat processing plant. The plant and equipment was in operation but was closed because of the death of the owner. The owners of the business are willing to sell, since they are not interested in operating the facility. EES has been asked to evaluate the company and its potential to be a profitable business.

Work Performed: EES personnel have contracted the interested individual and will initiate a work program in the near future.

Results: The project is continuing.

COASTAL AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Coastal Area Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Bryan, Camden, Chatham, Effingham, Glynn, Liberty, Long, and McIntosh. The Economic Development Centers are Brunswick (Glynn County) and Hinesville (Liberty County).

Discontinued Projects

None

Ongoing Projects

There are no projects currently under way in this area.

COOSA VALLEY ECONOMIC DEVELOPMENT DISTRICT

General

The Coosa Valley Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Bartow, Catoosa, Chattooga, Dade, Floyd, Gordon, Haralson, Paulding, Pike and Walker. The Economic Development Centers are Bremen-Tallapoosa-Buchanan (Haralson County), Rome (Floyd County), Cartersville (Bartow County), Ft. Oglethorpe (Catoosa County), and Rossville-LaFayette (Walker County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

GEORGIA MOUNTAINS ECONOMIC DEVELOPMENT DISTRICT

General

The Georgia Mountains Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, and White. The Economic Development Centers are Gainesville (Hall County) and Toccoa (Stephens County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area at the present time.

HEART OF GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Heart of Georgia Economic Development District consists of nine counties, eight of which are eligible Redevelopment Area counties: Dodge, Laurens, Montgomery, Pulaski, Telfair, Treutlen, Wheeler, and Wilcox. The Economic Development Center is Dublin-East Dublin (Laurens County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

LOWER CHATTAHOOCHEE ECONOMIC DEVELOPMENT DISTRICT

General

The Lower Chattahoochee Economic Development District consists of eight counties, seven of which are eligible Redevelopment Area counties: Chattahoochee, Clay, Muscogee, Quitman, Randolph, Stewart, and Talbot. The Economic Development Center is Columbus (Muscogee County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

MCINTOSH TRAIL ECONOMIC DEVELOPMENT DISTRICT

General

The McIntosh Trail Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Butts, Fayette, Henry, Lamar, Newton, Pike, Spalding and Upson. The Economic Development Centers are Covington (Newton County), Griffin (Spalding County), and Thomaston (Upson County).

Discontinued Projects

None

Ongoing Projects

There are no ongoing projects in this area at this time.

MIDDLE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Flint Economic Developmet District consists of eight counties, all of which are eligible Redevelopment Area counties: Crisp, Dooly, Macon, Marion, Schley, Sumter, Taylor, and Webster. The Economic Development Center is Americus (Sumter County).

Discontinued

None

Ongoing Projects

There are two projects under way in this area.

Project 932: Assistance to an irrigation equipment manufacturing company in Crisp County

Nature of Problem: An irrigation equipment manufacturing company in Crisp County requested assistance in the redesign of certain items of equipment manufactured by the company.

Work Performed: EES personnel met with the owner of the company and made an initial analysis of the problem and determined that assistance would be required in the area of mechanical and electromechanical engineering. Further investigations are under way.

Results: The project is continuing.

Project 934: Assistance to a company in Schley County in the development of a new production layout

Nature of Problem: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout needed to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout.

Work Performed: EES personnel have met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company. Technical discussions are under way concerning the laminating of plastics. Management reports an estimated 50 percent increase in productivity as a result of present work.

Results: The project is continuing.

MIDDLE GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Georgia Economic Development District consist of seven counties, six of which are Redevelopment Area counties: Bibb, Crawford, Houston, Jones, Monroe, and Twiggs. The Economic Development Center is Macon (Bibb County).

Discontinued Projects

None

Ongoing Projects

There is now one project under way in this area.

Project 936: Assistance to a textile concern in Monroe County

Nature of Problem: This company is having some mechanical problems with its equipment, and there is a need to reduce the noise level produced by certain equipment. The company desires recommendations from a design standpoint which will lower the noise level of existing equipment to acceptable levels or information showing that it is not feasible to undertake a retrofit of the equipment.

Work Performed: Company officials have been contacted and a work plan is being developed.

Results: The project is continuing.

NORTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The North Georgia Economic Development District consist of six counties, all of which are eligible Redevelopment Area counties: Cherokee, Fannin, Gilmer, Murray, Pickens, and Whitfield. The Economic Development Center is Dalton (Whitfield County).

Discontinued Projects

During the period one project was discontinued in this area.

Project 850: Assistance to an aquarium manufacturer in Cherokee County

Nature of Problem: The owner of an aquarium manufacturing company was seeking to diversify his product line to offset losses due to the decline in sales of aquariums. The owner proposed a new product line and requested that the merits of the line be evaluated.

Work Performed: An EDL staff assistant visited the plant to gather information for the basis of a determination of the need for a market study. Further discussion with the owner indicated that the services of EES were not required.

Results: The project is closed.

Ongoing Projects

There are no projects under way in this area.

NORTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Northeast Georgia Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Barrow, Clarke, Elbert, Greene, Jackson, Madison, Morgan, Oconee, Oglethorpe, and Walton. The Economic Development Center is Athens (Clarke County).

Discontinued Projects

None

Ongoing Projects

There are no projects under way in this area.

OCONEE ECONOMIC DEVELOPMENT DISTRICT

General

The Oconee Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Baldwin, Hancock, Jasper, Johnson, Putnam, Washington, and Wilkinson. The Economic Development Center is Milledgeville (Baldwin County).

Discontinued Projects

None

Ongoing Projects

There are no projects currently under way in this area.

SOUTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The South Georgia Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Ben Hill, Berrien, Brooks, Cook, Echols, Irwin, Lanier, Lowndes, Tift, and Turner. The Economic Development Centers are Valdosta (Lowndes County) and Tifton (Tift County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 942: Assistance to a wood products firm in the establishment of a new pallet manufacturing company in Cook County

Nature of Problem: Investors from an established company are exploring the feasibility of starting a pallet manufacturing company in Cook County using solely owned sources for hardwood supplies. Assistance in conducting a market study has been requested.

Work Performed: An initial conference with the principals was conducted, at which time plans for the market study were discussed. Principals are now considering the need to undertake the study.

Results: The project is continuing.

Project 943: Assistance to a box manufacturing company in Lowndes County

Nature of Problem: A box manufacturing company in Lowndes County is having a problem in the lack of warehouse space and the need for improved inventory and material handling processes. The company has requested assistance in developing an improved plant layout.

Work Performed: EES personnel completed an initial plant survey and developed a new improved plant layout. Management is now reviewing the layout.

Results: The project is continuing.

Project 944: Assistance to the owner of a manufacturing firm in Lowndes County in developing expansion plans

Nature of Problem: The owner of a firm in Lowndes county is interested in increasing the firm's growth. The owner indicates the need for management assistance in the area of sales and financing.

Work Performed: A detailed interview was conducted with the owner at which goals were established and a brief plan was formalized.

Results: The project is continuing.

Project 947: Assistance to a recreational vehicle manufacturing firm in Ben Hill County

Nature of Problem: A firm in Ben Hill County is experiencing production difficulties due to plant layout and poor production processes.

Work Performed: EES personnel visited the plant to determine material flows and required operations. Further assistance will be given.

Results: The project is continuing.

Project 948: Assistance to a manufacturer of irrigation equipment in Ben Hill County

Nature of Problem: A firm in Ben Hill County is manufacturing a new product which involves a new type of electronic control circuit. No one in the area manufactures such a circuit. The company is interested in establishing a manufacturing capability in the area so that the item will be available for use in the company's new product. Assistance has been requested in establishing such a capability in the area.

Work Performed: EES personnel have assisted the company initiate a project setup, draw schematics, and locate sources of supplies. Investigation of sources of controls was undertaken, including cost estimates.

Results: The project is continuing.

Project 951: Assistance to a farm tool manufacturer in Ben Hill County

Nature of Problem: A manufacturing firm in Ben Hill County has a need to increase the efficiency of an electrostatic powder painting system. Some improvement in this operation is needed to keep the products painted with the system price competitive.

Work Performed: EES staff personnel met with company personnel and further identified the problem. Work is under way to determine an approach to solving the adhesion problem.

Results: The project is continuing.

SOUTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southeast Georgia Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Atkinson, Bacon, Brantley, Charlton, Clinch, Coffee, Pierce, and Ware. The Economic Development Center is Waycross (Ware County).

Discontinued Projects

None

Ongoing Projects

There are now two projects under way in this area.

Project 913: Assistance to a rebuilder of railroad cars in Ware County

Nature of Problem: A company in Ware County is interested in expanding its market and establishing a second plant in Atkinson County. As part of its expansion plan, the company has requested assistance in the development of a promotional brochure.

Work Performed: Initially, the company principal requested assistance in preparing a promotional brochure. Photographs were taken and work on the brochure was undertaken. Subsequently, assistance was requested and furnished in the matter of heating a paint room and a paint coating system for rail cars. Also assistance was furnished in the matter of locating sources of investment capital for development financing.

Results: The project is continuing.

Project 945: Assistance to a poultry concern in Coffee County

Nature of Problem: A concern involved as a distributor of diversified agriculture equipment is having problems in obtaining supplies from out of state at reasonable cost and supply availability. The company is interested in manufacturing some items locally and has requested assistance in determining the feasibility of local manufacturing.

Work Performed: EES personnel have assisted the company in developing drawings of some equipment parts and in selecting potential vendors. Follow-up information was furnished the company. Management is now considering alternatives.

Results: The project is continuing.

SOUTHWEST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southwest Georgia Economic Development District consists of 13 counties, 12 of which are eligible Redevelopment Area counties: Baker, Calhoun, Colquitt, Dougherty, Grady, Lee, Miller, Mithell, Seminole, Terrell, Thomas, and Worth. The Economic Development Centers are Albany (Dougherty County) and Bainbridge (Decatur County).

Discontinued Projects

None

Ongoing Projects

There are now six projects under way in this area.

Project 826: Assistance to an automobile component manufacturer in Dougherty County

Nature of Problem: This newly established manufacturer of an automobile fuel economizer device requested EES assistance in locating sources of supply for component parts of the product.

Work Performed: The EES staff made follow-up contact with the firm. The manufacturer has now located a supplier for most of the needed component parts, but continues to need help in locating rubber hoses and associated parts. The specifications for these hoses and parts have been obtained from the company. The firm appears to be having outstanding success in the sales of its products. It is anticipated that further assistance will be required in plant and production facilities in the near future.

Results: The project is continuing.

Project 880: Assistance to an agricultural equipment manufacturer in Thomas County

Nature of Problem: This firm recently acquired a 60,000-square-foot manufacturing building and requested EES assistance with several problem areas in the start-up of promotion of irrigation equipment.

Work Performed: The EES staff completed work on a system for metal preparation and coating for the company. Work was initiated on the development of a management information system for use with materials and labor scheduling and for effective cost control and analysis. The EES staff member made a return visit to the firm and determined that work on metal preparation and coating was progressing well. Work is also proceeding to provide the firm with information on newer manufacturing equipment and the production of rigid hoses. These requirements have been discussed with management.

Results: The project is continuing.

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Project 922: Assistance to a firm in Mitchell County that manufactures automotive equipment

Nature of Problem: A concern in Mitchell County initially requested assistance in obtaining information relating to company procedures in the event of a union election. Subsequently, company management requested information and assistance in the development and manufacturing of new products.

Work Performed: EES personnel met with management and arranged for the company to receive necessary information relating to union matters. Technical information and advice was also furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading docks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant. Work is continuing on system design for the production line. Management reports an estimated 20 percent increase in productivity as a result of product work.

Results: The project is continuing.

Project 923: Request by a manufacturer of farm machinery in Dougherty County for assistance in patents and trademarks procedures

Nature of Problem: A manufacturer of farm machinery has requested assistance concerning the processing of their product and matters relating to patents and trademarks.

Work Performed: A meeting with the project engineer of the firm was arranged by an EES staff member. The U.S. Department of Commerce's Patents and Trademark Division was requested to provide information concerning patent classification and sub-classifications and appropriate forms. The EES staff member conducted a literature search relative to peanut blanching patents at the Georgia Tech Library. The company also identified certain vibration problems it was having with some of its equipment. EES personnel visited the plant, made measurements, and offered a solution which would eliminate the vibration problem. Technical assistance is continuing to be furnished as relates to industrial engineering.

Results: The project is continuing.

Project 930: Assistance to an individual in Dougherty County for toothpaste market information

Nature of Problem: An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line.

Work Performed: EES staff personnel have met the individual to discuss the possibility of conducting market research in connection with the new product line.

Results: The project is continuing.

Project 946: Assistance to a company in Colquitt County interested in locating a source of forging operations

Nature of Problem: The owner of a company has requested assistance in locating a Georgia source for both forging and salt bath quenching operations.

Work Performed: EES personnel have located the source for forging operations and are furnishing further assistance to the company.

Results: The project is continuing.

PROJECTS OUTSIDE OF ECONOMIC DEVELOPMENT DISTRICTS

General

During the period eight projects were active in counties outside of the Economic Development Districts.

Discontinued Projects

During the period three projects were discontinued in this area.

Project 939: Assistance to a community development agency in DeKalb County

Nature of Problem: A community development agency in DeKalb County requested assistance in an effort to revitalize the commercial business district in Decatur.

Work Performed: EES personnel were in communication with the agency and plans were made to investigate the possibility of EES assistance. However, it was determined that further EES assistance was not required.

Results: The project is closed.

Project 952: Assistance to an individual in Cobb County who is interested in starting a building service company

Nature of Project: An individual in Cobb County is interested in starting a building service contracting company to include both interior and exterior (landscape) maintenance. The principal has limited management experience in a similar type firm. However, additional funds are required. The principal is seeking a loan through the SBA "mini-loan" program for women entrepreneurs.

Work Performed: An EES member met with the principal to gather information and plan a course of action. The principal was advised to gather detailed cost data on all necessary equipment and supplies and to consult an attorney on legal details concerning the formation of the company. Further assistance is not required at this time.

Results: The project is closed.

Project 953: Assistance to a fiberglass manufacturing company in Fulton County

Nature of Problem: A fiberglass manufacturing company in Fulton County was cited by OSHA for dust overexposure in its trimming operation. Initial abatement measures were undertaken but the problem was not solved. Additional assistance was requested from EES.

Work Performed: An EES engineer visited the plant, observed operations, and consulted with plant personnel. The EES staff member designed an apparatus to collect dust and submitted the design to the company. Also, recommendations were made to the company on the use of commercially available equipment. No further assistance is required at this time.

Results: The project is closed.

Ongoing Projects

There are now four projects under way in this area.

Project 929: Assistance to a local government in DeKalb County Shopping district revitalization

Nature of Problem: An area within the City of Decatur, Georgia, which has a relatively large minority population, has suffered from blight and out-migration of business. The city and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC), which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the center area.

Work Performed: EES personnel have met with the principal, who is Director of Economic Development for the CDC, examined approaches that can be undertaken to solve the problem, and have identified several that will be initiated.

Results: The project is continuing.

Project 940: Assistance to a paper products company in Fulton County for diversification of its operations

Nature of Problem: A minority-owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and development of a business plan to go into institutionalized distribution of paper and related products.

Work Performed: EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company. Assistance has been furnished in developing capital requirements and in locating warehouse space. The company planned to be in operation in January 1980; however, the plant opening has been delayed.

Results: The project is continuing.

Project 956: Assistance to an individual in DeKalb County interested in establishing an elevator installation and maintenance company

Nature of Problem: After working for several years with a major elevator and service company, an individual wishes to establish his own business. He has reached a tentative agreement to purchase the business of a local independent elevator installation and maintenance contractor. He will require substantial financing and has requested assistance in assembling an information package for presentation to a lender in a government guaranty agency.

Work Performed: EES personnel met with the individual and determined that SBA is the most appropriate guarantor. An outline for assembling required data was furnished the client, who will gather data, prepare the package, and review its contents with the EES representative.

Results: The project is continuing.

Project 957: Assistance to an individual in DeKalb County who wished to establish a new product line

Nature of Problem: An individual operates an independent marketing firm engaged in soliciting orders for specialty decorative glassware. The individual wishes to start a product line in which the silkscreen process can be used for glassware and other materials. Financial assistance will be required.

Work Performed: An EES staff assistant will meet with the individual and explain the SBA-guarantee program.

Results: The project is continuing.

V. EVALUATION OF PROGRAM

In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of further reviewing existing projects and eliminating those that did not appear to justify further effort and searching out new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 6 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition, 5 projects were completed and closed out, leaving 31 active projects at the end of the quarter.

Conclusions regarding the overall impact of this program must be based upon a collective evaluation of the individual projects and their respective results. This evaluation should include not only a recognition of the fact that a deliberate attempt has been made to state the significance of EDL efforts in realistic terms, but also a consideration of the following special points concerning the results reported:

1. In many cases, the contributions of EDL staff personnel were major factors in management decisions to act or not to act on a specific plan of development. This was particularly true in those cases involving the development of new ventures.
2. In some situations, the end result would have been the same regardless of EDL participation. In such cases, EDL staff personnel helped to facilitate the achievement of an already determined goal.
3. In certain projects, EDL staff personnel filled a negative role by determining that a proposed course of action was not economically sound. The project staff felt that such actions, where they were taken, are in the best interests of all parties in the project. It is not enough to provide support for sound proposals; the unsound ones also must be identified.

Because of the preceding considerations, it is not practical to attempt to quantify results of this type program solely in terms of jobs created. Further, since it was the first program of its kind in a state-supported university, it is impossible to judge its merit on a comparative basis. It is necessary, therefore, to evaluate the program by empirical means. Several observations indicate that the management and technical assistance program to business and industry in Georgia has been beneficial:

1. After a modest start, the program has grown both in quantity of projects and in the comprehensiveness of the assistance offered. The program has been well received throughout Georgia and is being supported by the firms that have been assisted.

2. Consultants of all types have been kept apprised of Georgia Tech's management and technical assistance efforts and have worked in conjunction with EDL to further the program. All parties concerned seem to feel that the program is mutually beneficial.
3. Success of the original program has led to expansion of the project by the U.S. Department of Commerce's Economic Development Administration in Georgia and initiation of comparable programs by agencies in other states.
4. As a result of previous M & TA experience, EDL personnel provided counsel to the federal government in an effort to bridge the gap between the accumulated findings of governmental, education, and private research and the information needs of business and industry. This counsel eventually resulted in the passing of the State Technical Services Act of 1965.

EXHIBITS

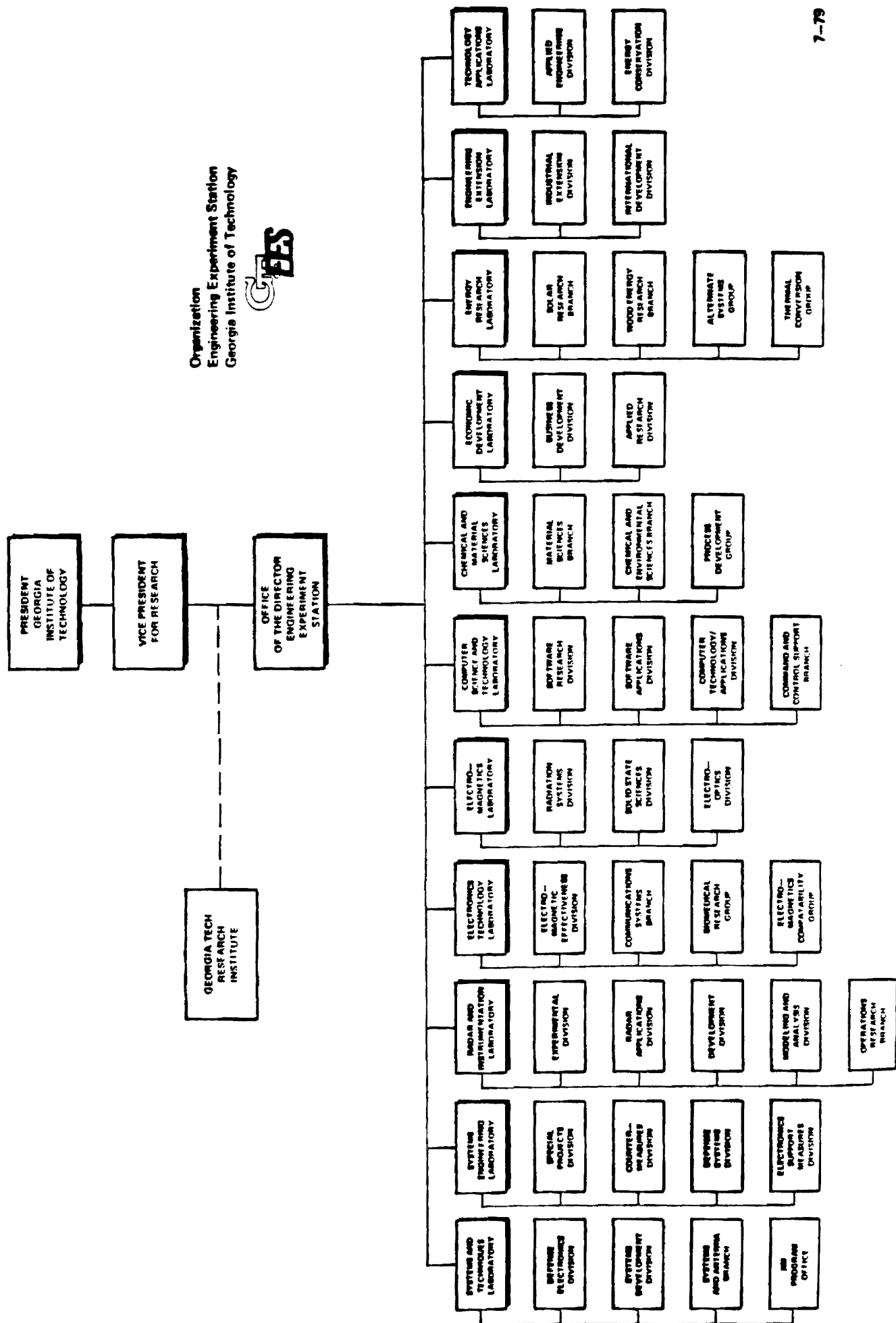
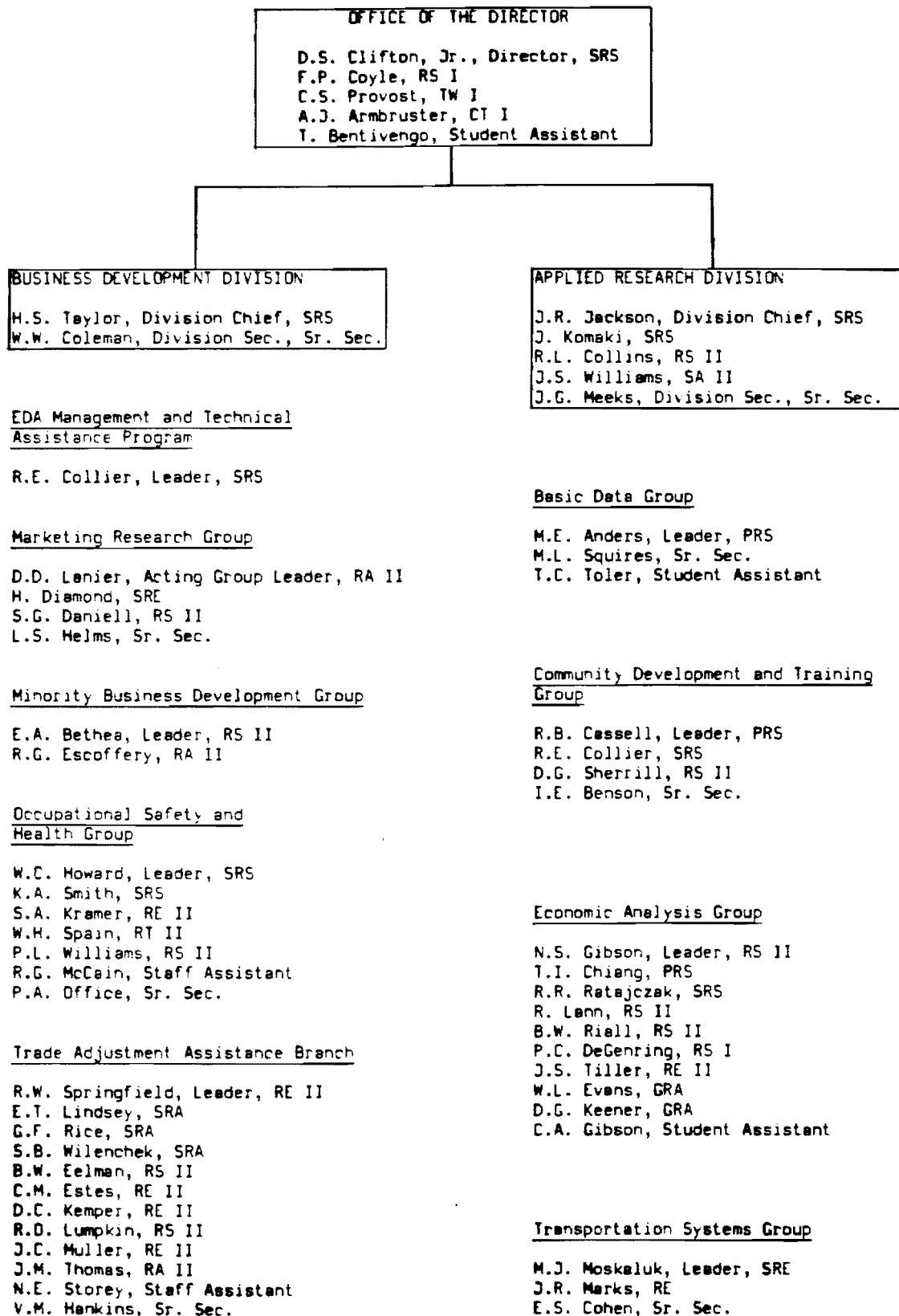


EXHIBIT 2

ECONOMIC DEVELOPMENT LABORATORY



Organizational Chart Revised May 1980

EXHIBIT 3
BIOGRAPHICAL SKETCHES

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

BETHEA, EDWIN A.--Research Scientist, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

B.S., Knoxville College	1953
M.S.W., Howard University	1962
Certificate of Completion, Howard University's Small Business Guidance Center	1969
Certificate of Completion, CPM and PERT for Project Managers, Continuing Education Department, Georgia Institute of Technology	1974
Georgia Institute of Technology Basic Industrial Development Continuing Education Course, Certificate of Completion	1976
Emory University How to Start and Manage a Successful Business-- Continuing Education Course, Certificate of Completion	1977

Employment History

District of Columbia, Department of Public Welfare, Caseworker, Child Welfare Division	1962-1965
Far East Community Services, Inc., Community Organizer-- Youth Community Organizer	1965-1966
United Planning Organization, Community Organization Specialist (training officer), Economic Development Specialist	1966-1968
Youth Enterprises, Inc., Executive Director	1968-1970
Consultant Employers Office of Economic Opportunity; Manpower Assistance Project Inc.; University Research Corp.; Xerox Corp- oration; Commerce Department, Economic Development Administration	1969-1970
Volunteers for International Technical Assistance, Director-Washington, D.C.; Director-East Central Regional Office	1970-1972
Georgia Institute of Technology Research Scientist	1972-Present

Experience Summary: Directed a regional office for technical assistance that provided services to minority and economically disadvantaged groups in mid Atlantic region; this entailed establishing, structuring, and supervising new program offices in several states within the region. Program developer for minority economic ventures and community development project; the responsibilities included establishing a working relationship with community groups, federal, state and local government agencies, and/or

Experience Summary (continued): private agencies whose interests were similar. Organized and managed a minority firm for the purpose of establishing "spin-off" business ventures and the training of minority entrepreneurs. Managed and developed programs aimed toward helping groups initiate and implement economic and social changes in their community such as employment practices, bureaucratic procedures, etc. Assisted quasi government and government department directors in community planning. Developed and directed programs relating to youth activities in the areas of training, proposal development, community improvement and change and economic developments.

Current Fields of Interest

Minority business development, industrial and community development, manpower management and motivation, transportation and new economic systems.

Major Reports and Publications

1. "South Georgia Crafts - Study of Markets in Georgia, Product Quality and Management Structure," Georgia Tech Report, 1972
2. "Survey of Georgia Minority Business," Georgia Tech Report, 1973, co-author
3. "Market Study for Sea Island Handicraft Cooperative," Georgia Tech Report, 1973
4. "Feasibility Study for Skating Rink in Columbus, Ga.," Georgia Tech Report, coauthor, 1975
5. "A National Cultural Center at Tuskegee, Alabama. (A feasibility study)," Georgia Tech Report, 1975
6. "Market Study for Westgate Hardware Store," Georgia Tech Report, 1976
7. "Final Report on Technical Assistance to Selected Community Action Agencies in Georgia," Georgia Tech Report, 1976
8. A Directory and Survey of Minority-Owned Business in the State of Georgia with Pond Employees, Georgia Tech Report, 1977, co-author
9. "Research and Demonstration Project" - Regional Office of Minority Business Enterprise = Quarterly Reports. June 1977 and October 1977. Georgia Tech Report 1977

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

CLIFTON, DAVID S., Jr.-Director, Economic Development Laboratory
Engineering Experiment Station

Education

B.I.E., Georgia Institute of Technology	1966
M.B.A. in Economics, Georgia State University	1970
Ph.D. Candidate in Economics, Georgia State University (all but dissertation completed)	

Employment History

Lockheed-Georgia Company	
Associate Customer Facilities Engineer	1966-1969
Customer Facilities Engineer	1969-1970
Georgia Institute of Technology	
Assistant Research Economist	1970-1973
Research Scientist	1973-1977
Senior Research Scientist	1977-Present
Head, Industrial Economics Section, IDD, EDL, EES	1974-1977
Manager, Economic Research, IDD, EDL, EES	1977-1978
Chief, Economic Development Division, TDL, EES	1977-1979
Director, Economic Development Laboratory, EES	1979-Present

Experience Summary: Gathered data, made preparatory investigations, analyzed and arrived at solutions for customer facilities problems. Provided technical assistance in planning and design of new construction or major alternations of customer facilities. Completed economic feasibility studies for prospective aircraft customers. Georgia Tech assignment involves industry feasibility studies; regression analysis; product/market studies; transportation studies; economic impact studies; domestic/international training; and proposal development/project management; energy alternatives; and energy food plantation concepts.

Current Fields of Interest

Market analysis; economic feasibility studies; international trade; energy research; technology assessment; basic research in economic and industrial development; research management.

Major Reports and Publications

1. "Long Cycles in Residential Construction," unpublished report in M.B.A. program, Georgia State University, December 1969.
2. "The Market for Boxboard Containers for the Coastal Plain Region of Georgia," EDA Report, May 1970.
3. "The Southeastern Modular Housing Market," EDA Report, May 1970.
4. "The Calico Scallop Market," EDA Report, June 1970.
5. "The Southeastern Market for Plastic Bathroom Fixtures in Residential Construction," EDA Report, July 1970.

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6. "Georgia Retail Florist Store Sales," EDA Report, September 1970.
7. "Market Survey of Garden Center Buyers," EDA Report, October 1970.
8. "The Potential Impact of Jumbo-Jet Air Cargo Transportation on Georgia," Georgia Tech Report, October 1970, coauthor.
9. "Industrial Air Pollution: Particulate Control Equipment Market," EDA Report, December 1970.
10. "The Market for Leaf Springs," EDA Report, February 1971.
11. "Economic Factors Affecting the Feasibility of Locating a Vegetable Processing Plant in the Vicinity of Americus, Georgia," Georgia Tech Report, May 1971, coauthor.
12. "Carbonized Bark for Briquetting Purposes," Georgia Tech Report, July 1971, coauthor.
13. "A Survey of Selected Users of Spun Sheet Metal in Alabama and Georgia," EDA Report, July 1971.
14. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," Georgia Tech Report, January 1972, coauthor.
15. "Georgia as a Center for Charcoal and Charcoal Briquette Production," Atlanta Economic Review, March 1972, coauthor.
16. "A Survey of Export Proceeds Instability Research with a Report on the Export Proceeds Instability of Colombia," unpublished report in Ph.D. program, Georgia State University, June 1972.
17. Transportation Analysis in "Peanut Processing Opportunities," Southwest Georgia Area Planning and Development Commission Report, June 1972.
18. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," Georgia Tech Report, September 1972, coauthor.
19. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," Georgia Tech Report, January 1973, coauthor.
20. "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," Georgia Tech Report, March 1973, coauthor.
21. "A Survey of Empirical Evidence of the Heckscher-Ohlin Theory of International Trade," unpublished report in Ph.D. program, Georgia State University, April 1973.
22. "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," Georgia Tech Report, May 1973, coauthor.
23. "Georgia Employment and Population Projections with Special Reference to Water-Using Industries," Georgia Tech Report, July 1973, coauthor.
24. "The Little-Mirrlees Cost-Benefit Method for Industrial Project Analysis in Developing Countries," unpublished report in Ph.D. program, Georgia State University, August 1973.
25. "Economic Development Approaches for the Southeast," Georgia Tech Report, November 1973, editor.
26. "The Economic Impact of Georgia's Deepwater Ports," Georgia Tech Report, December 1973, coauthor.
27. "Southeastern Trends of Selected Industries," Georgia Tech Report, April 1974, coauthor.
28. "An Analysis of Merchandising Methods for Eggs," Georgia Tech Report, June 1974.
29. "A Productivity Program for the Engineering Experiment Station," Georgia Tech Report, November 1974, coauthor.
30. "Economic Data Relative to the Central Georgia Steam Plant," Georgia Tech Report, February 14, 1975, coauthor.

31. "A Training Program on the Analysis and Evaluation of Industrial Projects," Georgia Tech Report, June 1975, coauthor.
32. "A Program to Assist Business and Industry in Coping with the Energy Crisis," Georgia Tech Report, September 1975, coauthor.
33. "Energy in Georgia, Uses, Program Needs, Policy and Recommendations," prepared by State Energy Office and Georgia Tech, December 1975, coauthor.
34. "Impact of the Engineering Experiment Station on the Economy of Georgia, Fiscal Years 1973 and 1974," Georgia Tech Report, February 1976, coauthor.
35. "Baseline Energy Data System: Methodology," Volume 1, Georgia State Energy Office, June 1976, coauthor.
36. "Baseline Energy Data System: Data Base 1973," Volume 2, Georgia State Energy Office, June 1976, coauthor.
37. "Baseline Energy Data System: Energy Supply Network," Volume 3, Georgia State Energy Office, June 1976, coauthor.
38. "Baseline energy Data System: Energy Indicators," Volume 4, Georgia State Energy Office, June 1976.
39. "Market Information System for Vada Builders, Inc.," Georgia Tech Report, November 1976, coauthor.
40. PROJECT FEASIBILITY ANALYSIS: A Guide to Profitable New Ventures, John Wiley & Sons, Inc., April 1977, coauthor.
41. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
42. "The Industrial City: Executive Summary," Volume 1, Georgia Tech Report, December 1977, coauthor.
43. "The Industrial City: Concept and Design," Volume 2, Georgia Tech Report, December 1977, coauthor.
44. "The Potential for Industrial Development In the Industrial City Region," Volume 3, Georgia Tech Report, December 1977, coauthor.
45. "A Design for a Venture Opportunities Information System," Atlanta Regional Office of Minority Business Enterprise, August 1978, coauthor.
46. "Regional Forums on Appropriate Technology," National Science Foundation, February 1979, coauthor.
47. "Market Potentials of Wood Fuel in the Southeast," Georgia Tech Report, June 1979, coauthor.

Papers and Presentations

1. "Analysis and Evaluation of Industrial Projects," presented at the Institute for Small-Scale Industries, University of the Philippines, June 23-27, 1975, Manila.
2. "Project Feasibility Analysis," presented at the Instituto de Administracion Cientifica de las Empresas, August 10-12, 1978, Mexico City.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

COLLIER, ROBERT E.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.S., Texas Agricultural and Mechanical University	1939
M.S., The George Washington University	1966

Employment History

Sears Robuck & Company, El Paso, Management Training	1939
U. S. Marine Corps, General Duty Officer	1940-1966
Spindletop Research Center, Inc., Director, Training Services	1971-1972
Georgia Institute of Technology	
Research Scientist	1966-1970
Head, Economic Development Training Section, IDD-EES	1968-1970
Senior Research Scientist	1972-Present

Experience Summary: While on active duty with the Marine Corps, performed a variety of line and staff assignments involving administration, education, training, and logistics. As Research Scientist in the Management and Technical Assistance Section, IDD-EES, furnished management guidance and technical assistance to prospective and established business and industrial firms; also provided assistance in establishing sound new business ventures which utilize local resources and manpower. As head of the Economic Development Training Section, IDD-EES, developed handbooks, manuals, lesson plans, visual presentations and other materials for industrial and economic development training; also conducted training courses in the principles and techniques of industrial, economic and community development under sponsorship of the Economic Development Administration and the Small Business Administration. As Director, Training Services, National Area Development Institute, Spindletop Research, Inc., planned and conducted seminars and workshops for professionals and local leaders involved in area development activities. Courses were directed to the needs of individuals from economic development districts, community action agencies, governmental agencies, business organizations, farm organizations, utilities, cooperatives, public agencies and universities who were involved in area development programs. As Senior Research Scientist, Community Development Branch, IDD-EES, participated in training programs and conducted community development research projects. As head of Education and Training Branch, is responsible for the development and conduct of laboratory training activities.

Current Fields of Interest

Management theory and practice, public administration, management information systems, economic development training, public technology, and inter-governmental operations.

Major Reports and Publications

1. "Site Relocation Guide for Georgia Retail Business, Industrial Series No. 2," Georgia Tech Report, April 1967.
2. "Internship Program in Regional Economic Development," A Training Program Prepared for the Economic Development Administration under Contract C-239-62L Neg., 1967.
3. "Final Report: Training Program in Economic Development, April 1, 1968-March 31, 1969," Economic Development Administration Contract No. OER-208-G-68-3, May 1969.
4. "Final Report: Development of a Community Development Training Program for the Small Business Administration, June 19, 1968-July 1, 1969," Small Business Administration Contract No. 1474-FA-68, July 1969.
5. "Final Report: Training Programs in Economic Development, April 1, 1969-March 31, 1970," Economic Development Administration Contract No. OER-208-G-69-2, May 1970.
6. "Advanced Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
7. "Executive Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
8. "Industrial Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
9. "Basic Economic Development Training Program," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
10. "Training Program for Planning and Development Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970.
11. "Training Program for Staff Information Technicians," A Seminar Prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970, coauthor.
12. "Exploring the Dimensions of Area Development," The National Area Development Institute Special Seminar Sponsored under a Ford Foundation Program, 1971.
13. "Final Report: Leadership Training Programs in Selected Georgia Communities, May 31, 1972-September 30, 1973," Coastal Plains Regional Commission Contract No. 10240033, September 1973, coauthor.
14. "Economic Development Approaches for the Southeast," A Study Prepared for the Economic Development Administration under Grant No. 04-6-09029-6, 1973, coauthor.
15. "Final Report: Leadership Training Programs in Selected Georgia Communities," Coastal Planning Regional Commission Contract No. 10040037, 1975, coauthor.
16. "Guidelines for Industrial Extension Personnel," Prepared under AID Grant No. AID/CM/TA/G-73-18, 1974, editor.
17. "Analysis and Evaluation of Industrial Projects," A Seminar with Text Prepared under AID Grant No. AID/CM/TA/G-73-18, 1975, coauthor.

Major Reports and Publications (continued)

18. "Guidelines for an Energy Audit and an Energy Impact Statement," prepared under HUD Grant CPA-GA-04-06-1056, June 1976, coauthor.
19. "Final Report: Substate Energy Management," prepared under contract with the Georgia State Energy Office, February 15, 1976, coauthor.
20. "Final Report: Planning for the Interorganizational Networking of a State Economic Development Council," Prepared under contract with the Office of Economic Research, Economic Development Administration under Grant No. OER-577-G-77-22 1977.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

DIAMOND, HARVEY--Senior Research Engineer, Economic Development Division,
Technology and Development Laboratory, Engineering
Experiment Station

Education

St. Johns University	1941-1942
B.S. in Textile Engineering, North Carolina State College	1942-1946

Employment History

Cohn-Hall-Marx, Converter and Assistant Designer	1946-1947
American Woolen Company, Designer and Assistant Buyer	1947-1950
Dux Mixture Hardware Company, Partner	1950-1960
Georgia Institute of Technology	
Assistant Research Engineer	1960-1965
Research Engineer	1965-1967
Senior Research Engineer	1967-Present

Experience Summary: Economic feasibility studies; plant location analyses; market research to identify manufacturing and nonmanufacturing business opportunities; raw materials and intermediate products availability studies; marketing strategies; purchasing and marketing development and procedures; evaluation of export markets; small-scale industry entrepreneurship; liaison with prospects on industrial location possibilities; evaluation and development of area resources; transportation studies; management and technical assistance to prospective and established business; product diversification studies; manpower resources; industrial economic analyses; purchasing and marketing of hardware, wholesale and retail; textile designing; textile converting. Coeditor of monthly metalworking bulletin.

Current Fields of Interest

Market analyses; plant location criteria; economic feasibility analyses; import-export potentials; small-scale industries.

Major Reports and Publications

1. "Studies of Selected Industries in the Southeast River Basins: Textiles," Georgia Tech Report, March 1961, coauthor. '
2. "Plumbing Fixture Fittings: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, June 1962.
3. "Strengths and Weaknesses of Atlanta's Metalworking Industry," Georgia Tech Report, August 1962.
4. "Pipe Fittings and Valves: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, September 1962.
5. "Flat Glass: A Manufacturing Opportunity in Georgia," Georgia Tech Report, June 1963.
6. "Glass Wool Insulation: A Manufacturing Opportunity in Georgia," Georgia Tech Report, September 1964.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

DANIELL, SALLIE G.--Research Scientist
Economic Development Laboratory
Engineering Experiment Station

Education

B.S., University of Alabama	1966
M.Ln., Emory University	1973

Employment History

Texas Instruments, Engineering Clerk	1966-1967
Pizitz Department Store, Assistant Buyer	1967-1968
American National Red Cross, Recreation Aide, South Vietnam	1968-1969
Kitchins Department Store, Sales Clerk and Artist	1970-1971
Atlanta Public Library, Pre-Librarian	1971-1972
Georgia Institute of Technology	
Assistant Research Scientist (hourly)	1972-1973
Assistant Research Scientist	1973-1977
Research Scientist	1977-Present
Metrics, Inc., Research Analyst (Consulting)	1977-Present

Experience Summary: At Georgia Tech, work has involved literature searches; collecting, indexing, cataloging, and retrieval of data and materials; preparation of methodologies; assimilation and dissemination of data for economic studies; conducting surveys and market analyses. As a practicing librarian, work has been in the area of informational services, including considerable work with government documents.

Current Fields of Interest

Business administration including marketing, economics, and management; and library science including organization, retrieval, and dissemination of information.

Major Reports and Publications

1. "Marketing of the Public Library," unpublished report in M.Ln. program, Division of Librarianship, Emory University, July 1972.
2. "Directory of Scientific Resources in Georgia, 1973-1974," Fourth Edition, Georgia Tech Report, March 1974, coauthor.
3. "Baseline Energy Data System: Methodology," Georgia Tech Report, June 1976, coauthor.
4. "Baseline Energy Data System: Data Base 1973," Georgia Tech Report, June 1976, coauthor.
5. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor.
6. "The Industrial City: Executive Summary," Georgia Tech Report, December 1977, coauthor.
7. "The Industrial City: Concepts and Design," Georgia Tech Report, December 1977, coauthor.

Major Reports and Publications (cont'd)

8. "The Potential for Industrial Development in the Industrial City Region," Georgia Tech Report, December 1977, coauthor.
9. "An Economic Definition of the Nuclear Industry," Metrics, Inc. Report, April 1978, coauthor.
10. "Directory of Public Service Resources and Interests for Local Governments Available from Georgia Institute of Technology," Inter-University Task Force Report, June 1978.
11. "A Design for a Venture Opportunities Information System," Georgia Tech Report, August 1978, coauthor.
12. "A Demonstration Project to Establish a Technology Delivery System for Small and Medium-Sized Firms," Georgia Tech Report, February 1979, coauthor.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

EELMAN, BRUCE W. -- Research Scientist

Education

B.S. Applied Mathematics, Georgia Institute of Technology	1971
M.B.A., University of West Florida	1978

Employment History

Monsanto Textiles Company	
Quality Control Engineer	1971-1974
Process Control Engineer	1974-1977
Senior Process Control Engineer	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Initial work at Monsanto in Quality Control entailed responsibility for the establishment of statistical sampling procedures, development of quality monitoring methods and procedures, development of equipment reliability testing methods, correlation of customer feedback and internal indices for development of internal control criteria and optimization of sampling procedures using cost vs. benefit approaches. Process control duties entailed routine process control of melt spun nylon yarns including mass and quality yields, productivity increases, development of operating procedures and cost standards, process improvement and optimization, experimental design and analysis and trouble shooting internal and customer quality problems. Additional responsibilities included testing and installation of new process equipment, new process development in response to customer requirements, process flow charts and layouts, economic analysis of various alternative projects, feasibility studies and project planning.

Current Fields of Interest

Use of statistical techniques for analysis and business decision-making; financial management and analysis; management theory and practice; economic development and business improvement; feasibility studies.

Major Reports and Publications

1. Authored approximately 50 operating instructions for processing nylon apparel yarn at Monsanto Textiles Company.
2. "Evaluation of Automatic Yarn Inspectors for Tire Yarn Beaming," Monsanto Textiles Company, 1972.
3. "Elimination of Yarn Acceptance Sampling in Tire Yarn Beaming", Monsanto Textiles Company, 1973.
4. "Effects of Segregating Process Reject and Heel and Incomplete Production on Tire Yarn Quality", Monsanto Textile Company, 1974.
5. "Quality Improvement of 70-34-L03," Monsanto Textiles Company, 1977.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

ESTES, CHARLES, M. Jr. -- Research Engineer II, Economic Development
Laboratory, Engineering Experiment Station

Education

B.S. Industrial Engineering Auburn University	1971
MBA, University of South Carolina	1974

Employment History

Auburn University Computer Center	
Applications Programmer	1970-1971
Monsanto Textiles Company	
Industrial Engineer	1971-1975
Senior Industrial Engineer	1975-1977
Industrial Engineering Supervisor	1978-1979
Georgia Institute of Technology	
Research Engineer II	1980-present

Experience Summary: At Auburn University Computer Center, provided programming assistance to students and assisted faculty/staff with computer applications for special projects. As Industrial Engineer, areas of responsibilities included designing and implementing automated materials handling systems, developing improved management information systems, developing improved methods of operations, and determining manpower requirements. Specific accomplishments included developed computer program to optimize finished goods packaging, developed computerized operator scheduling system, chaired committee to develop product inventory system, designed materials handling system for new manufacturing process, developed manpower estimates for several long range manufacturing processes, and implemented several new procedures to increase labor productivity. As supervisor, managed group of five professionals. Also, participated on start-up team of new manufacturing facility, coordinated \$1.5 million plant-wide cost reduction program, coordinated facilities planning and site development activities, and assisted in development of cost standards, budgets, and economic evaluations.

Current Fields of Interest

Application of sound business and engineering principles to improve manufacturing businesses. Includes materials handling, economic evaluation, cost reduction, facilities planning, management information systems, and business planning.

Major Reports and Publication

1. "Principles and Economics of Industrial Packaging", University of South Carolina Graduate Paper, May 1974, author.
2. "Site Development Manual", Monsanto Textile Company, Fayetteville, N.C. Oct. 1978, Co-Author.
3. Published numerous analyses and recommendations for Monsanto Textiles Co.

BIOGRAPHICAL SKETCH

EDENS, LARRY R. -- Head, Savannah Area Office, Technology and Development Laboratory,
Engineering Experiment Station

Education

B.Ch.E., Georgia Institute of Technology	1963
M.B.A., Armstrong State College	1976

Employment History

Research Cottrell, Inc., Engineering Assistant	1962
U. S. Army, Chemical Officer	1963-1965
E. I. du Pont de Nemours and Company, Inc., Process Engineer	1963-1967
Union Camp Corporation, Process Development Engineer	1967-1970
Gilman Paper Company, Process Control Group Leader	1970-1973
Georgia Institute of Technology	
Research Engineer	1973-Present
Head, Savannah Area Office, TDL/EES	1973-Present

Experience Summary: Conducted efficiency tests on electrostatic precipitation equipment. Worked on continuous, coupled-process nylon production, including development projects, cost studies, quality control, plant start-up, and general assistance to manufacturing sections. Was engaged in pilot plant design and operation and preliminary plant design for pulp mill by-product chemicals. Conducted and supervised process engineering studies for an integrated pulp and paper mill and supervised routine process control testing. Made statistical analyses of process and operating variables; conducted cost and capital budget justification studies. Work at Georgia Tech involves providing managerial and technical assistance to small industries including technical, marketing and financial analysis of new ventures and plant expansions, advising local communities on activities related to industrial and economic growth, and soliciting and conducting sponsored industrial and economic development studies.

Current Fields of Interest

Industrial development and chemical processing.

Major Reports and Publications

1. "The Economic Impact of Georgia's Deepwater Ports," Final Report on Project A-1565, December 1973, with D. S. Clifton
2. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," Final Report on Project A-1676, March 1975, with W. C. Howard and J. L. Lewis
3. "A Study of Economic Growth Indicators on Brantley, Camden, Glynn, Long and Wayne Counties, Georgia, 1965-1974," March 1975
4. "An Address Numbering Plan for the City of Hinesville," Final Report on Project A-1774, January 1976
5. "The Economic Impact of the Georgia Deepwater Ports," Georgia Tech Report, August 1977, with N. S. Gibson
6. "A Report of Title IX Implementation Assistance Provided to Motel Owners Located on U. S. Highway 301 in Georgia," Georgia Tech Report, December 1977, with W. C. Howard

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

ESCOFFERY, RONALD G. --Research Associate, II, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.A. - Howard University	1972
M.B.A.- Rutgers Graduate School of Business Administration	1973
- Chase Manhattan Bank Credit Training	1974

Employment History

Johnson & Johnson, Graduating Financial Intern	1973
Rutgers MESBIC, Student Consultant	1972-1973
Chase Manhattan Bank, Manager, Credit & Marketing Financial Analyst	1974-1975
George & Branday Ltd., Manager Investment Department	1975-1977
Escoffery, Bolton & Associates, President	1977-Present
F.A. Johnson & Associates, Inc. Director of Finance & Marketing	1979
Georgia Institute of Technology	1979-Present

Experience Summary: As a financial analyst and consultant, my experience have been in all phases of business, financial management and economic development, with emphasis on project and solution implementation, banking, budgeting, management and technical assistance to businessmen, loan packaging, financial counseling, feasibility studies, research for business development and expansion and trouble shooting business problems. I recently became involved in Community Revitalization projects and contributed in the developing of financing vehicles for the catalyst projects which enabled the project implementation.

Current Fields of Interest

All phases of economic development with special interest in business and commercial development, business problem identification, solutions and commercial revitalization.

Major Reports and Publications

1. "An Approach for an Economic Diversification Strategy for Bogalusa,"
1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

HOWARD, WILLIAM C.--Senior Research Scientist, Economic Development
Division, Technology and Development Laboratory,
Engineering Experiment Station

Education

Diploma in Accounting, Greenleaf Business College	1947
B.B.A., Georgia State University	1963
Certification in Organization Management Syracuse University	1966
Graduate, American Industrial Development Council's Industrial Development Institute, University of Oklahoma	1973
OSHA Consultative Training Program for OSHA State Directors, University of Alabama	1978

Employment History

International Harvester Company, Member General Office Staff	1947-1948
Swift and Company, Industrial Engineer	1948-1952
U.S. Marine Corps, Administrative NCO	1952-1954
Swift and Company, Industrial Engineer, Member Industrial Relations Staff	1954-1963
Georgia Business and Industry Association, Assistant Vice President	1963-1966
Georgia Institute of Technology Research Scientist	1966-1974
Head, Manpower Resources Section, IDD, EES	1966-1972
Head, Special Projects Branch, IDD, EES	1972-1976
Senior Research Scientist	1974-Present

Experience Summary: At Swift and company, worked in Production and Incentive Department; checked standards and made time and motion studies; supervised timekeeping office, production scheduling program, direct cost program, suggestion plan, and various production departments; assisted plant superintendent, industrial relations manager and labor relations manager; trained new supervisors in the area of timekeeping, payroll, fringe benefits, and certain interpretations of the collective bargaining agreement. During Marine Corps tour, was Administrative Aide to Officer in Charge, Overseas Replacement Command. At Georgia Business and Industry Association, was responsible for all activities under the broad coverage of industrial relations. This included unemployment and workmen's compensation, occupational safety and health, economic education, and employer-employee relations. Also, was responsible for all the Association's public relations activities and programs. This included the Annual Accident Prevention Contest, The Georgia Medal Program, Annual Meeting and area meetings, the monthly publishing of the Georgia Employer, handling of legislative contact work at the session of the General Assembly; responsible for membership relations and guided the direction of numerous committees. As Head of IDD's Manpower Resources Section was responsible for collecting and analyzing information

Experience Summary (continued): on the state's manpower resources, by investigating and documenting current developments in the manpower field, by developing original and reliable manpower problems and opportunities, and by providing a wide range of manpower related management and technical assistance services to new and prospective businesses as well as to established firms which have problems affecting their expansion or diversification potential. As Head of IDD's Special Projects Branch was responsible for providing research support for all activities in the principal areas of industrial economics, housing resources, and manpower resources. The latter includes special studies of the quantity, quality, utilization, and development of manpower resources, including labor registrations, wage surveys, labor availability analyses, and studies of the need for and impact of vocational-technical training, and the provision of assistance to employers in developing and strengthening manpower selection and development programs. As a member of the Industrial Services Group, presently providing management and technical assistance to business and industry.

Current Fields of Interest

Manpower management; industrial training; labor productivity; industrial and economic development; public relations; special projects research and feasibility studies and occupational safety and health.

Major Reports and Publications

1. "Manpower Turnover and Absenteeism Study," EDA Special Study, September 1967
2. "Economic Impact of the Proposed Expansion of the Athens Area Vocational-Technical School," EDA Special Report, April 1968, coauthor
3. "A Registration of the Oconee Area Unemployed in Georgia," EDA Special Report, August 1968, project director and coauthor
4. "Economic Impact of the Proposed Vocational-Industrial Training Center to be located in Monroe (Walton County), Georgia," EDA Special Report, March 1969
5. "Economic Impact of the Proposed Expansion of the Southwire Company in Carrollton, Georgia," EDA Special Report, November 1969, coauthor
6. "Economic Impact of the Proposed Water and Sewerage System Improvements on Americus, Georgia," EDA Special Report, February 1970, coauthor
7. "A Systematic Approach to Developing Personnel Policies and Handbooks," IDD Publication, April 1970
8. "Personnel and Manpower" section of "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971
9. "Manpower Availability and Characteristics--A Staffing Experience," IDD Report (unpublished)
10. "Personnel and Manpower" section of "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971
11. "The Manpower Situation in the Gum Naval Stores Industry" section of "A Study of the Problems and Potentials of the Gum Naval Stores Industry," EDA Special Report, November 1971

Major Reports and Publications (continued)

12. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," IDD Report, January 1972, project director and coauthor
13. "Impact of the Industry on Employment and Revenue" section of "Alumina from Kaolin Potentials," IDD Report, April 1972
14. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," IDD Report, September 1972, project director and coauthor
15. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," IDD Report, January 1973, project director and coauthor
16. "Mississippi" and "Tennessee" sections of "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," IDD Report, March 1973
17. "Kentucky" section of "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," IDD Report, May 1973
18. "The Staffing Experience of a New Industrial Plant: A New Technique for Determining Manpower Availability," AIDC thesis requirement, August 1973
19. "Implementation Manual for Private Enterprise Housing," IDD Report, October 1973, coauthor
20. "Personnel" section of "Evaluation and Recommendations on the Production Operations of Sealy Mattress Company of Georgia, Inc., Tucker, Georgia," Special Report for the Small Business Administration, November 1973
21. "Human Resources Goals and Programs" section of "Economic Development Approaches for the Southeast," Regional Economic Development Plan for the Economic Development Administration, November 1973
22. "A Systematic Approach to Recruiting Minority Employees," IDD Report, 1974, coauthor
23. "Savannah-Chatham County Occupational Needs Survey and Manpower Training and Services Program," IDD Report, March 1975, coauthor
24. "Better Utilization of Human Resources," section in Employer-Employee Relations, Bi-Monthly Newsletter, Vol. 6, No. 7 (July-August 1975)
25. "How To Organize and Conduct a Seminar on the Development and Better Utilization of Human Resources," IDD Report, 1976
26. "A Follow-up Study of 1974-75 Graduates of Georgia Vocational Educational Program," Georgia Tech Report, June 1976, coauthor
27. "A Directory of Georgia Minority-Owned Businesses with Paid Employees," Project No. A-1935, June 1977, compiled with Edwin A. Bethea
28. "A Report of Title IX Implementation Assistance Provided to Motel Owners Located on U.S. Highway 301 in Georgia," Georgia Tech Report, December 1977, coauthor

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

KEMPER, DANIEL C.--Research Engineer, Economic Development Division
Technology Development Laboratory, Engineering
Experiment Station

Education

B.I.E. (Co-op), Georgia Institute of Technology 1973
M.B.A. Candidate (Finance), Georgia State University

Employment History

Bean and Whitney, Inc., Telephone Engineer 1970-1973
Schweizerische Isola-Werke, Industrial Engineer 1972
AT&T Long Lines, Operations Supervisor 1973-1974
John H. Harland Co., Industrial Engineer 1974-1975
Senior Industrial Engineer 1975-1979
Georgia Institute of Technology
Research Engineer 1979-Present

Experience Summary: As Telephone Engineer, responsible for numerous records verification projects under contract with New York Telephone and Southern Bell. As Industrial Engineer for Isola (Swiss Insulating Works, LTD.), developed a computerized format for break-even analyses of proposed products. As Operations Supervisor, managed 13 relatively inexperienced craftsmen performing maintenance on over 1600 private line telephone circuits and installation of 500 new circuits per month. Responsible for maintaining service and installation performance goals while seeing that all personnel received adequate training. As Senior Industrial Engineer for the Harland Company, had complete responsibility for the corporate Industrial Engineering program. Designed and implemented equipment layouts and material handling systems in 21 plant locations to achieve standardized work flow. Developed plans and specifications and acted as liaison with architects and contractors on a multi-million dollar construction program that included 16 new facilities and 5 renovations. Proposed and implemented cost reduction efforts such as capital equipment justifications, productivity improvement and an energy conservation program for a total annual savings of over a quarter of a million dollars.

Current Fields of Interest

Productivity improvement as it relates to the optimal utilization of all available resources; manufacturing feasibility studies; financial analysis; operations and facilities design.

Professional License

Licensed Professional Engineer in the State of Georgia, Registration
No. 10978

Professional Organizations

American Institute of Industrial Engineers--Senior Member
International Material Management Society--Member

Major Reports and Publications

1. "Mindestbestellmenge," Schweizerische Isola-Werke, July 1972
2. "A Trend Analysis System for Public Services in Fulton County,"
Georgia Institute of Technology, Department of Industrial and
Systems Engineering, May 1973, co-author
3. Author of numerous project proposals for The John H. Harland Company.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LANIER, DIANNE D. -- Research Associate, Marketing Research Group, Economic Development Laboratory, Engineering Experiment Station

Education

B.A. - University of Georgia	1974
M.B.A. - Georgia State University	1979

Employment History

Rich's	
Research Analyst	1976-1978
Marketing Information Service	
Research Analyst	1978
Project Manager	1979
Georgia Institute of Technology	
Research Associate	1979-present

Experience Summary: As a research analyst with Rich's, was responsible for liaison with independent field services, questionnaire design, sample determination, supervision of coding process, SPSS programming, analysis and report writing in conjunction with survey research effort. Evaluated research reports and surveys prepared by other firms for Rich's management. Received training in trade area research from Hammer, Siler, George/Gould Retail Consultants and authored a major study of six potential southeastern markets for Rich's. While a marketing research analyst at Marketing Information Service, provided assistance in preparing research proposals, methodologies, data analysis, reports and statistical processing of data. Also responsible for questionnaire design and creation of instructions for field personnel. As a project manager, directed all phases of the research process with particular emphasis on client liaison and initial problem definition via a consulting orientation. Specific duties included interface with internal and external staff members and involvement in all areas of design and analysis, including methodological design and interpretive report writing and presentation. As a research associate, activities include outreach to acquaint prospective clients with the market research capabilities available within the Georgia Tech Engineering Experiment Station's Economic Development Laboratory. Duties also include consultation with clients seeking assistance from the Economic Development Administration or Trade Adjustment Assistance Program, with particular emphasis on marketing strategy and implementation of market research survey results.

Professional Activities:

Member - American Marketing Association, Atlanta Chapter

Major Reports and Publications:

1. "The Modern Masculine Lifestyle", Advances in Consumer Research, Volume IV. Co-author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LEWIS, EDWIN L. -- Director, Southwest Georgia Area Office
Technology and Development Laboratory
Engineering Experiment Station

Education

B.S.I.E., Auburn University

Employment History

NASA, Operations Management Office, Kennedy Space Center	1967 - 1971
Talon, Division of Textron, Industrial Engineering Department	1972 - 1974
Georgia Institute of Technology	
Assistant Research Engineer, Southeast Georgia Area Office	1974 - 1977
Research Engineer	1977 - Present
Director, Southwest Georgia Area Office, TDL/EES	1977 - Present

Experience Summary: National Aeronautics and Space Administration duties included assisting contractors in preparation of test procedure manuals, and scheduling all tests performed on the Saturn V vehicles. Duties while at Talon included cost reduction programs, budget analysis and preparation, justification of capital expenditure requests, development of plant capacity data for use in scheduling, direct and indirect labor analysis and standards preparation, plant layouts, time studies, and methods of simplifications and improvements. At Georgia Tech, duties involve providing management and technical assistance to industries in South Georgia. These activities include all areas of industrial management and industrial engineering, and involve providing assistance with plant layout and materials handling, basic accounting and cost accounting, manufacturing and process controls, and general engineering assistance. Duties also involve providing local development groups and areawide development groups with assistance in all areas of economic development, including the identification and documentation of industrial sites, industrial prospect servicing, and the analysis of municipal service needs. Recent work has included the design and installation of solar energy agricultural crop dryers.

Current Fields of Interest

Manufacturing engineering and management assistance; energy conservation; the principles and practices of industrial development.

Major Reports and Publications

1. "Feasibility Study of an Industrial Resources and Services Facility in Tifton/Tift County," Final Report on Project A-1722, November, 1975, with the Coastal Plain Area Planning and Development Commission.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

'LOVELESS, PHILIP D.--Research Scientist

Education

B.B.A., East Texas State University	1971
M.B.A., Florida State University	1972

Employment History

U.S. Air Force, Weather Observer-Rawin	1965-1968
Texas Instruments, Inc., Production Scheduler	1968-1969
East Texas State University, Earth Science Laboratory Assistant	1969-1971
Florida Department of Commerce, Division of Economic Development, Economic Development Representative I, Economic Development Representative II, Administrator, Economic Development	1972-1976
Seminole Boat Company, Owner	1976-1977
Georgia Institute of Technology, Research Scientist	1977-Present

Experience Summary: Current and past work at Georgia Tech has been in the fields of management and technical assistance in areas of plant design layout, financial analysis, labor cost analysis, advertising design, and community industrial development programs. As owner of Seminole Boat Company, managed, designed, and marketed canoes and fishing boats. At Florida Department of Commerce, worked in fields of community industrial development and management/technical assistance to small business. Did industrial park design, industrial solicitation, industrial team training, and various management and technical assistance projects with Florida manufacturing firms. At Texas Instruments, scheduled and expedited work in printed circuit board shop. Designed program to compare rejected parts with overall production runs which aided in pinpointing problem area in circuit board shop.

Current Fields of Interest

Industrial development advertising effectiveness in small communities;
industrial engineering for mentally handicapped industrial work centers.

Major Reports and Publications

1. "Financial Feasibility Study and Presentation for Banks," for Bantam Furniture Company, Valdosta, Georgia, February 1978.
2. "Feedback" Newsletter, Florida Department of Commerce, Bureau of Research and Statistics, Summer, 1972.
3. "Shopping Center Design for Tommy Greene, Madison, Florida," 1973, with Leo Florez.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

LUMPKIN, RONALD O.--Research Scientist, Technology and Development
Laboratory, Engineering Experiment Station

Education

B.B.A. in Accounting and Finance, Georgia State University	1975
M.B.A. in Finance, Georgia State University	1977

Employment History

Rich's Inc.	1959-1962
Lockheed-Georgia Company	
Spares Support and Equipment Technician	1962-1966
Development Test Material Man	1966-1966
Customer Supply Liaison Man	1966-1968
Customer Supply Technical Group Supervisor	1968-1971
Supervisory Field Rep. (Logistic Support Manager-Edwards AFB)	1971-1972
Customer Supply Technical Group Supervisor	1972-1973
Complete Auto Transit (Subsidiary of Ryder)	
Regional Controller	1977-1978
Georgia Institute of Technology	
Research Scientist	1978-Present

Experience Summary: Involved in inventory control, receiving, distribution and retail merchandising with regional department store chain. Began with Lockheed in the Identification and sale of spare parts, equipment, manuals and training with control over scheduling, planning and delivery of hardware and services. Responsible for the design of a real time/random access procurement tracking and inventory control system from feasibility study phase through testing and implementation. Prepared procedures and instructions and conducted formal training for management and union personnel on mechanized systems and ancillary accounting functions. Had supervisory responsibility over organization that handled procurement/acquisition, inventory control, functional test and inspection, repairs, subcontracted rework, and accounting and control including data entry for dynamic test inventory valued at over \$200 million. Additional responsibilities included planning, budgeting, forecasting, quoting, labor relations, procedures, schedule control, and contractual obligations. As the Logistic Support Manager at Edwards AFB, California had all off-site support functions (acquisition, receiving, inspection, warehousing, packaging and crating, shipping, accounting control, reporting, etc.) during the Air Force testing of the C-5 aircraft. With Complete Auto involved in eliminating accounting/financial problems through internal auditing, reviewing existing methods, and initiating proper procedures. Involved in design and installation of D.O.S. mini-computer system, analysis of capital expenditures, cash flow management, tax management and cost analysis for rate negotiations.

Current Fields of Interest

Application of financial tools in the decision making process and other activities that relate to economic development and sound management and business practices.

Major Reports and Publications

1. "Project 923 - Real Time/Random Access System for C-5 Inventory Management," Lockheed-Georgia Company, 1967, Coauthor.
2. Author of approximately 130 procedures for Lockheed-Georgia Company.
3. "User Guide to Complete Auto Transit's Datapoint System," Complete Auto Transit, 1978, Author.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

MULLER, JAMES C.--Research Engineer
Economic Development Laboratory
Engineering Experiment Station

Education

B.M.E., Georgia Institute of Technology	1967
M.B.A. in Management, Georgia State University	1972

Employment History

International Harvester, Design Engineer	1968
U.S. Army, Ordnance Officer	1968-1970
Southwire Company, Design Engineer	1972-1973
Assistance Manager, Design Engineer	1973-1974
Corning Glass Works, Senior Equipment Engineer	1974-1977
Equipment Development Engineer	1975-1977
Georgia Institute of Technology	
Research Engineer	1977-present

Experience Summary: As design engineer, designed the valve train for a family of six-cylinder engines in medium duty trucks. As test officer U.S. Army Armor and Engineering Board, conducted field test of experimental wheel and track vehicles. As platoon leader, commanded 98 men performing direct support maintenance on vehicles and armament of two battalion-size combat units. Assigned to General Staff, Support Command DaNang, monitored the readiness of all engineer construction and material handling equipment for all U.S. Army forces from Chu Lai to the DMZ. As assistant manager of design engineering, provided engineering drawings to support all Southwire Continuous Rod projects; functioned as a design engineer, designing a complete continuous copper casting machine and bar preparation machine; did feasibility studies on an insulated scrap reclamation plant, designed the eventual system, and participated in the design of a system for recycling the plastic insulation material. As senior equipment engineer in charge of equipment development at Corning in the Electronic Products Division, developed six new and different pieces of production equipment taking them through all stages of development: conceptualizing, funding, designing, prototyping, debugging, fabricating, training operators, training maintenance personnel, commissioning, and documenting.

Current Fields of Interest

Manufacturing engineering and manufacturing management, in particular: Feasibility studies on new ventures, analysis of current problems, equipment selection and development, cost reduction programs, automation, computer aided manufacturing.

Patents

U.S. Patent No. 3,877.509, Titled "Pour Pot Manipulator," inventor.
U.S. Patent pending, Titled "Automatic Metering System," coinventor.

Professional Licenses

Licensed Professional Engineer in the State of Georgia, Reg. No. 11429.

Licensed Professional Engineer in the State of North Carolina, No. 7943.

Certified Manufacturing Engineer, Cert. No. 970285, Exp. Date, Dec. 31, 1982.

Business and Professional Societies

Society of Manufacturing Engineers--Senior Member.

Computer and Automated System Association--Charter Member.

Major Reports and Publications

1. "Technical Assistance to Mulvey Supply Company, Hollywood, Florida," Georgia Tech Final Report, April 1978.
2. "Production and Profitability Analysis of Miami Lacer Corporation," Georgia Tech Report, November, 1978.
3. "Energy Conservation and Management in Vocational/Technical Schools," Georgia Tech Report, September, 1978, with James Clark.
4. "A Craftsman's Guide to Energy Conservation," textbook to be used in Vocational/Technical Schools in Georgia, November 1978, with Esther Burks, Tom McGowan, and William Studstill.
5. "Trade Adjustment Assistance Provided to the Atlanta Umbrella Company," Georgia Tech Report, December 1978.
6. "Precision Metals Inc., An Economic Analysis," Georgia Tech Report, January 1979.
7. "Feasibility of Reopening the Southern Electric Steel Mill, Birmingham, Alabama," Georgia Tech Report, May 1979.
8. "Diagnosis of Butler Furniture Industries", Georgia Tech Report, August 1979.
9. "The Feasibility of Obtaining Metalworking Support Facilities for Southwest Georgia Manufacturers," Georgia Tech Report, August 1979, with Harvey Diamond.
10. "Feasibility of Producing Metal Stampings in Southwest Georgia," Georgia Tech Report, January 1980, with Harvey Diamond.
11. "The Feasibility of Manufacturing Machine Shop Products in Southwest Georgia," January 1980, with Harvey Diamond.

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

RICE, GREGORY F. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

BA - De Paul University	1954
JD - De Paul University	1961
12 Semester Hours of Accounting - USAFI	1956

Licensed to practice law in the state of Illinois and the United States District Court, No. District of Illinois	1961
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Employment History

Jewel Companies - Buyer	1958-1965
Sears Roebuck & Company - Buyer/Merchandiser	1966-1970
The Lovable Company - Vice President of Operations	1971-1976
Southern Silk Mills - Vice President Marketing/Sales	1977-1978
Atlanta Protection Systems, Inc. - President	1978-present
Georgia Institute of Technology Senior Research Associate	1979-present

Experience Summary: As a buyer, determined selection, pricing and sales presentation of toys for retail food, discount and drug stores and for catalog operations. Prepared sales plans and P&L budget for same. Buyer/Merchandiser, determined composition of line for retail and catalog. Prepared sales and P&L budget for same. Negotiated long term buying arrangements and costs with vendors. Prepared sales and production planning schedules for vendors. Determined pricing of products for retail and catalog. Vice President of Operations was responsible for all manufacturing and staff support areas except finance. Act as marketing coordinator for company, responsible for unifying sales and manufacturing functions. Vice President Marketing/Sales, directed national 16 man representative sales force. Formulate marketing and sales plans and budgets for sales in excess of \$20MM, priced all products, determined overall P&L plan and administered the Marketing Department. President of Atlanta Protection Systems, in-home sales of residential burglar and fire alarm systems. Senior Research Associate, activities include outreach to acquaint prospective clients with TAAC Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both the client and EDA to facilitate application to EDA for implementation of technical and/or financial assistance.

Current Fields of Interest

The analysis and solution of management problems with emphasis on the interrelation of marketing, production and financial operations.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

SPRINGFIELD, ROBERT W. -- Research Engineer, Technology and Development
Laboratory, Engineering Experimental Station

Education

B.I.E., Georgia Institute of Technology 1969

Employment History

Colonial Stores, Inc., Retail Food Chain	
Industrial Engineer, Corporate Warehousing and Transportation Department	1969-1973
Summerour and Associates, Inc., Management Consultants	
Staff Consultant	1973-1975
Senior Consultant	1975-1977
Associate	1977-1979
Georgia Institute of Technology	
Research Engineer	1979-Present

Experience Summary: Began as a co-operative student with Colonial Stores and accepted a job on the corporate warehousing and transportation staff after graduation. Designed and installed new warehouse layouts, order-picking systems, operating procedures, and inventory control systems for food distribution centers. Prepared job descriptions and trained new employees for supervisory positions. Co-ordinated and designed management information systems in conjunction with data processing department. Wrote material handling equipment specifications and purchased all types of equipment for distribution centers. Made extensive analysis of product delivery to stores, warehouse material handling, inventory ordering, store material handling, equipment justification, and transportation systems complete with technical reports. As a management consultant, worked with both large and small companies solving problems of facilities design, employee productivity, personnel recruiting and training, cost and methods analysis, inventory control and production planning. As a staff and senior consultant, specialized in daily on site implementation of problem solutions and engineering programs with complete documentation of results. As an associate, responsible for marketing consulting services, preparing proposals, surveys, and supervising staff engineers performing on site implementation work.

Current Fields of Interest

Utilization of sound marketing, financial and management techniques that apply to manufacturing businesses. Operations management with relation to diagnosing and solving problems, cost reduction programs, and equipment selection.

Major Reports and Publications

1. "Proposed Design for the Hazelhurst Service Center", for the Edward Hyman Company, April 1973.
2. "Cutting Engineering Manual-Summersville", for Angelica, Inc., August 1973, Co-author.
3. "Industrial Engineering and Incentive Wage Manual for the Camden Finished Goods Warehouse", for Skyline Manufacturing Company, Inc., September 1974.
4. "Survey of the Distribution Facility", for Jonbil, Inc., November 1975.
5. "Results of An Assessment of Order Fulfillment Costs", for McGregor-Donniger, Inc., October 1975, Co-author.
6. "Survey Analysis of the Chicago Distribution Operations", for Humphrey's Leather Goods, January 1977.
7. "Industrial Engineering and Standard Data Manual", for Atlantic Products Corporation, August 1977.
8. "Facilities Utilization Study" for Skyline Manufacturing Company, Inc., November 1977.
9. Layout Concept for Central Cutting and Piece Goods Facility", for Noel Industries, Inc., February 1977.
10. "Economic Feasibility Study for the Proposed Relocation of Sewing, Finishing, and Distribution Activities", for the Tobias Kotzin Company, January 1979.

Georgia Institute of Technology

BIOGRAPHICAL SKETCH

TAYLOR, HARDY S. -- Chief, Business Development Division, Economic Development Laboratory, Engineering Experiment Station

Education

B.S. in Business Administration and Pre-Law, University of Alabama	1943
N.S.C.S., Harvard Graduate School of Business Administration	1944
Graduate School of Business Organization, University of Nebraska	1951
Defense Department Comptrollership School, Washington, D.C.	1955

Employment History

National Southern Products, Inc., Tuscaloosa, Alabama	
Research Assistant	1943
Turco Products, Inc., Atlanta, Georgia, Representative and Field Engineer	
U.S. Navy Supply and Fiscal Officer/Comptroller	1943-1964
Gladwin Industries, Inc., Atlanta, Georgia, Treasurer	
Controller	1964-1966
Georgia Institute of Technology	
Research Scientist	1966-1972
Senior Research Scientist	1972-present
Head, Management and Technical Assistance Section	1968-1979
Head, EDA Services Section	1970-1979
Director, Southeastern Trade Adjustment Center	1978-1979
Assistant Head, Industrial Services Branch, IDD/EES	1970-1976
Associate Chief, Industrial Development Division, EDL/EES	1976-1979
Chief, Business Development Division, EDD/EES	1979-present

Experience Summary: As Chief of the Business Development Division, is responsible for directing the overall EES program at Georgia Tech of Management and Technical Assistance to industry in Georgia and the Southeast. Is currently the director of one of thirty-two University Centers funded by the U.S. Department of Commerce, EDA, and director of the Southeastern Trade Adjustment Assistance Center, funded by the U.S. Department of Commerce, EDA, TAAC is one ten centers established in the U.S. and is responsible for providing indepth technical assistance to companies located in Georgia, Alabama, Florida, Mississippi, Tennessee, Kentucky, North Carolina and South Carolina. This center utilizes the services of other sub-centers located in their respective states. Has organized and utilized this consortium of centers in the Southeast to administer other regional assistance programs. Has published articles on business development and assistance to business and during the past fourteen years, has taken a leadership role in providing assistance in the southeastern region. Organized and was the first chairman of the National Association of Management and Technical Assistance Centers. Continues to serve on the Executive Committee and continues to provide leadership to this group. Assisted in the implementation of the U.S. Department of Agriculture's FmHA's Business and Industry loan program, the SBA and OMBE Minority Business Development Programs, the SBA SBI program and

Experience Summary (continued): Inventory Management concept at the Naval Aviation Supply Office, which is the worldwide inventory control point for all Naval Aviation spare parts and material. This concept was based on the maximum utilization of the latest Electronic Data Processing equipment and it resulted in the greatest advancement in the management of aviation material during the past several years. Served as Supply and Fiscal Office/Comptroller at several Naval Air Stations and directed a working staff of 75 to 300 civilian personnel. As the first U.S. Naval representative in Sicily, negotiated at the highest governmental levels in Sicily and in Rome in arriving at agreements and procedural methods for operation of a U.S. Naval Air Station. Additionally, recruited, interviewed, selected and hired the initial group of 100 civilian personnel. Also negotiated and approved contracts for procurement of equipment, supplies and services from European sources to provide complete support for a station population of 1,800 people. Developed the idea and published a catalog in connection with a Simplified Issue Procedure for General Stores Material. This idea has been further developed and is widely used throughout the Naval Supply System.

Current Fields of Interest

All phases of area development activity, including industrial and community development, financial and inventory management, and management development.

Major Reports and Publications

1. Published a catalog in connection with a Simplified Issue Procedure for General Stores Material
2. Author of numerous published company studies; procedural systems manuals; and operational plans
3. "Impact of Proposed Water and Sewerage System on Blakely, Georgia," EDA Special Report, February 1967, coauthor
4. "Economic Impact of a Proposed Water Storage Tank on Tennille, Georgia," EDA Special Report, April 1967
5. "Economic Impact of Proposed Water and Sewerage System on Cleveland, Georgia," EDA Special Report, May 1967, coauthor
6. "Simplified Inventory and Cost Control System for a Small Manufacturer," EDA Special Report, June 1967
7. "Economic Impact of Proposed Water and Sewerage System Improvements on Warrenton, Georgia," EDA Special Report, September or December 1967
8. "Economic Impact of Proposed Water and Sewerage System Improvements on Madison, Georgia," EDA Special Report, April 1968
9. "Economic Impact of the Proposed I-20 Regional Industrial Park at Camak, Georgia," EDA Special Report, January 1968
10. "Economic Impact of a Proposed Industrial Park to Be Located in Swainsboro, Georgia," EDA Special Report, January 1968, coauthor
11. "Economic Impact of the Proposed Establishment of Keller Industries, Inc. in Swainsboro, Georgia," EDA Special Report, February 1968, coauthor

Major Reports and Publications (continued)

12. "Economic Impact of a Proposed Industrial Park to Be Located in Milledgeville, Georgia," EDA Special Report, February 1968
13. "Economic Impact of Proposed Water and Sewerage Systems Improvements on the City of Sylvester and Worth County, Georgia," EDA Special Report
14. "Economic Impact of Proposed Sewerage System Improvements on Camilla, Georgia," EDA Special Report, March 1968, coauthor
15. "Economic Impact of Proposed Water and Sewerage Systems Improvements on Gibson, Georgia," EDA Special Report, April 1968, coauthor
16. "Economic Impact of a Proposed Industrial District to Be Located in Richmond County, Georgia," EDA Special Report, May 1968, coauthor
17. "The Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Annual Report, August 1968, coauthor
18. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, August 1970, coauthor
19. "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971, coauthor
20. "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971, coauthor
21. "Ways of Organizing a Business in Georgia," Georgia Tech Management and Technical Assistance Counseling Note, August 1971, coauthor
22. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report, September 1971, coauthor
23. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, September 1972, coauthor
24. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, June 1973, coauthor
25. "Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Report, August 1973, coauthor
26. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1974, coauthor
27. "A Program of Technical Assistance to the Farmers Home Administration Business and Industry Loan Program," Georgia Tech Report, March 1975, coauthor
28. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1975, coauthor
29. "Feasibility of Restructuring the Long-Term Financing of Delta Diversified, Inc.," Georgia Tech Report, July 1976, coauthor
30. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, January 1977, coauthor
31. "Technical Assistance to Motels and Restaurant owners located on U.S. Highway 301" Georgia Tech Report, January 1978, co-author
32. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1977, co-author

Georgia Institute of Technology
BIOGRAPHICAL SKETCH

WILENCHEK, STEPHEN B. --Senior Research Associate, Economic Development Laboratory,
Engineering Experiment Station

Education

B.S.I.M. - Georgia Institute of Technology	1960
M.B.A. - Harvard Business School	1964

Employment History

Citizens and Southern National Bank	
Trainee	1964-1966
Commercial Lending Officer	1966-1971
Vice President - Corporate Financial Planning	1971-1972
Vice President - Equipment Leasing	1972-1975
Vice President - Branch Manager	1975-1976
Vice President - Senior Credit Officer	1976-1979
Wilenchek & Associates	
Consultant	1979-present
Georgia Institute of Technology	
Senior Research Associate	1979-present

Experience Summary: Sold commercial banking services to and negotiated lines of credit with major national companies as well as local businesses. Managed \$19 million loan portfolio. Consulted with customers on financial strategy, mergers and acquisitions, and arranged private placements of debt. Organized and operated equipment leasing department. Within 2 years outstandings reached \$12 million. Served on troubled customer's finance committee and board of directors. During this time customer's operating losses were substantially eliminated and administrative procedures were greatly improved. Assumed management of commercial/retail bank branch having high percentage of problem loans. Systematically reduced problem loan balances by 25%, while increasing deposits by 40% and cutting expenses by 10%. Despite poor business conditions, generated new consumer and commercial loan business including the first SBA-guaranteed loan made by this bank to a contractor. As senior credit officer, administered diversified portfolio of problem commercial loans which initially totalled \$12 million. Developed specific strategies for each situation and reduced loans by \$4 million through sale of collateral, demands made upon guarantors, and refinancing of loans elsewhere. Identified losses and charged off uncollectible amounts. Acted as liaison with attorneys in numerous lawsuits concerning defaulted loans, and regarding litigation against the bank arising from loan transactions. As senior research associate, activities include outreach to acquaint prospective clients with Trade Adjustment Assistance Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both clients and Economic Development Administration to facilitate application to EDA for financial assistance.

Current Fields of Interest

Financial management, marketing management, market analysis, and the interaction of these factors in making strategic business decisions.

CHARTS

Chart 3

REGIONAL ECONOMIC DEVELOPMENT CENTER
GEORGIA INSTITUTE OF TECHNOLOGY
ACTIVITY REPORT
1 February 1980 to 30 April 1980

	<u>Stablization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Development</u>		<u>TOTAL</u>	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current
ONGOING (BEGINNING)	10	12	12	10	7	6	2	2	31	30
NEW	2	1	1	1	0	4	0	0	3	6
DISCONTINUED	0	1	3	0	1	1	0	1	4	5
ONGOING (ENDING)	12	12	10	11	6	9	2	1	30	31
TOTAL ACTIVE DURING QUARTER	12	13	13	11	7	10	2	2	34	36

Percentage of Efforts as Measured by Cost*

	<u>This Period</u>	<u>Previous Period</u>
Business Stablization	36	35
Business Expansion	31	39
New Venture	28	22
Community Development	5	5

*Cost is interpreted to mean Budget Cost for Period of Reporting

Chart 4

SUMMARY OF PROJECT ACTIVITY BY TYPE AND SUBREGION

<u>Subregion</u>	<u>New Venture</u>	<u>Business Expansion</u>	<u>Business Stablization</u>	<u>Community Development</u>	<u>Current Costs % of Total</u>
ALTAMAHA GEORGIA SOUTHERN EDD	1	1	2		11
CENTRAL SAVANNAH EDD	3	2	1		17
CHATTAHOOCHEE-FLINT EDD					3
COASTAL AREA EDD					
COOSA VALLEY EDD					
GEORGIA MOUNTAINS EDD					
HEART OF GEORGIA EDD					
LOWER CHATTAHOOCHEE EDD					
MCINTOSH TRAIL EDD					
MIDDLE FLINT EDD			2		5
MIDDLE GEORGIA EDD			1		3
NORTH GEORGIA EDD			1		3
NORTHEAST GEORGIA EDD					
OCONEE EDD					
SOUTH GEORGIA EDD	1	4	1		17
SOUTHEAST GEORGIA EDD		1	1		5
SOUTHWEST GEORGIA	1	2	3		17
NON-EDD	<u>3</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>19</u>
TOTAL	10	11	13	2	100

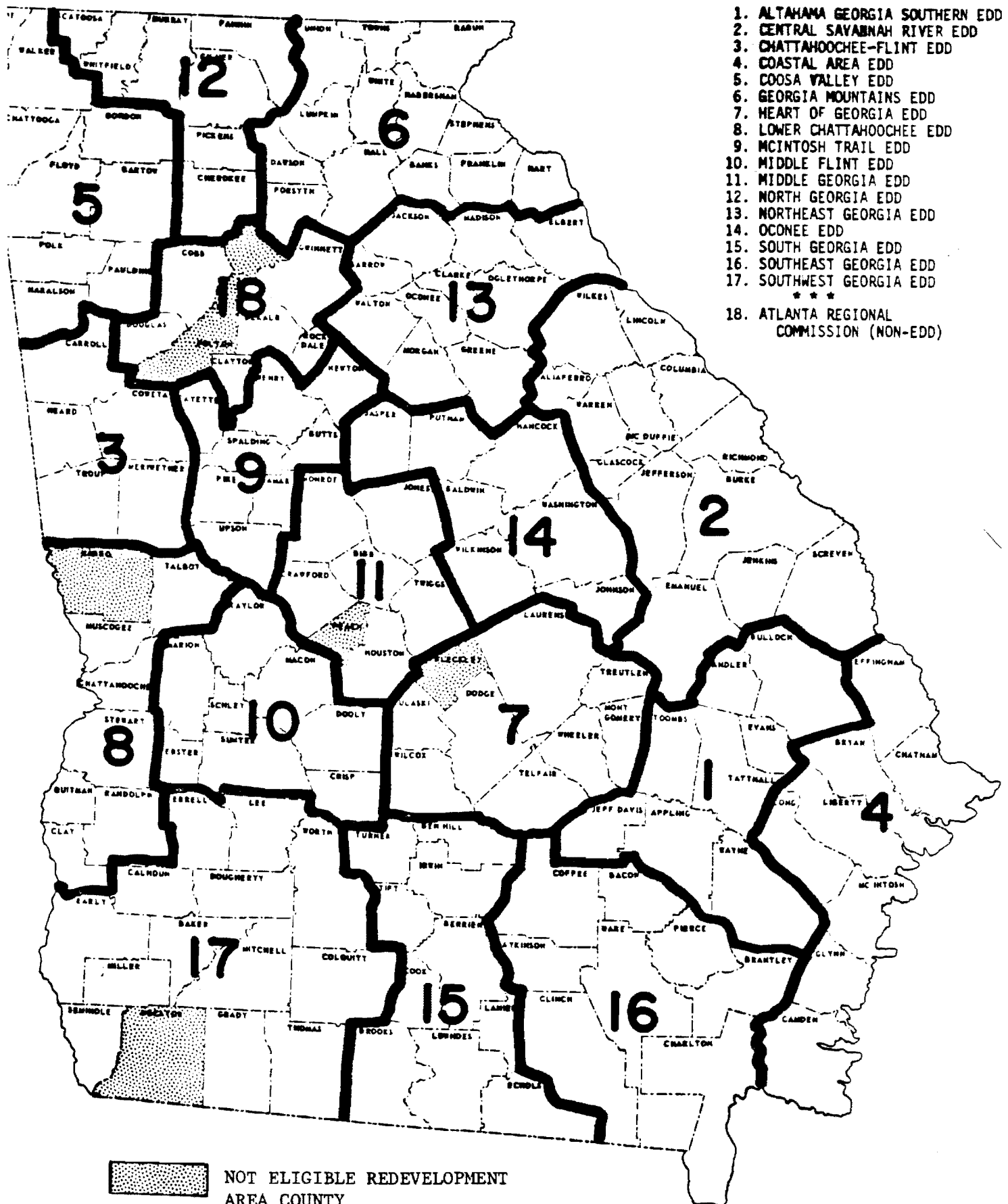
Chart 5

JOB IMPACT SUMMARY

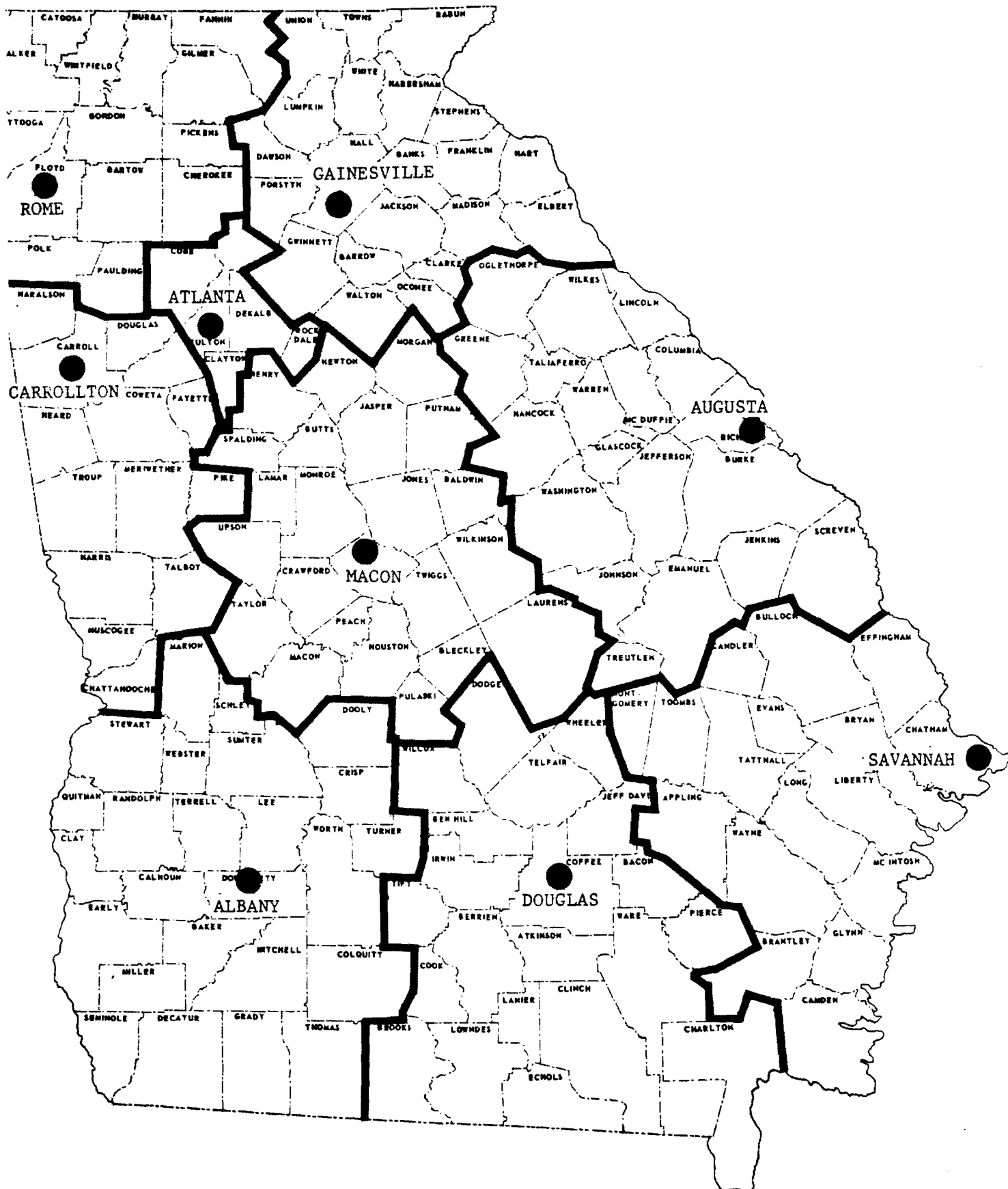
<u>Subregion</u>	<u>Business Stabilization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Economic Development</u>		<u>Other</u>	
	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>	<u>Goal</u>	<u>Actual</u>
Altamaha Georgia Southern EDD	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0	Not Estb.	0
Central Savannah River EDD	"	0	"	0	"	0	"	0	"	0
Chattahoochee Flint EDD	"	0	"	0	"	0	"	0	"	0
Coastal Area EDD	"	0	"	0	"	35	"	0	"	0
Coosa Valley EDD	"	0	"	0	"	0	"	0	"	0
Georgia Mountains EDD	"	0	"	0	"	0	"	0	"	0
Heart of Georgia EDD	"	0	"	0	"	0	"	0	"	0
Lower Chattahoochee EDD	"	0	"	0	"	0	"	0	"	0
McIntosh Trail EDD	"	0	"	0	"	0	"	0	"	0
Middle Flint EDD	"	0	"	0	"	0	"	0	"	0
Middle Georgia EDD	"	0	"	0	"	0	"	0	"	0
North Georgia EDD	"	0	"	24	"	0	"	0	"	0
Northeast Georgia EDD	"	0	"	3	"	0	"	0	"	0
Oconee EDD	"	0	"	37	"	0	"	0	"	0
South Georgia EDD	"	0	"	10	"	0	"	0	"	0
Southeast Georgia EDD	"	0	"	8	"	0	"	0	"	0
Southwest Georgia EDD	"	0	"	0	"	0	"	0	"	0
Non-EDD	"	0	"	0	"	0	"	0	"	0
Total	"	0	"	24	"	35	"	0	"	0

MAPS

ECONOMIC DEVELOPMENT DISTRICTS
AREA PLANNING AND DEVELOPMENT COMMISSION BOUNDARIES

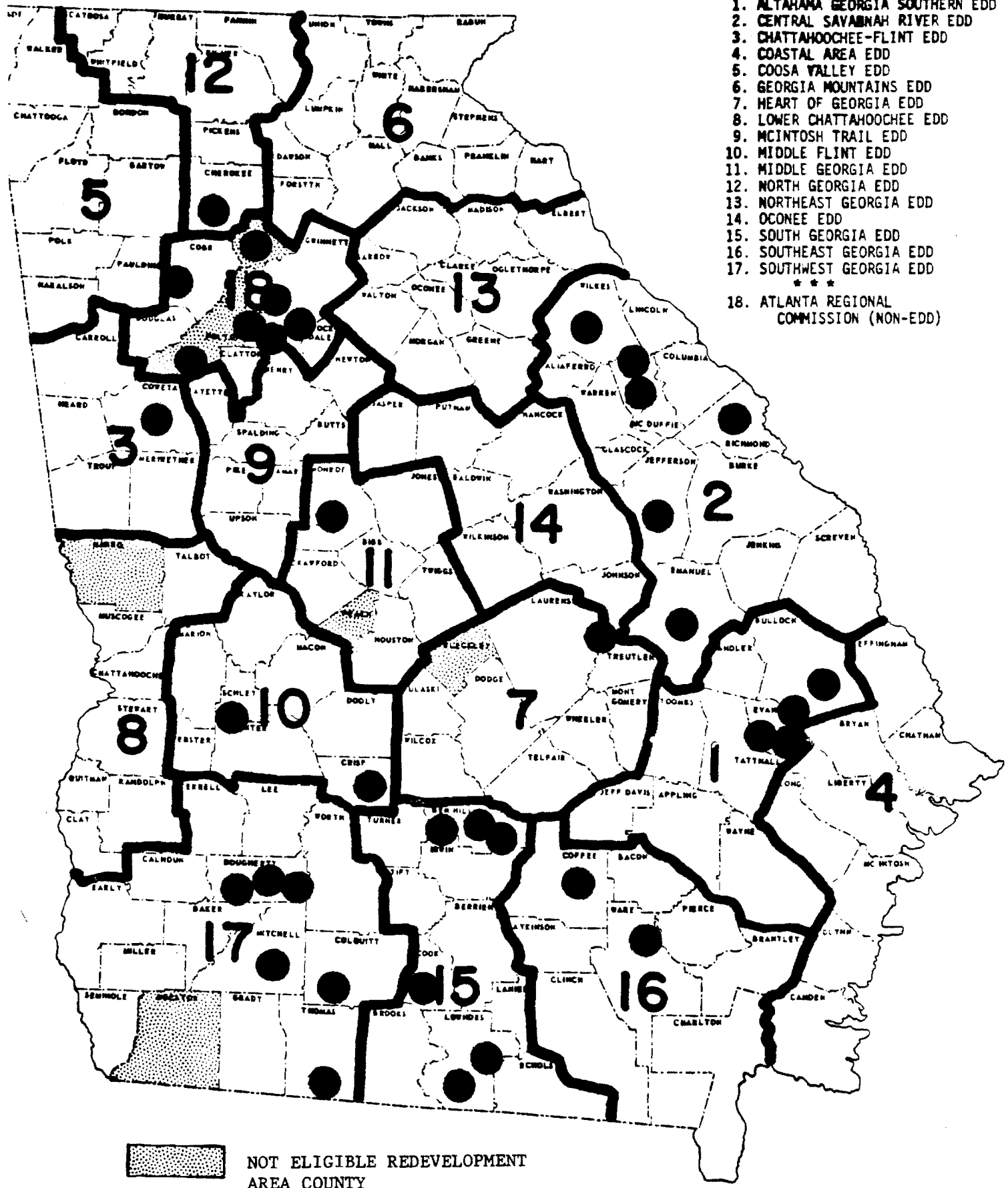


Map 2
AREA OFFICE OF
GEORGIA INSTITUTE OF TECHNOLOGY



Map 3

PROJECT LOCATION BY COUNTIES



Project No. A-2018
Grant No. 04-06-01567-4

A PROGRAM
OF MANAGEMENT AND TECHNICAL ASSISTANCE
IN DESIGNATED EDA COUNTIES IN GEORGIA

Quarterly Report

August, September, October 1980

by

Hardy S. Taylor
Senior Research Scientist

Robert E. Collier
Senior Research Scientist

This technical assistance program was accomplished by professional consultants under a grant from the Economic Development Administration. The statements, findings, conclusions, recommendations, and other data in this report are solely those of the grantee and do not necessarily reflect the views of the Economic Development Administration.

Economic Development Laboratory
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY
December 1980

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SUMMARY OF CENTER ACTIVITIES

Overall Program Objectives

The program activities described in this report represent an extension of the Economic Development Laboratory's (EDL) established service to Georgia business and industry through market research, management guidance, and technical assistance. The specific objectives of the EDA-sponsored program are as follows:

- o To stimulate the expansion and diversification of existing industry;
- o To support the formation of new, economically sound enterprises; and
- o As an ultimate objective following from the two stated above, to create additional jobs.

Service Region

The region covered under the EDA program of management and technical assistance encompasses all designated EDA counties in the state of Georgia. As of the beginning of the project year, there were 158 of these EDA counties in Georgia, so designated because they are economically depressed areas. The objectives of the program address the fundamental cause of these conditions: an inadequacy of employment opportunities. As a result of this deficiency, the counties have experienced high levels of unemployment, poverty, and outmigration.

Project Activity

During the first quarter, 29 management and technical assistance projects were active under the EDA program. In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of continued reviewing of existing projects, the elimination of those that did not appear to justify further effort, and the search for new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 9 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition, 10 projects were completed and closed out, leaving 19 active projects at the end of the quarter (see Chart 3).

I. BACKGROUND INFORMATION

A. Economic Characteristics of Service Area

The service area covered by the EDA Technical Assistance Grant effective during fiscal year 1980-1981 comprises 158 designated counties throughout the state of Georgia. These designated counties, shown in Chart 1, represent economically depressed areas. The high net outmigration in many of the counties (as high as 43% for the period 1970-1977) is the result of stagnant or declining economic conditions. This conclusion is further substantiated by the high percentage of individuals (as high as 61% in 1969) who fall below the poverty income level. The EDL program addresses the need for economic revitalization in these counties by creating job opportunities in new or existing businesses and industries.

B. Organization and Establishment of Center

First proposed as a comprehensive plan in October 1955, the industrial development program at Georgia Tech was established in July 1956 as a three-man operation. The Industrial Development Branch grew to division status within the Engineering Experiment Station in 1962, and was called the Industrial Development Division (IDD). Currently, the Economic Development Laboratory (formerly IDD), serves Georgia through area offices located in Albany, Augusta, Carrollton, Douglas, Gainesville, Macon, Rome, and Savannah.

The overall objective of the Economic Development Laboratory is to stimulate and advance industrial and economic development. This objective is to be achieved through active cooperation with other agencies and organizations engaged in the field of industrial and economic development and through the continuing development and implementation of programs which are designed to accomplish the following specific aims:

1. To provide the facts and scientific research needed to assess the economic status and development potential of the state and its subdivisions;
2. To describe, measure, and evaluate the physical and human resources of the state and its subdivisions;
3. To determine, through objective research and analysis, the types of business and industrial operations that are best suited for development or expansion in Georgia and in specific locations within the state;
4. To serve as a center for the collection, interpretation, and dissemination of information relating to industrial and economic development;

5. To provide professional assistance, information, and service to governmental units and to other industrial and economic development groups;
6. To provide professional assistance, information, and service to established and prospective business and industrial firms;
7. To motivate and assist public and private organizations in the utilization of research findings in the achievement of industrial and economic potentials; and
8. To provide professional instruction and guidance in the application of the principles and techniques of industrial and economic development.

C. Development of Management and Technical Assistance Program

In 1960 the Industrial Development Division, under the Management Research Grant Program of the Small Business Administration, conducted a comprehensive study of the problems and needs of small manufacturing management. The most significant finding of this study was that small businessmen critically need direct, personal guidance in resolving internal problems affecting their survival and growth.

To at least partially fulfill this need and in keeping with the eight aims specified above, in 1960 a modest program of management and technical assistance to small business and industry was started in Georgia. Wide response to this service in the ensuing months prompted the formation of the Industrial Development Division (IDD) to deal exclusively with the provision of direct assistance to small businessmen in Georgia. As a result of the expansion of functions in the Division, the EDA program is now centered in the Business Development Division of the Economic Development Laboratory.

On March 11, 1965, the U.S. Department of Commerce announced approval of a major program to stimulate the growth and expansion of business and industry in 16 designated counties in Georgia. This program was conceived and conducted as a joint effort of the Economic Development Administration, the Georgia Department of Industry and Trade, and the Georgia Institute of Technology. Work on the program was conducted by staff members of the Industrial Development Division of Georgia Tech's Engineering Experiment Station during the contract period beginning June 1, 1965, and ending May 31, 1966.

On May 11, 1966, the Economic Development Administration approved the extension of the management and technical assistance program until June 1, 1967. In brief, this program covered an expansion of the 1965-1966 program with services oriented toward assistance to firms in designated Economic Development Districts. Additional service was to be provided (1) to firms in counties qualified for EDA assistance in those cases where requests for

assistance were approved by the EDA Field Coordinator, and (2) to the EDA Field Coordinator in those cases where there was a need for data concerning the impact on employment opportunities of EDA funds to be expended for public works projects.

On April 19, 1967, the Economic Development Administration of the U.S. Department of Commerce announced the extension of the management and technical assistance program for a third year. This program covered an expansion of the 1966-1967 program with services oriented toward assistance to firms in designated Economic Development Districts and EDA counties. Additional service was to be provided (1) to firms in Economic Development Centers, (2) to firms in EDA-designated areas in bidding for government contract work, (3) to firms having received loans from the U.S. Department of Commerce upon request of the authorized representatives of the Contracting Officer, and (4) to the EDA Field Coordinator in those cases where there was a need for data concerning the economic impact that business and public works proposed for Economic Development Centers would have on the Economic Development Districts and surrounding EDA-designated areas. The program also included a survey of an Economic Development District to determine the extent, availability, and characteristics of the District's unemployed.

On April 12, 1968, the Economic Development Administration approved the extension of the management and technical assistance program for a fourth year. It covered the continuation of the 1967-1968 program at a reduced level of funding and effort, with service oriented toward assistance to firms in designated Economic Development Districts and EDA counties. In addition, manufacturers in certain Economic Development Centers and EDA counties who had not been previously interviewed were to be contacted and assistance extended where needed. Assistance to the EDA Economic Development Specialists and Economic Development Districts was to be provided in those cases where there was a need for economic impact studies and documentation in connection with applications for industrial and public works projects.

On April 29, 1969, the Economic Development Administration announced the fifth year extension of the grant to continue the 1968-1969 program. Although EDA funding for the program was reduced, local matching funds were increased proportionately, resulting in the same level of funding and effort. Services were directed toward assistance to firms in designated Economic Development Districts and EDA counties, as well as manufacturers in newly designated Economic Development Centers and EDA counties. A selective resurvey of firms in EDA-designated counties was to be conducted to identify firms with expansion possibilities and determine the demand for specific products and services which potentially could be supplied by existing or new firms located

in EDA-designated areas. Assistance to the EDA Economic Development Representatives and Economic Development Districts was to be provided in a limited number of cases for economic impact studies and documentation in connection with applications for industrial and public works projects.

On April 9, 1970, the Economic Development Administration, U.S. Department of Commerce, announced the extension of the management and technical assistance program for a sixth year to cover a continuation of the 1969-1970 program. The EDA grant for the program was reduced again, and although local matching funds remained about the same, there was a 22% net reduction in funds which restricted service efforts. These assistance services were structured and directed similarly to those in the prior year.

On June 4, 1971, the Economic Development Administration, U.S. Department of Commerce, announced the extension of the management and technical assistance program for a seventh year. Although this program covered a continuation of the 1970-1971 program, the EDA grant for the program was reduced an additional 12%. This necessitated a reduction in tasks to be performed under the grant. IDD was no longer required to prepare economic impact studies in connection with EDA loan applications. With more emphasis placed on utilization of the IDD area offices, it was possible to continue providing full management and technical assistance services to firms in designated EDD's and EDA counties, including 15 new counties that were added during the grant period.

During fiscal 1971-1972, 87 management and technical assistance projects were active under the EDA program. This brought to 603 the total number of projects undertaken by IDD from the inception of the program under the contract through May 31, 1972.

During fiscal 1972-1973, 81 management and technical assistance projects were active under the EDA program. This brought to 640 the total number of projects undertaken from the inception of the program under the contract through May 31, 1973.

During fiscal 1973-1974, the contract was changed to adjust the fiscal year to a 1 July - 30 June basis by making the 1973-1974 contract cover a 13-month period. During this contract period, a total of 85 management and technical assistance projects were active, bringing to 707 the total number of projects undertaken since the inception of the program.

During fiscal 1974-1975, 89 management and technical assistance projects were active under the EDA program. This brought to 766 the total number of projects undertaken from the inception of the program through June 30, 1975.

During fiscal 1975-1976, 77 management and technical assistance projects were active under the EDA program. This brought to 808 the total number of projects undertaken by EDL since the inception of the program.

During fiscal 1976-1977, 66 management and technical assistance projects were active under EDA program. This brought to 852 the total number of projects undertaken by EDL since the inception of the program.

During fiscal 1977-1978, 83 management and technical assistance projects were active under the EDA program. This brought to 898 the total number of projects undertaken by EDL from the inception of the program through July 31, 1978.

During fiscal 1978-1979, 56 management and technical assistance projects were active under the EDA program. This brought to 954 the total number of projects undertaken by EDL from the inception of the program through July 31, 1979.

During fiscal 1979-1980, 58 management and technical assistance projects were active under the EDA program. This brought to 964 the total number of projects undertaken by EDL from the inception of the program through July 31, 1980.

The overall philosophy of the Economic Development Laboratory is to work in conjunction with all economic development agencies. Exhibits 1 and 2 illustrate the relation of the Economic Development Laboratory and its branches to the organizational structure of the Georgia Institute of Technology.

II. PROGRAM ADMINISTRATION

A. Program Objectives

The program activities described in this report represent an extension of the Economic Development Laboratory's established service to Georgia business and industry through market research, management guidance, and technical assistance. The specific objectives of the EDA-sponsored program are:

1. To stimulate the expansion and diversification of existing business and industry in designated EDA counties;
2. To support the formation of new, economically sound enterprises in designated EDA counties; and
3. To encourage the development and expansion of economically sound enterprises owned and/or managed by individuals from the minority and female community in the service area.

These program objectives are applied to all the EDA areas in Georgia and do not vary from subregion to subregion.

B. Technical Assistance Service

Under the EDA Technical Assistance Grant effective during fiscal year 1980-1981, the Economic Development Laboratory offered several types of assistance in designated Economic Development Districts and counties:

1. Technical and management assistance was provided to marginal existing business and industrial firms in order to solve problems that endangered their continuation. The purpose of aid in these cases was to save jobs.
2. Technical and management assistance was furnished to existing business and industry with operating problems which inhibited growth. Expansion and diversification assistance was provided in order to create jobs.
3. Technical and management assistance was enlisted in the formation of new industrial ventures, also for the purpose of creating jobs.
4. Technical and management assistance was furnished to individuals from the minority and female community for the purpose of creating opportunities for the development of business enterprises and the creation of jobs.

This assistance covers all of the problems businesses encounter in the broad fields of management, operations, personnel, finance, product evaluation, and market identification. It should be noted that when a company or group of individuals expresses an interest in an EDA business loan, the Economic Development Laboratory refers that company or group to the EDA Economic Development Representative and takes no action until requested to do so by the Economic Development Representative.

C. Project Personnel

The staff of the Business Development Division has had a wide range of practical experience in consulting, administrative, and operational work with a variety of business and industrial firms. Supporting the Division staff are other professional personnel of the Economic Development Laboratory: market analysts, plant location specialists, industrial economists, statisticians, research librarians, and industrial and chemical engineers. In addition, the facilities and personnel of Georgia Tech's academic departments and library are available for consultative work on special projects.

Exhibit 3 contains biographical sketches of the in-house professionals of the Business Development Division, in which the EDA activities are centered.

D. Phasing of Work Program

This work program, which encompasses Chart 2, has been waived by paragraph five of the grant amendment offer dated the 26th day of June 1972.

E. Internal Management Policies and Procedures

1. General Program Approach

At the start of the program in July 1979, 20 projects were carried over from the previous contract. Internal controls were reviewed and reissued to provide for the effective assignment of staff to be covered by the field offices (see Map 2), and manpower estimates were prepared. Program controls were reviewed to insure adequate work records, and man-hours were budgeted for each staff member according to the probable volume of work to be generated from his individual assignments.

A presentation explaining the program was prepared and submitted to the executive directors of the newly designated Economic Development counties. Map 1 shows the 17 Economic Development Districts and the designated EDA counties in each. The program continued to be well received and, while conducted consistently throughout the state, was tailored to fit into the existing programs under way in some of the Districts. Close liaison was maintained with the assigned members of the Development District staff by the Atlanta and field office personnel of EES.

Normally, the first contact with individual firms in new EDA counties and Development Centers came as a result of local news articles in area newspapers. The next contact was made by letter from the local Area Planning and Development Commission. Each of the firms contacted subsequently was visited by an EES staff representative and, in some cases, an Area Planning and Development Commission staff representative. These visits served to establish personal contact with local business and industrial officials and to determine specific opportunity for expansion, diversification, or the establishment of new businesses. As a part of the interview, information was collected by the EES staff representative on such factors as employment, product, and production capability of each company through use of the especially designed Manufacturers Data Sheet.

As each individual project was developed, an EDL representative was made project director, and the required work was either performed by the project director or assigned to a staff specialist. The project director maintained close contact with the company involved until the project was completed; work performed on each project and the results achieved were recorded on individual project report forms. The format of the quarterly report to the Office of Technical Assistance of the Economic

Development Administration was changed to conform to new EDA guidelines to facilitate reporting quarterly the nature and status of apropos work performed in each of the Districts to the District offices.

2. Operating Policies

When it is decided to proceed with a project, the assignment of personnel and the priority given to these assignments are determined on the basis of the potential return which can be expected from an investment of management and technical assistance services. Several external factors are involved in the determination of the project priorities. The four main criteria are as follows:

- a. The inherent potential of the proposal is the first test applied to a request for assistance. If a new product or process is involved or if the request is for assistance in the organization of a new enterprise, an analysis is made of the profit potential of the product, process, or company. If the potential appears to be sound, the proposal has passed the first test.
- b. The second criterion involves the management and/or technical competence of the individuals requesting assistance. Their competence becomes a factor in the overall potential of the proposal. Assuming a high degree of management competence, a proposal with sound market potential justifies a high priority. Without such competence, the chances of success for a potentially good idea obviously are reduced.
- c. The economic impact of EDL's assistance service represents the third test. A higher priority is normally given to those projects in which a relatively high return can be achieved through the creation of better paying jobs, the increased use of natural resources, and the fulfillment of a profitable business opportunity.
- d. The fourth test relates to the financial resources supporting the proposal itself. If the proposal has validity in all other respects, financial backing usually can be secured from outside interests. If the proposed product, process, or company is weak in either of the first two external factors stated above, its potential success is weakened even if the individuals involved can provide their own financial backing. So priority is determined on the basis of the financial resources behind the proposal if it meets the first two criteria.

Page 10 not found in the document

Particular attention is directed to working with the EDD's and APDC's on individual projects. When an assistance project is opened, these organizations are notified that EDL will be working in their area and a monthly progress report of activity on projects within their area is supplied.

Cooperation with the above-mentioned organizations is enhanced because EDL is involved in activities other than EDA within the state, and its personnel are in almost constant contact with these groups.

III. STRATEGY FOR SUBREGIONS

Map 2 is a graphic depiction of the Economic Development Laboratory's method of realizing EDA objectives. It reflects the blanket coverage of the entire state and the relationship of that coverage to the Economic Development District areas.

These management and technical assistance program objectives are applied to all the EDA areas in Georgia and do not vary from subregion to subregion.

IV. TECHNICAL ASSISTANCE PROJECTS

A. Location

Map 3 identifies the counties in which work was performed under the program and indicates the number of projects conducted in each county.

B. Highlights of Project Activity

Chart 4 summarizes the project activity by type and subregion to indicate the distribution of effort throughout the state. Chart 5 lists the project activity by type and subregion to demonstrate the job impact.

The following projects were selected for special mention:

Project 922: A concern in Mitchell County initially requested assistance in obtaining information relating to union matters. Technical information and advice also were furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading locks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant. Work is continuing on system improvement of the production line. Management reports an estimation of 20% improvement in productivity as a result of project work. The project is continuing.

Project 934: A manufacturing firm in Schley County experienced problems in its material flow and equipment layout needed to improve the efficiency of the present system. Assistance was requested in the redesign of its production line layout. EES personnel met with company principals and discussed production problems. A flow process chart on each of the components and subcomponents has been completed and the layout presented to plant personnel. Layout revisions have been completed and furnished the company. Technical discussions are under way concerning the laminating of plastics. Management reports an estimated 50% increase in productivity as a result of project work. The project is continuing.

Project 968: Previously, EES staff personnel made an overview survey of a metalworking company in Glynn County to help company management improve their management and production processes. Recently, the company requested that an evaluation be made of their present position and that assistance be furnished company management in developing new management plans for the period 1981-1983. An EES staff engineer met with management, reviewed the current situation, and subsequently furnished the company a detailed analysis of its position. This report was an objective analysis containing projections and data for use in developing future plans. Company management reported to EES that the analysis will be of significant value to the firm in developing its new plans. Further assistance is not required at this time. The project has been closed.

C. Nondiscrimination Policy and Related Project Activity

To assure nondiscrimination in the provision of service of the program under Title VI of the Civil Rights Acts of 1964 and Title 15 CFR, Part 8.4, a substantial effort was made to identify needs of the minority and female community for technical assistance to small businessmen. Of the projects conducted during the grant period, five were in support of minority interest and three were in support of female interest. The following projects describe the action undertaken to assist the minority and female community.

1. Minority Interest

Project 929: Assistance to a local government in DeKalb County shopping district revitalization

An area within the City of Decatur, Georgia, which has a relatively large minority population has suffered from blight and outmigration of businesses. The city and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC), which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the central area. EES personnel met with the principal, who is Director of Economic Development for the CDC, examined approaches that can be undertaken to solve the problem, and have identified several that will be initiated. The project is continuing.

Project 940: Assistance to a paper products company in Fulton County for diversification of its operations

A minority-owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and development of a business plan to go into institutionalized distribution of paper and related products. EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company. Assistance has been furnished in developing capital requirements and in locating warehouse space. The company planned to be in operation in January 1980; however, the plant opening has been delayed. The project is continuing.

Project 971: Assistance to a cleaning supply company in Fulton County (Atlanta) to develop a business plan

A minority-owned cleaning supply firm in Atlanta was experiencing difficulties because of the lack of an effective marketing program and the lack of working capital. An EES staff expert in management assistance met with the company principal and reviewed financial statements and company needs. It was determined that the firm needed extensive and continuing technical assistance and improved internal management. Sources of technical assistance were furnished management together with information on governmental loan programs. It was recommended that the firm hire a professional general manager with marketing experience. The project is closed.

Project 875: Assistance to an executive search firm in Fulton County (Atlanta)

A minority-owned executive search firm in Atlanta is applying for an SBA working loan and requires assistance in completing the application. This firm specializes in executive searches for the banking industry. An EES staff assistant met with the principal of the firm and is providing assistance in completing the SBA application. The project is continuing.

2. Female Interest

Project 930: Assistance to an individual in Dougherty County for toothpaste market information

An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line. EES staff personnel met with the individual to discuss the possibility of conducting marketing in connection with the product line. The project is continuing.

D. Project Summaries

The 29 individual projects which were active during the quarter under the program of management and technical assistance to businesses, industrial firms, and communities in designated Georgia counties are listed by Economic Development Districts. Descriptions include identification of each project by number, type, and location; a brief description of the work performed; and a statement of the results achieved. The 19 projects which were still active as of October 31, 1980, are listed under "Ongoing Projects" in each EDD.

ALTAMAHA GEORGIA SOUTHERN ECONOMIC DEVELOPMENT DISTRICT

General

The Altamaha Georgia Southern Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Appling, Bulloch, Candler, Evans, Jeff Davis, Tattnall, Toombs, and Wayne. The Economic Development Centers are Hazlehurst (Jeff Davis County), Statesboro (Bulloch County), and Vidalia (Toombs County).

Discontinued Projects

None.

Ongoing Projects

Two projects currently are under way in this area.

Project 949: Assistance to a dairy concern in Bulloch County which is experiencing transient electric voltage problems

Nature of Problem: The electrical shocking of dairy cows by transient voltages has resulted in severe losses in milk production for a dairy farm in Bulloch County. The problem has existed since about 1973, but has become critical during the last two years. Steps recommended by other organizations have not produced satisfactory results.

Work Performed: A staff member visited the dairy and obtained background information on the problem. Further information is being obtained to determine the reason for the transient voltages and to seek alternative solutions to the problem. Data on area and state milk production were furnished the dairy together with production data from the shock areas. Electrical protection devices were discussed with the manager. The dairy's production rates were compared with data from two dairy associations. Preparations were made to check neutral to ground voltages at the dairy barn.

Results: The project is continuing.

Project 958: Assistance to a group in Evans County that is interested in establishing an aluminum foundry

Nature of Problem: A group in Evans County is interested in establishing an aluminum foundry in the Claxton-Statesboro area. Much of the production equipment is owned by the group. Market survey work is needed to determine the demand for products. Site location assistance also is required.

Work Performed: EES staff personnel met with company representatives and developed a work plan for the project. A market survey process was developed and survey forms were mailed to selected addresses. Responses were received, tabulated, analyzed, and furnished the company. A presentation was made to the company concerning the aluminum casting survey. It was determined that the project should be expanded to include a study of production capacity and cost of equipment available to the company. In addition, it was determined that financing alternatives should be investigated. The investigation is under way.

Results: The project is continuing.

CENTRAL SAVANNAH RIVER ECONOMIC DEVELOPMENT DISTRICT

General

The Central Savannah River Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Burke, Columbia, Emanuel, Glascock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Screven, Taliaferro, Warren, and Wilkes. The Economic Development Centers are Augusta (Richmond County) and Swainsboro (Emanuel County).

Discontinued Projects

During the period, five projects were discontinued in the area.

Project 962: Assistance to a company in Jefferson County that is planning to build a gasohol fuel plant

Nature of Problem: A company in Jefferson County employed a mechanical engineer and a chemical engineer to design a 1,500,000-gallon alcohol fuel plant. Upon completion of the engineering design and a production plan, engineers and management specialists may be needed to review design and production plans.

Work Performed: EDL staff personnel met with company principals and discussed the company's plans and potential EDL service under EDA's management and technical assistance program. Other general information concerning alcohol was furnished. Further assistance is not required until the project is fully developed.

Results: The project is closed.

Project 963: Assistance to a company in Burke County that has built a pilot gasohol plant and is planning to go into full production

Nature of Problem: A company in Burke County has built a pilot plant for the production of alcohol fuel. If test runs are successful, management plans to build a plant and go into full production. It is anticipated that a government-guaranteed loan will be required.

Work Performed: EDL staff personnel met with company management and discussed the company's plans and information on government programs for alcohol fuels. Further assistance is not needed at this time.

Results: The project is closed.

Project 964: Assistance to a company in Screven County that is planning to build an alcohol fuel plant

Nature of Problem: A company in Screven County completed a feasibility study for a 600,000 to 1,000,000-gallon alcohol fuel plant. Company management has requested that EDL staff personnel make a review of the study.

Work Performed: EDL staff personnel met with company management and discussed the company's plans and the services that could be furnished by EDL under EDA's management and technical assistance program. Further assistance is not required at this time.

Results: The project is closed.

Project 965: Assistance to a company in Burke County that is planning to build an alcohol fuel plant

Nature of Problem: A company in Burke County completed an engineering design for a 2,000,000-gallon alcohol fuel plant. The company is planning to employ a consulting firm to conduct a feasibility study that can be used in making the application for a government-guaranteed loan. EDL assistance was requested to conduct a review of the feasibility study and financial projections.

Work Performed: EDL staff personnel met with the company management to discuss the company's plans and need for EDL services under the EDA program of management and technical assistance. Further assistance is not required at this time.

Results: The project is closed.

Project 966: Assistance to a company in Jefferson County that is planning to build a gasohol fuel plant

Nature of Problem: A company in Jefferson County is planning to build a 2,000,000-gallon alcohol fuel plant. Work on the engineering design is under way. Assistance has been requested in preparing an application for a government-guaranteed loan.

Work Performed: EDL staff personnel met with company management and discussed their production plans and the need for EDL services under EDA's management and technical assistance program. Further assistance is not required at this time.

Results: The project is closed.

Ongoing Projects

One project is now under way in this area.

Project 974: Assistance to a metal manufacturing company in Jefferson County

Nature of Problem: A tool and die shop is seeking to broaden its manufacturing base as well as its marketing area. The company produces several metal products, including gas fish cookers, pickup truck tool boxes, and wire cricket cages. The company has general machining, welding, and fabrication capabilities. It is interested in using these capabilities to produce metal fabrications and components for other companies. The firm has requested help with its marketing effort.

Work Performed: Initial contacts have been made with company personnel and a work program has been developed.

Results: The project is continuing.

CHATTACHOOCHEE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Chattahoochee-Flint Economic Development District consists of five counties, all of which are eligible Redevelopment Area counties: Carroll, Coweta, Heard, Meriwether, and Troup. The Economic Development Centers are Carrollton (Carroll County) and LaGrange (Troup County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

COASTAL AREA ECONOMIC DEVELOPMENT DISTRICT

General

The Coastal Area Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Bryan, Camden, Chatham, Effingham, Glynn, Liberty, Long, and McIntosh. The Economic Development Centers are Brunswick (Glynn County) and Hinesville (Liberty County).

Discontinued Projects

During the period one project was discontinued in this area.

Project 968: Management assistance to a metalworking firm in Glynn County

Nature of Problem: Previously, EES staff personnel made an overview survey of a metalworking company in Glynn County to help company management improve their management and production processes. Recently, the company requested that an evaluation be made of its present position and that assistance be furnished company management in developing new management plans for the period 1981-1983.

Work Performed: An EES staff engineer met with company management, reviewed the current situation and subsequently furnished the company a detailed analysis of its position. This report was an objective analysis containing projections and data for use in developing future plans. Company management reported to EES that the report will be of significant value to the firm in developing its new plans. Further assistance at this time is not required.

Results: The project is closed.

Ongoing Projects

There are no projects currently under way in this area.

COOSA VALLEY ECONOMIC DEVELOPMENT DISTRICT

General

The Coosa Valley Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Bartow, Catoosa, Chattooga, Dade, Floyd, Gordon, Haralson, Paulding, Polk, and Walker. The Economic Development Centers are Bremen-Tallapoosa Buchanan (Haralson County), Rome (Floyd County), Cartersville (Bartow County), Ft. Oglethorpe (Catoosa County), and Rossville-LaFayette (Walker County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

GEORGIA MOUNTAINS ECONOMIC DEVELOPMENT DISTRICT

General

The Georgia Mountains Economic Development District consists of 13 counties, all of which are eligible Redevelopment Area counties: Banks, Dawson, Forsyth, Franklin, Habersham, Hall, Hart, Lumpkin, Rabun, Stephens, Towns, Union, and White. The Economic Development Centers are Gainesville (Hall County) and Toccoa (Stephens County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

HEART OF GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Heart of Georgia Economic Development District consists of nine counties, eight of which are eligible Redevelopment Area counties: Dodge, Laurens, Montgomery, Pulaski, Telfair, Treutlen, Wheeler, and Wilcox. The Economic Development Center is Dublin-East Dublin (Laurens County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

McINTOSH TRAIL ECONOMIC DEVELOPMENT DISTRICT

General

The McIntosh Trail Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Butts, Fayette, Henry, Lamar, Newton, Pike, Spalding, and Upson. The Economic Development Centers are Covington (Newton County), Griffin (Spalding County), and Thomas-ton (Upson County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

MIDDLE FLINT ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Flint Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Crisp, Dooly, Macon, Marion, Schley, Sumter, Taylor, and Webster. The Economic Development Center is Americus (Sumter County).

Discontinued

None.

Ongoing Projects

There are two projects under way in this area.

Project 932: Assistance to an irrigation equipment manufacturing company in Crisp County

Nature of Problem: An irrigation equipment manufacturing company in Crisp County requested assistance in the redesign of certain items of equipment manufactured by the company.

Work Performed: EES personnel met with the owner of the company, made an initial analysis of the problem, and determined that assistance would be required in the area of mechanical and electromechanical engineering. Further investigations are under way.

Results: The project is continuing.

Project 934: Assistance to a company in Schley County in the development of a new production layout

Nature of Problem: A manufacturing firm in Schley County is experiencing problems in its material flow and equipment layout needed to improve the efficiency of the present system. Assistance has been requested in the redesign of its production line layout.

Work Performed: EES personnel met with company principals and discussed production problems. Layout revisions have been completed and furnished the company. Technical discussions are under way concerning the laminating of plastics. Management reports an estimated 50% increase in productivity as a result of present work.

Results: The project is continuing.

MIDDLE GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Middle Georgia Economic Development District consist of seven counties, six of which are Redevelopment Area counties: Bibb, Crawford, Houston, Jones, Monroe, and Twiggs. The Economic Development Center is Macon (Bibb County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

NORTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The North Georgia Economic Development District consist of six counties, all of which are eligible Redevelopment Area counties: Cherokee, Fannin, Gilmer, Murray, Pickens, and Whitfield. The Economic Development Center is Dalton (Whitfield County).

Discontinued Projects

During the period one project was discontinued in this area.

Project 969: Assistance to a farm corporation in Gilmer County in expanding its operation into processing and marketing

Nature of Problem: A farm corporation in Gilmer County desired to expand its breeding and raising operations to include animal processing and marketing. The plan involved the construction of a slaughterhouse. A feasibility study was needed to apply for a loan to build the slaughterhouse.

Work Performed: An EES staff management assistant met with the principal to obtain basis information and requirements. An outline feasibility study with proposed budget was furnished the principal. The principal was advised as to the need for funding of a full-scale feasibility study and how to go about obtaining funds for the study. Further assistance was not required.

Results: The project is closed.

Ongoing Projects

There are no projects under way in this area.

NORTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT -

General

The Northeast Georgia Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Barrow, Clarke, Elbert, Greene, Jackson, Madison, Morgan, Oconee, Oglethorpe, and Walton. The Economic Development Center is Athens (Clarke County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

OCONEE ECONOMIC DEVELOPMENT DISTRICT

General

The Oconee Economic Development District consists of seven counties, all of which are eligible Redevelopment Area counties: Baldwin, Hancock, Jasper, Johnson, Putnam, Washington, and Wilkinson. The Economic Development Center is Milledgeville (Baldwin County).

Discontinued Projects

None.

Ongoing Projects

There are no projects under way in this area.

SOUTH GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The South Georgia Economic Development District consists of ten counties, all of which are eligible Redevelopment Area counties: Ben Hill, Berrien, Brooks, Cook, Echols, Irwin, Lanier, Lowndes, Tift, and Turner. The Economic Development Centers are Valdosta (Lowndes County) and Tifton (Tift County).

Discontinued Projects

None.

Ongoing Projects

There are now four projects under way in this area.

Project 947: Assistance to a recreational vehicle manufacturing firm in Ben Hill County

Nature of Problem: A firm in Ben Hill County is experiencing production difficulties due to plant layout and prouction processes.

Work Performed: No current drawings existed, so the first step involved creating drawings of the existing layout. For these drawings, modifications were made to eliminate two major bottlenecks in material handling. During the creation of the new layout, another plant was closed by this company, so that much longer recreational vehicles had to be manufactured in this plant. Due to this latest change, several of the options in the new layout were not implemented and a proposed addition to the building was not made. However, a number of internal changes were implemented which allowed this company to improve production and not have to lay off workers. Specific improvements such as an overhead crane were instrumental in enabling the comany to manufacture the longer trailers. Several additional changes wll be implemented at a later date.

Results: Several layoffs have been avoided or delayed by the flexibility allowed in the new plant layout. The project is continuing.

Project 948: Assistance to a manufaturer of irrigation equipment in Ben Hill County

Nature of Problem: A firm in Ben Hill County is manufacturing a new product which involves a new type of electronic control circuit. No one in the area manufactures such a circuit. The company is interested in establishing a manufacturing capability in the area so that the the item will be available for use in the company's new product. Assistance has been requested in establishing such a capability in the area.

Work Performed: EES peronnel have assisted the company to initiate a project setup, draw a schematic, and locate sources of supplies. Investigation of sources of controls was undertaken, including cost estimates.

Results: The project is continuing.

Project 951: Assistance to a farm tool manufacturer in Ben Hill County

Nature of Problem: A manufacturing firm in Ben Hill County has a need to increase the efficiency of an electrostatic powder painting system. A way must be found to improve paint adherence while keeping the system price competitive.

Work Performed: EES staff personnel met with company personnel and further identified the problem. Work is under way to determine an approach to solving the adhesion problem.

Results: The project is continuing.

Project 973: Assistance to an agricultural manufacturing business in Berrien County

Nature of Problem: A small manufacturer of agricultural equipment in Berrien County wishes to diversify its product line by manufacturing disk blades for agricultural equipment. The company has requested assistance in identifying the basic production processes required, specific manufacturing operations needed, new equipment that will be required to produce the disks, and in the development of a pricing structure.

Work Performed: EES staff engineers have met with management and developed a detailed program to be undertaken. The project is now under way.

Results: The project is continuing.

SOUTHEAST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southeast Georgia Economic Development District consists of eight counties, all of which are eligible Redevelopment Area counties: Atkinson, Bacon, Brantley, Charlton, Clinch, Coffee, Pierce, and Ware. The Economic Development Center is Waycross (Ware County).

Discontinued Projects

None.

Ongoing Projects

Two projects currently are under way in this area.

Project 913: Assistance to a rebuilder of railroad cars in Ware County

Nature of Problem: A company in Ware County is interested in expanding its market and establishing a second plant in Atkinson County. As part of its expansion plan, the company has requested assistance in the development of a promotional brochure.

Work Performed: Initially, the company principal requested assistance in preparing a promotional brochure. Photographs were taken and work on the brochure was undertaken. Subsequently, assistance was requested and furnished in the matter of heating a paint room and a paint coating system for rail cars. Also, assistance was furnished in locating sources of investment capital for development financing.

Results: The project is continuing.

Project 972: Assistance to a nonprofit corporation in Ware County involved in furnishing work to handicapped workers

Nature of Problem: A concern in Ware County is involved in using handicapped personnel in the production of unfinished furniture. This non-profit company is experiencing difficulty in obtaining funds for continuing operations. Assistance was requested to determine whether the company was eligible for a government loan.

Work Performed: An EES staff assistant visited the firm and discussed its status with the principal. It appears that the company may be eligible for an EDA loan. This matter is being discussed with an EDA representative.

Results: The project is continuing.

SOUTHWEST GEORGIA ECONOMIC DEVELOPMENT DISTRICT

General

The Southwest Georgia Economic Development District consists of 13 counties, 12 of which are eligible Redevelopment Area counties: Baker, Calhoun, Colquitt, Dougherty, Grady, Lee, Miller, Mitchell, Seminole, Terrell, Thomas, and Worth. The Economic Development Centers are Albany (Dougherty County) and Bainbridge (Decatur County).

Discontinued Projects

None.

Ongoing Projects

Five projects are now under way in this area.

Project 826: Assistance to an automobile component manufacturer in Dougherty County

Nature of Problem: This newly established manufacturer of an automobile fuel economizing device requested EES assistance in locating sources of supply for component parts of the product

Work Performed: The EES staff made follow-up contact with the firm. The manufacturer has now located a supplier for most of the needed component parts, but continues to need help in locating rubber hoses and associated parts. The specifications for these hoses and parts have been obtained from the company. The firm appears to be having outstanding success in the sale of its products. It is anticipated that further assistance will be required in plant and production facilities in the near future.

Results: The project is continuing.

Project 880: Assistance to an agricultural equipment manufacturer in Thomas County

Nature of Problem: This firm recently acquired a 60,000-square-foot manufacturing building and requested EES assistance with several problem areas in the start-up of production of irrigation equipment.

Work Performed: The EES staff completed work on a system for metal preparation and coating for the company. Work was initiated on the development of a management information system for use with materials and labor scheduling and for effective cost control and analysis. The EES staff member made a return visit to the firm and determined that work on metal preparation and coating was progressing well. Work is also proceeding to provide the firm with information on newer manufacturing equipment and the production of rigid hoses. These requirements have been discussed with management.

Results: The project is continuing.

Project 922: Assistance to a firm in Mitchell County that manufactures automotive equipment

Nature of Problem: A concern in Mitchell County initially requested assistance in obtaining information relating to company procedures in the event of a union election. Subsequently, company management requested information and assistance in the development and manufacturing of new products.

Work Performed: EES personnel met with management and arranged for the company to receive necessary information relating to union matters. Technical information and advice also were furnished concerning the ventilation of welding stations, electrical distribution systems, and drainage of loading docks. Additional assistance is being provided in the field of industrial engineering as it pertains to the modernization of the plant. Work is continuing on system design for the production line. Management reports an estimated 20% increase in productivity as a result of product work.

Results: The project is continuing.

Project 923: Request by a manufacturer of farm machinery in Dougherty County for assistance in patents and trademarks procedures

Nature of Problem: A manufacturer of farm machinery has requested assistance concerning the processing of their product and matters relating to patents and trademarks.

Work Performed: A meeting with the project engineer of the firm was arranged by an EES staff member. The U.S. Department of Commerce's Patent and Trademarks Division was requested to provide information concerning patent classifications and subclassifications and appropriate forms. The EES staff member conducted a literature search relative to peanut blanching patents at the Georgia Tech Library. The company also identified certain vibration problems it was having with some of its equipment. EES personnel visited the plant, made measurements, and offered a solution which would eliminate the vibration problem. Technical assistance is continuing to be furnished in the area of industrial engineering.

Results: The project is continuing.

Project 930: Assistance to an individual in Dougherty County for toothpaste market information

Nature of Problem: An individual in Dougherty County who is interested in developing a new product line of toothpaste has requested information concerning the marketability of such a product line.

Work Performed: EES staff personnel have met with the individual to discuss the possibility of conducting market research in connection with the new product line.

Results: The project is continuing.

PROJECTS OUTSIDE ECONOMIC DEVELOPMENT DISTRICTS

General

During the period, eight projects were active in counties outside the Economic Development Districts.

Discontinued Projects

During the period, three projects were discontinued in this area.

Project 967: Assistance to a firm in Cobb County to eliminate a dust problem

Nature of Problem: A firm in Cobb County requested assistance in solving its dust problem resulting from the use of shot blasting equipment in its operations.

Work Performed: An EES engineer visited the plant and made a thorough examination of the work in progress with the use of the shot blasting equipment. As a result of the visit, management was furnished a written report showing how the problem could be lessened or eliminated. No further assistance is required at this time.

Results: The project is closed.

Project 970: Assistance to a specialty company in Fulton County (Atlanta) in locating a source of supply

Nature of Problem: A specialty company located in Atlanta requested assistance in locating a source of supplies for specially printed playing cards and a means of laminating vinyl to printed surfaces.

Work Performed: An EES staff member met with the principal and determined his precise requirements. Subsequently, a source of supply and technical assistance was located and the information furnished the company. No further assistance was required.

Results: The project is closed.

Project 971: Assistance to a cleaning supply company in Fulton County (Atlanta)

Nature of Problem: A cleaning supply firm in Atlanta was experiencing difficulties because of the lack of an effective marketing program and the lack of working capital.

Work Performed: An EES staff assistant met with the principal and reviewed financial statements and company needs. It was determined that the firm needs extensive and continuing technical assistance or improved internal management. A list of sources of technical assistance was furnished the company together with information on governmental loan programs. It was recommended that the firm hire a professional general manager with marketing experience if it expects to overcome current problems. Further assistance could not be provided at this time.

Results: The project is closed.

Ongoing Projects

Three projects now are under way in this area.

Project 929: Assistance to a local government in revitalizing a DeKalb County shopping district

Nature of Problem: An area within the city of Decatur, Georgia, which has a relatively large minority population has suffered from blight and outmigration of business. The city government and residents want to reverse this trend. The vehicle which is to be used to reverse the trend is the Community Development Center (CDC), which has selected a shopping center as its catalytic project. Assistance has been requested to study the problem and to outline approaches that can be taken to improve the business climate in and about the center area.

Work Performed: EES personnel met with the principal, who is Director of Economic Development for the CDC, examined approaches that can be undertaken to solve the problem, and have identified several that will be initiated.

Results: The project is continuing.

Project 940: Assistance to a paper products company in Fulton County (Atlanta) for diversification of its operations

Nature of Problem: A minority-owned paper products company has been selling paper products on a limited basis. This company has requested assistance in conducting a feasibility study and development of a business plan to go into institutionalized distribution of paper and related products.

Work Performed: EES personnel have been in communication with the president of the firm, and plans have been made for further work with the company. Assistance has been furnished in developing capital requirements and in locating warehouse space. The company planned to be in operation in January 1980; however, the plant opening has been delayed.

Results: The project is continuing.

Project 975: Assistance to an executive search firm in Fulton County (Atlanta)

Nature of Problem: An executive search firm in Atlanta is applying for an SBA working capital loan and requires assistance in completing the SBA application. This firm specializes in executive searches for the banking industry.

Work Performed: An EES staff assistant met with the principal of the firm and scheduled an appointment to assist him in completing the application.

Results: The project is continuing.

V. EVALUATION OF PROGRAM EFFORT

In drawing conclusions about the program, it would not be difficult to overstate the impact of the work performed by EDL staff personnel on individual projects. Work performed during the quarter reported on can be characterized in terms of continued reviewing of existing projects, the elimination of those that did not appear to justify further effort, and the search for new opportunities to provide management and technical assistance to companies and individuals that could possibly lead to the establishment of new jobs or provide stabilization for existing companies. During the period, 9 new projects were initiated; however, it is too early to estimate the job impact of these projects. In addition 10 projects were completed and closed out, leaving 19 active projects at the end of the quarter.

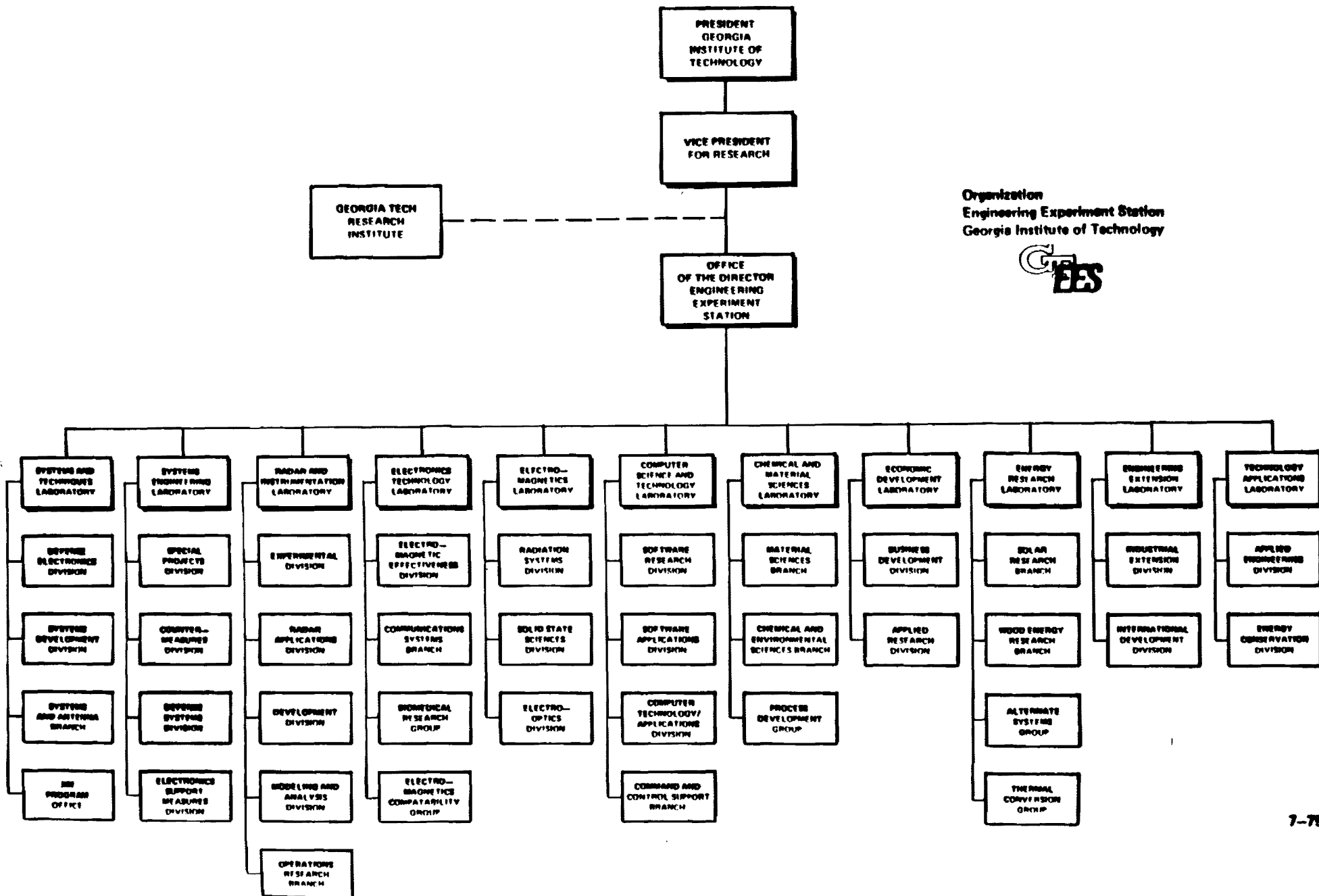
Conclusions regarding the overall impact of this program must be based upon a collective evaluation of the individual projects and their respective results. This evaluation should include not only a recognition of the fact that a deliberate attempt has been made to state the significance of EDL efforts in realistic terms, but also a consideration of the following special points concerning the results reported:

1. In many cases, the contributions of EDL staff personnel were major factors in management decisions to act or not to act on a specific plan of development. This was particularly true in those cases involving the development of new ventures.
2. In some situations, the end result would have been the same regardless of EDL participation. In such cases, EDL staff personnel helped to facilitate the achievement of an already determined goal.
3. In certain projects, EDL staff personnel filled a negative role by determining that a proposed course of action was not economically sound. The project staff felt that such a role was in the best interests of all parties in the project. It is not enough to provide support for sound proposals; the unsound ones also must be identified.

Because of the preceding considerations, it is not practical to attempt to quantify the results of this type of program solely in terms of the number of jobs created. Further, since it was the first program of its kind in a state-supported university, it is impossible to judge its merit on a comparative basis. It is necessary, therefore, to evaluate the program by empirical means. Several observations indicate that the management and technical assistance program to business and industry in Georgia has been beneficial:

1. After a modest start, the program has grown both in the quantity of projects and in the comprehensiveness of the assistance offered. The program has been well received throughout Georgia, and is being supported by the firms that have been assisted.
2. Consultants of all types have been kept apprised of Georgia Tech's management and technical assistance efforts and have worked in conjunction with EDL to further the program. All parties concerned seem to feel that the program is mutually beneficial.
3. Success of the original program has led to expansion of the project by the U.S. Department of Commerce's Economic Development Administration in Georgia and initiation of comparable programs by agencies in other states.
4. As a result of previous management and technical assistance experience, EDL personnel provided counsel to the federal government in an effort to bridge the gap between the accumulated findings of governmental, educational, and private research and the information needs of business and industry. This counsel eventually resulted in the passing of the State Technical Services Act of 1965.

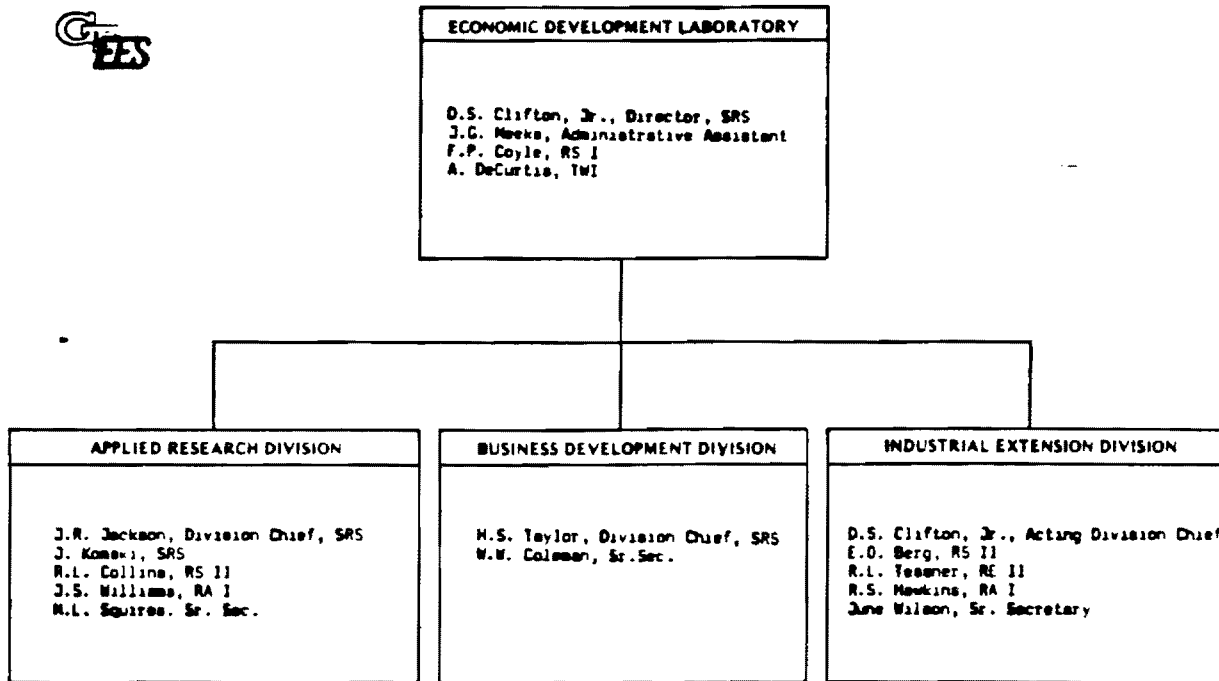
EXHIBITS



Organization
Engineering Experiment Station
Georgia Institute of Technology



Exhibit 2



Basic Data Group

M.E. Anders, Leader, PRS
E.M. Whitehead, Secretary
T.C. Toler, Technical Assistant

Community Development and Training Group

R.B. Cassell, Leader, PRS
R.E. Collier, SRS
D.G. Sherrill, RS II
J.E. Bunson, Sr. Sec.

Economic Analysis Group

M.S. Gibson, Leader, RS II
T.I. Chiang, PRS
R.R. Rajczak, SRS
R.B. Lann, RS II
B.W. Riell, RS II
D.G. Keener, RS I
C.A. Gibson, Student Assistant

Transportation Systems Group

M.J. Moskaluk, Leader, SRI
J.R. Marks, RE
D.K. Robertson, Sr. Sec.
T.A. Bentivengo, Student Assistant

EDA Management and Technical Assistance Program

R.E. Collier, Leader, SRS

Marketing Research Group

Group Leader, Open
H. Diamond, SRI
S.G. Daniell, RS II

Minority Business Development Group

E.A. Bethea, Leader, RS II
R.G. Escoffery, RA II

Occupational Safety and Health Group

M.C. Howard, Leader, SRS
K.A. Smith, SRS
S.A. Kramer, RE II
W.H. Spain, RT II
P.L. Williams, RS II
R.G. McCain, Staff Assistant
P.A. Office, Sr. Sec.
J. Strombon, Student Assistant

Trade Adjustment Assistance Branch

R.W. Springfield, Leader, RE II
E.T. Lindey, SRA
G.F. Rice, SRA
S.B. Wilenchek, SRA
B.W. Eelman, RS II
C.M. Estes, RE II
D.C. Kemper, RE II
R.O. Lumpkin, RS II
J.C. Muller, RE II
D.D. Lanier, RA II
J.M. Thomas, RA II
M.E. Storey, Staff Assistant
V.M. Hawkins, Sr. Sec.

Albany

E.L. Lewis, Director, RE II
E.M. Hardison, RE II
D.A. Gibson, Secretary

Augusta

R.B. Junk, Director, RE II
D.H. Pass, RE II
J.R. Howland, Sr. Secretary

Carrollton

M.W. Hodges, Director, RS II
T.A. Sanford, RT I
S.C. Brown, Secretary

Douglas

S.L. Dudley, RS II
M.T. Johnson, RT II
C.C. Davis, Secretary

Gaineville

P.D. Loveless, Director, RS II
D. Fischer, Secretary

Marion

G.H. Lee, Director, RE II
M.I. Luster, RE II
P. Zabriskie, Secretary

Rome

M.C. Darley, Director, RE II
S.D. Marshall, Secretary

Savannah

L.R. Edens, Director, RE II
D.E. Primrose, RE II
K.E. Johnson, RA I
M.J. Middendorf, RS I
M.D. Blum, Sr. Secretary

Exhibit 3
BIOGRAPHICAL SKETCHES

Georgia Institute of Technology
Engineering Experiment Station

BIOGRAPHICAL SKETCH

BETHEA, EDWIN A.--Research Scientist II
Economic Development Laboratory

Education

M.S.W., Howard University	1962
B.S., Knoxville College	1953

Employment History

Georgia Institute of Technology	
Research Scientist II	1972-Present
Volunteers for International Technical Assistance	
Director-Washington, D.C.,	
Director-East Central Regional Office	1970-1972
Youth Enterprises, Inc., Executive Director	1968-1970
United Planning Organization	
Community Organization Specialist (training officer), Economic Development Specialist	1966-1968
Far East Community Services, Inc., Community Organizer--Community Youth Organizer	1965-1966
District of Columbia, Department of Public Welfare	
Caseworker, Child Welfare Division	1962-1965

Experience Summary: Directed a regional office for technical assistance that provided services to minority and economically disadvantaged groups in mid-Atlantic region; responsible for establishing, structuring, and supervising new program offices in several states within the region. Program developer for minority economic ventures and community development project; responsibilities included establishing a working relationship with community groups, federal, state and local government agencies, and/or private agencies whose interests were similar. Organized and managed a minority firm for the purpose of establishing "spin-off" business ventures and the training of minority entrepreneurs. Managed and developed programs aimed toward helping groups initiate and implement economic and social changes in their community such as employment practices, bureaucratic procedures, etc. Assisted quasi-government and government department directors in community planning. Developed and directed programs relating to youth activities in the areas of training, proposal development, community improvement and change, and economic development. Has done private consulting work for several federal agencies and private corporations. Has completed seven continuing education short courses in the fields of small business development and management, new products development, and basic industrial development.

Current Fields of Interest

Minority business development; industrial and community development; manpower management and motivation; transportation; new economic systems.

Major Reports and Publications

1. "A Wood Energy Demonstration Center in Alabama, Phase I, Background Investigation," Minority Business Development Agency, March 1980, coauthor
2. "Technology Utilization and Commercialization Center," Quarterly Report--February, March, April 1980
3. "Technology Utilization and Commercialization Center," Quarterly Report--November, December, January 1979-80
4. "Technology Utilization and Commercialization Center," Annual Report, 1979
5. "Technology Commercialization Center--Expanding Black Enterprises," paper presented to the National Technical Association at their 57th National Convention, 1979
6. "Technology Utilization and Commercialization Center," Annual Report, 1979
7. "Technology Utilization and Commercialization Center," Quarterly Report--May, June, July 1979
8. "Technology Utilization and Commercialization Center," Quarterly Report--February, March, April 1979
9. "Technology Utilization and Commercialization Center," Quarterly Report--November, December, January 1978-79
10. "Technology Utilization and Commercialization Center," Quarterly Report--August, September, October 1978
11. "Technology Utilization and Commercialization Center," Annual Report, Office of Minority Business Enterprise, 1978
12. "Research and Demonstration Project," Regional Office of Minority Business Enterprise, Quarterly Reports, June 1977 and October 1977
13. "A Directory and Survey of Minority-Owned Business in the State of Georgia with Four Employees," Georgia Tech Report, 1977, coauthor
14. "Final Report on Technical Assistance to Selected Community Action Agencies in Georgia," Georgia Tech Report, 1976
15. "Market Study for Westgate Hardware Store," Georgia Tech Report, 1976
16. "A National Cultural Center at Tuskegee, Alabama," Georgia Tech Report, 1975
17. "Feasibility Study for Skating Rink in Columbus, Georgia," Georgia Tech Report, 1975, coauthor
18. "Market Study for Sea Island Handicraft Cooperative," Georgia Tech Report, 1973
19. "Survey of Georgia Minority Business," Georgia Tech Report, 1973, coauthor
20. "South Georgia Crafts--Study of Markets in Georgia, Product Quality and Management Structure," Georgia Tech Report, 1972

Georgia Institute of Technology
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BIOGRAPHICAL SKETCH

CLIFTON, DAVID S., Jr.--Director
Economic Development Laboratory

Education

Ph.D. in Economics, Georgia State University	1980
M.B.A. in Economics, Georgia State University	1970
B.I.E., Georgia Institute of Technology	1966

Employment History

Georgia Institute of Technology	
Director, Economic Development Laboratory, EES	1979-Present
Chief, Economic Development Division, TDL, EES	1977-1979
Manager, Economic Research, IDD, EDL, EES	1977-1978
Head, Industrial Economics Section, IDD, EDL, EES	1974-1977
Senior Research Scientist	1977-Present
Research Scientist II	1973-1977
Research Economist I	1970-1973
Lockheed-Georgia Company	
Associate Customer Facilities Engineer	1966-1969
Customer Facilities Engineer	1969-1970

Experience Summary: Georgia Tech assignment involves industry feasibility studies; regression analysis; product/market studies; transportation studies; economic impact studies; domestic/international training; and proposal development/project management; energy alternatives; and energy food plantation concepts. At Lockheed, gathered data, made preparatory investigations, analyzed and arrived at solutions for customer facilities problems. Provided technical assistance in planning and design of new construction or major alternations of customer facilities. Completed economic feasibility studies for prospective aircraft customers.

Current Fields of Interest

Market analysis; economic feasibility studies; international trade; energy research; technology assessment; research in economic and industrial development; research management.

Major Reports and Publications

1. "State Science, Engineering, and Technology Program," Georgia Tech Report, February 1980, coauthor
2. "Economic Development Analysis of Appalachian Georgia," Georgia Tech Report, January 1980, coauthor
3. "A Feasibility Study for Wood Energy Utilization in Georgia," Georgia Tech Report, August 1979, coauthor
4. "Market Potentials of Wood Fuel in the Southeast," Georgia Tech Report, June 1979, coauthor

Major Reports and Publications (continued)

5. "Regional Forums on Appropriate Technology," National Science Foundation, February 1979, coauthor
6. "Project Feasibility Analysis," presented at the Instituto de Administracion cientifica de las Empresas, Mexico City, 10-12 August 1978
7. "A Design for a Venture Opportunities Information System," Atlanta Regional Office of Minority Business Enterprise, August 1978, coauthor
8. "The Potential for Industrial Development in the Industrial City Region," Vol. 3, Georgia Tech Report, December 1977, coauthor
9. "The Industrial City: Concept and Design," Vol. 2, Georgia Tech Report, December 1977, coauthor
10. "The Industrial City: Executive Summary," Vol. 1, Georgia Tech Report, December 1977, coauthor
11. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor
12. PROJECT FEASIBILITY ANALYSIS: A Guide to Profitable New Ventures, John Wiley & Sons, Inc., April 1977, coauthor
13. "Market Information System for Vada Builders, Inc.," Georgia Tech Report, November 1976, coauthor
14. "Baseline Energy Data System: Energy Indicators," Vol. 4, Georgia State Energy Office, June 1976
15. "Baseline Energy Data System: Energy Supply Network," Vol. 3, Georgia State Energy Office, June 1976, coauthor
16. "Baseline Energy Data System: Data Base 1973," Vol. 2, Georgia State Energy Office, June 1976, coauthor
17. "Baseline Energy Data System: Methodology," Vol. 1, Georgia State Energy Office, June 1976, coauthor
18. "Impact of the Engineering Experiment Station on the Economy of Georgia, Fiscal Years 1973 and 1974," Georgia Tech Report, February 1976, coauthor
19. "Energy in Georgia, Uses, Program Needs, Policy and Recommendations," prepared by State Energy Office and Georgia Tech, December 1975, coauthor
20. "A Program to Assist Business and Industry in Coping with the Energy Crisis," Georgia Tech Report, September 1975, coauthor
21. "Analysis and Evaluation of Industrial Projects," presented at the Institute for Small-Scale Industries, University of the Philippines, Manila, 1975, 23-27 June 1975
22. "A Training Program on the Analysis and Evaluation of Industrial Projects," Georgia Tech Report, June 1975, coauthor
23. "Economic Data Relative to the Central Georgia Steam Plant," Georgia Tech Report, February 1975, coauthor
24. "A Productivity Program for the Engineering Experiment Station," Georgia Tech Report, November 1974, coauthor
25. "An Analysis of Merchandising Methods for Eggs," Georgia Tech Report, June 1974
26. "Southeastern Trends of Selected Industries," Georgia Tech Report, April 1974, coauthor
27. "The Economic Impact of Georgia's Deepwater Ports," Georgia Tech Report, December 1973, coauthor
28. "Economic Development Approaches for the Southeast," Georgia Tech Report, November 1973, editor
29. "The Little-Mirrlees Cost-Benefit Method for Industrial Project Analysis in Developing Countries," unpublished report in Ph.D. program, Georgia State University, August 1973

Major Reports and Publications (continued)

30. "Georgia Employment and Population Projections with Special Reference to Water-Using Industries," Georgia Tech Report, July 1973, coauthor
31. "Training for Business and Industry in Florida, Kentucky, North Carolina, and South Carolina," Georgia Tech Report, May 1973, coauthor
32. "A Survey of Empirical Evidence of the Heckscher-Ohlin Theory of International Trade," unpublished report in Ph.D. program, Georgia State University, April 1973
33. "Training for Business and Industry in Alabama, Georgia, Mississippi, and Tennessee," Georgia Tech Report, March 1973, coauthor
34. "A Graduate-Employer Evaluation of Georgia's Vocational-Technical School Program," Georgia Tech Report, January 1973, coauthor
35. "An Unemployment Registration and Employment Generation Program for the Lower Chattahoochee Community Action Agency," Georgia Tech Report, September 1972, coauthor
36. Transportation Analysis in "Peanut Processing Opportunities," Southwest Georgia Area Planning and Development Commission, June 1972
37. "A Survey of Export Proceeds Instability Research with a Report on the Export Proceeds Instability of Colombia," unpublished report in Ph.D. program, Georgia State University, June 1972
38. "Georgia as a Center for Charcoal and Charcoal Briquette Production," Atlanta Economic Review, March 1972, coauthor
39. "A Registration of the Unemployed in the Heart of Georgia Community Action Council Area," Georgia Tech Report, January 1972, coauthor
40. "A Survey of Selected Users of Spun Sheet Metal in Alabama and Georgia," Economic Development Administration, July 1971
41. "Carbonized Bark for Briquetting Purposes," Georgia Tech Report, July 1971, coauthor
42. "Economic Factors Affecting the Feasibility of Locating a Vegetable Processing Plant in the Vicinity of Americus, Georgia," Georgia Tech Report, May 1971, coauthor
43. "The Market for Leaf Springs," Economic Development Administration, February 1971
44. "Industrial Air Pollution: Particulate Control Equipment Market," Economic Development Administration, December 1970
45. "The Potential Impact of Jumbo-Jet Air Cargo Transportation on Georgia," Georgia Tech Report, October 1970, coauthor
46. "Market Survey of Garden Center Buyers," Economic Development Administration, October 1970
47. "Georgia Retail Florist Store Sales," Economic Development Administration, September 1970
48. "The Southeastern Market for Plastic Bathroom Fixtures in Residential Construction," Economic Development Administration, July 1970
49. "The Calico Scallop Market," Economic Development Administration, June 1970
50. "The Southeastern Modular Housing Market," Economic Development Administration, May 1970
51. "The Market for Boxboard Containers for the Coastal Plain Region of Georgia," Economic Development Administration, May 1970
52. "Long Cycles in Residential Construction," unpublished report in M.B.A. program, Georgia State University, December 1969

Georgia Institute of Technology
Engineering Experiment Station

BIOGRAPHICAL SKETCH

COLLIER, ROBERT E.--Senior Research Scientist
Economic Development Laboratory

Education

M.S., The George Washington University	1966
B.S., Texas Agricultural and Mechanical University	1939

Employment History

Georgia Institute of Technology	
Leader, EDA Management and Technical Assistance Program	1979-Present
Environmentalist (GS-12 Equiv.) IPA Assignment to U.S. Army Forces Command, Fort McPherson, Georgia (Part-time)	1979-Present
Senior Research Scientist	1972-Present
Head, Education and Training Branch	1974-1976
Head, Economic Development Training Section	1968-1970
Research Scientist II	1966-1968
Spindletop Research Center, Inc., Director, Training Services	1971-1972
U.S. Marine Corps, General Duty Officer	1940-1966
Sears, Roebuck & Company, El Paso, Management Training	1939

Experience Summary: As leader of the EDA Management and Technical Assistance Program at EES, assists in the management of the program and in reporting to EDA on program progress. As an Environmentalist on part-time IPA assignment to the Army, is responsible for development of environmental impact analyses to include data gathering, evaluation of data, and technical writing of environmental impact statements and assessments. As head of Education and Training Branch, was responsible for the development and conduct of training activities, including international programs. As Senior Research Scientist, Community Development Branch, IDD-EES, participated in training programs and conducted community development research projects. As Director, Training Services, National Area Development Institute, Spindletop Research, Inc., planned and conducted seminars and workshops for professionals and local leaders involved in area development activities. Courses were directed to the needs of individuals from economic development districts, community action agencies, governmental agencies, business organizations, farm organizations, utilities, cooperatives, public agencies and universities who were involved in area development programs. As head of the Economic Development Training Section, IDD-EES, developed handbooks, manuals, lesson plans, visual presentations and other materials for industrial and economic development training; also conducted training courses in the principles and techniques of industrial, economic and community development under sponsorship of the Economic Development Administration and Small Business Administration. As Research Scientist in the Industrial Services Branch, IDD-EES, furnished management guidance and technical

Experience Summary (continued): assistance to prospective and established business and industrial firms; also provided assistance in establishing sound new business ventures which utilize local resources and manpower. While on active duty with the Marine Corps, performed a variety of line and staff assignments involving administration, education, training, and logistics.

Current Fields of Interest

Economic development theory and practice; development education and training; public administration in the field of interorganizational/intergovernmental relations; environmental protection with specialization in the area of economic impact analysis.

Major Reports and Publications

1. "Final Report: A Program of Management and Technical Assistance to Designated EDA Counties in Georgia," prepared under EDA Contract No. 04-06-01567-2, December 1979, coauthor
2. "Interim Instructions for Implementing the Council on Environmental Quality (CEQ) Regulations," Department of the Army, Headquarters, United States Army Forces Command, Fort McPherson, Georgia, 19 September 1979, staff responsibility for preparation of instruction
3. "A Productivity Oversight Program for the Apparel Industry: A Regional Model," prepared under Department of Commerce Contract No. NP8D246, April 1979
4. "Final Report: A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," prepared under EDA Contract No. 04-06-01567-1, December 1978, coauthor
5. "Guidelines for the Establishment and Management of an Energy Assistance Program for Business and Industry," prepared under EDA Contract No. 99-6-9359-2, June 1978, coauthor
6. "Final Report: Planning for the Interorganizational Networking of a State Economic Development Council," prepared under contract with the Office of Economic Research, Economic Development Administration, under Grant No. OER-577-G-77-22, 1977
7. "Guidelines for an Energy Audit and an Energy Impact Statement," prepared under HUD Grant CPA-GA-04-06-1056, June 1976, coauthor
8. "Final Report: Substate Energy Management," prepared under contract with the Georgia State Energy Office, 15 February 1976, coauthor
9. "Analysis and Evaluation of Industrial Projects," a seminar with text prepared under AID Grant No. AID/CM/TA-G-73-18, 1975, coauthor
10. "Final Report: Leadership Training Programs in Selected Georgia Communities," Coastal Plains Regional Commission Contract No. 10040037, 1975, coauthor
11. "Guidelines for Industrial Extension Personnel," prepared under AID Grant No. AID/CM/TA/G-73-18, 1974, editor
12. "Economic Development Approaches for the Southeast," prepared for the Economic Development Administration under Grant No. 04-6-09029-6, 1973, coauthor
13. "Final Report: Leadership Training Programs in Selected Georgia Communities, May 31, 1972-September 30, 1973," Coastal Plains Regional Commission Contract No. 10240033, September 1973, coauthor

Major Reports and Publications (continued)

14. "Exploring the Dimensions of Area Development," National Area Development Institute Special Seminar sponsored under a Ford Foundation program, 1971
15. "Training Program for Staff Information Technicians," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970, coauthor
16. "Training Program for Planning and Development Technicians," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970
17. "Basic Economic Development Training Program," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970
18. "Industrial Development Training Program," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970
19. "Executive Training Program," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970
20. "Advanced Executive Training Program," a seminar prepared for the Economic Development Administration under EDA Grant No. 99-6-09165, 1970
21. "Final Report: Training Programs in Economic Development, 1 April 1969 - 31 March 1970," EDA Contract No. OER-208-G-69-2, May 1970
22. "Final Report: Development of a Community Development Training Program for the Small Business Administration, 19 June 1968 - 1 July 1969," Small Business Administration Contract No. 1474-FA-68, July 1969
23. "Final Report: Training Program in Economic Development, 1 April 1968 - 31 March 1969, EDA Contract No. OER-208-G-68-3, May 1969
24. "Internship Program in Regional Economic Development," a training program prepared for the Economic Development Administration under Contract C-239-62L Neg., 1967
25. "Site Relocation Guide for Georgia Retail Business," Industrial Series No. 2," Georgia Tech Report, April 1967

Georgia Institute of Technology
Engineering Experiment Station

BIOGRAPHICAL SKETCH

DANIELL, SALLIE G.--Research Scientist II
Economic Development Laboratory

Education

B.S., University of Alabama	1966
M.Ln., Emory University	1973

Employment History

Georgia Institute of Technology	
Research Scientist II, EES	1977-Present
Research Scientist I	1973-1977
Research Scientist I (hourly)	1972-1973
Metrics, Inc., Research Analyst (Consulting)	1977-1979
Atlanta Public Library, Pre-Librarian	1971-1972
Kitchens Department Store, Sales Clerk and Artist	1970-1971
American National Red Cross, Recreation Aide, South Vietnam	1968-1969
Pizitz Department Store, Assistant Buyer	1967-1968
Texas Instruments, Engineering Clerk	1966-1967

Experience Summary: At Georgia Tech, work has involved market feasibility analysis; economic market analysis; plant location analysis; evaluation of area resources; preparation of methodologies; assimilation and dissemination of data for economic studies; literature searches; collecting, indexing, cataloging, and retrieval of data and materials; and considerable work with government documents and other pertinent secondary research data sources.

Current Fields of Interest

Business administration, including marketing, economics, and management;
library science, including organization, retrieval, and dissemination of
information.

Major Reports and Publications

1. "A Market Study for Poly-Quip, Inc.," Georgia Tech Report, March 1980, coauthor
2. "The Market Potential for Printed Circuit Boards," Georgia Tech Report, March 1980, coauthor
3. "Evaluation of Suntogs Marketing Prospects," Georgia Tech Report, August 1979, coauthor
4. "Analysis and Planning Market Study for Peachtree Jeans, Inc.," Georgia Tech Report, May 1979, coauthor
5. "Diagnostic Review/Feasibility Study for Pinellas Seafood Company," Georgia Tech Report, May 1979, coauthor
6. "A Preliminary Investigation of Profit Opportunities for Manufacturing Prefabricated Houses in Liberty County," Georgia Tech Report, May 1979

Major Reports and Publications (continued)

7. "A Demonstration Project to Establish a Technology Delivery System for Small and Medium-Sized Firms," Georgia Tech Report, February 1979, coauthor
8. "A Design for a Venture Opportunities Information System," Georgia Tech Report, August 1978, coauthor
9. "Directory of Public Service Resources and Interests for Local Governments Available from Georgia Institute of Technology," Inter-University Task Force Report, June 1978
10. "An Economic Definition of the Nuclear Industry," Metrics, Inc. Report, April 1978, coauthor
11. "The Potential for Industrial Development in the Industrial City Region," Georgia Tech Report, December 1977, coauthor
12. "The Industrial City: Concepts and Design," Georgia Tech Report, December 1977, coauthor
13. "The Industrial City: Executive Summary," Georgia Tech Report, December 1977, coauthor
14. "Economic Analysis of Pretreatment Standards for the Textile Industry," Environmental Protection Agency, June 1977, coauthor
15. "Baseline Energy Data System: Data Base 1973," Georgia Tech Report, June 1976, coauthor
16. "Baseline Energy Data System: Methodology," Georgia Tech Report, June 1976, coauthor
17. "Directory of Scientific Resources in Georgia, 1973-1974," Fourth Edition, Georgia Tech Report, March 1974, coauthor
18. "Marketing of the Public Library," unpublished report in M.Ln. program, Division of Librarianship, Emory University, July 1972

Georgia Institute of Technology
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BIOGRAPHICAL SKETCH

DIAMOND, HARVEY--Senior Research Engineer
Economic Development Laboratory

Education

St. Johns University	1941-1942
B.S. in Textile Engineering, North Carolina State College	1946

Employment History

Georgia Institute of Technology	
Senior Research Engineer, EES	1967-Present
Research Engineer II	1965-1967
Research Engineer I	1960-1965
Dux Mixture Hardware Company, Partner	1950-1960
American Woolen Company, Designer and Assistant Buyer	1947-1950
Cohn-Hall-Marx, Convertor and Assistant Designer	1946-1947

Experience Summary: Economic feasibility studies, plant location analyses, market research to identify manufacturing and nonmanufacturing business opportunities, raw materials and intermediate products availability studies, marketing strategies, purchasing and marketing development and procedures, evaluation of export markets, small-scale industry entrepreneurship, liaison with prospects on industrial location possibilities, evaluation and development of area resources, transportation studies, and management and technical assistance to prospective and established businesses. Coeditor of monthly metalworking bulleting. Purchasing and marketing of hardware, wholesale and retail; textile designing; textile converting.

Current Fields of Interest

Market analyses; plant location criteria; economic feasibility analyses; import-export potentials; small-scale industries.

Major Reports and Publications

1. "Export Promotion to Barbados," Georgia Tech Report, May 1980, coauthor
2. "Technical Assistance Program to the Jamaican National Export Corporation in Miami, Florida," Georgia Tech Report, February 1980, coauthor
3. "The Feasibility of Producing Metal Stampings in Southwest Georgia," Georgia Tech Report, January 1980, coauthor
4. "The Feasibility of Manufacturing Machine Shop Products in Southwest Georgia," Georgia Tech Report, January 1980, coauthor
5. "The Feasibility of Establishing a Convention Center in Savannah, Georgia," Georgia Tech Report, December 1979, coauthor
6. "The Feasibility of Obtaining Metalworking Support Facilities for Southwest Georgia Manufacturers," Georgia Tech Report, August 1979, coauthor

Major Reports and Publications (continued)

7. "Intermediate Technology Demonstration Project," Georgia Tech Report, January 1978, coauthor
8. "Truck Trailers," Georgia Tech Report, August 1977
9. "Export Potential of Selected Korean Small-Scale Industries," Georgia Tech Report, January 1976
10. "Musical Instruments: A Manufacturing Opportunity in Atlanta, Georgia," Georgia Tech Report, May 1975
11. "Directory of Metalworking Job Shop Capabilities in Georgia, 1975," Georgia Tech Report, February 1975
12. "Evaluation of Palm Beach and Dade County, Florida, Areas Concerning Long-Term Need for Agricultural Workers," Georgia Tech Report, December 1974, coauthor
13. "A Survey of Plastics Waste in Georgia," Georgia Tech Report, August 1974, coauthor
14. "Impact Study of the Offshore Power Systems," Georgia Tech Report, September 1973, coauthor
15. "Industrial Possibilities for Rural Georgia," Georgia Tech Report, July 1973
16. "Plastics Processors and Fabricators in Georgia and Surrounding Areas, 1972," Georgia Tech Report, June 1972, coauthor
17. "Metal Service Centers in the Southeast, 1972," Georgia Tech Report, April 1972
18. "Directory of Job Shop Capabilities in Georgia, 1971," Georgia Tech Report, December 1970
19. "Directory of Job Shop Capabilities in Georgia, 1966," Georgia Tech Report, September 1966, coauthor
20. "The Advantages of Manufacturing Asphalt and Vinyl Asbestos Floor Tile in Savannah," Georgia Tech Report, December 1965, coauthor
21. "Mobile Homes in Georgia: A Study of the Personal Property Taxes Levied on Mobile Homes in the Metropolitan Areas of Georgia and the Significance of the Mobile Home Industry to the State," Georgia Tech Report, February 1965, coauthor
22. "Investment Casting: A Manufacturing Possibility for Elberton, Georgia," Georgia Tech Report, January 1965
23. "Glass Wool Insulation: A Manufacturing Opportunity in Georgia," Georgia Tech Report, September 1964
24. "Pistons, Piston Rings, and Valves: A Manufacturing Opportunity in Georgia," Georgia Tech Report, June 1964
25. "Engine Electrical Equipment: A Manufacturing Opportunity in Georgia," Georgia Tech Report, May 1964
26. "Exhaust System Parts: A Manufacturing Opportunity in Georgia," Georgia Tech Report, April 1964
27. "Asphalt and Vinyl Asbestos Floor Tile: A Manufacturing Opportunity in Carroll County, Georgia," Georgia Tech Report, February 1964
28. "Flat Glass: A Manufacturing Opportunity in Georgia," Georgia Tech Report, June 1963
29. "Pipe Fittings and Valves: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, September 1962
30. "Strengths and Weaknesses of Atlanta's Metalworking Industry," Georgia Tech Report, August 1962
31. "Plumbing Fixture Fittings: A Manufacturing Opportunity in Atlanta," Georgia Tech Report, June 1962
32. "Studies of Selected Industries in the Southeast River Basins: Textiles," Georgia Tech Report, March 1961, coauthor

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BIOGRAPHICAL SKETCH

EELMAN, BRUCE W.--Research Scientist II
Economic Development Laboratory

Education

M.B.A. in Finance, University of West Florida	1978
B.S. in Applied Mathematics, Georgia Institute of Technology	1971

Employment History

Georgia Institute of Technology	
Research Scientist II	1978-Present
Monsanto Textiles Company	
Senior Process Control Engineer	1977-1978
Process Control Engineer	1974-1977
Quality Control Engineer	1971-1974

Experience Summary: As a Research Scientist at Georgia Tech, handles consulting assignments with various companies, diagnosing their problems in the areas of management, marketing, finance, and manufacturing, and assisting in the development of plans of action aimed at addressing the firms' problems and strengthening their competitive position, including the preparation of loan applications. Initial work at Monsanto in quality control entailed responsibility for the establishment of statistical sampling procedures, development of quality monitoring methods and procedures, development of equipment reliability testing methods, correlation of customer feedback and internal indices for development of internal control criteria, and optimization of sampling procedures using cost vs. benefit approaches. Process control duties entailed routine process control of melt spun nylon yarns, including mass and quality yields, productivity increases, development of operating procedures and cost standards, process improvement and optimization experimental design and analysis and trouble shooting internal and customer quality problems.

Current Fields of Interest

Use of statistical techniques for analysis and business decision-making; financial management and analysis; management theory and practice; economic development and business improvement; feasibility studies.

Major Reports and Publications

1. "Trade Adjustment Initial Assistance Provided to Allen Knitting Mills," May 1980
2. "Diagnostic Review and Technical Assistance Adjustment Plan for Keane Monroe Corporation," May 1980
3. "Initial Overview for Wex-Tex Industries," April 1980
4. "Diagnostic Review for Forsyth Industries," March 1980
5. "Recovery Plan for Steridyne Corporation," March 1980

Major Reports and Publications (continued)

6. "Revised Recovery Plan for Dawson Industries," January 1980
7. "Southeastern TAAC Operations Manual," January 1980, editor
8. "Trade Adjustment Assistance Provided to Suntogs, Inc.," October 1979
9. "Cost Study for Suntogs, Inc.," September 1979
10. "Trade Adjustment Assistance Provided to Peachtree Jeans, Inc.," September 1979
11. "First Annual Report: Southeastern Trade Adjustment Assistance Center," September 1979, coauthor
12. "Quality Improvement of 70-34-L03," Monsanto Textiles Company, 1977
13. "Effects of Segregating Process Reject and Heel and Incomplete Production on Tire Yarn Quality," Monsanto Textile Company, 1974
14. "Elimination of Yarn Acceptance Sampling in Tire Yarn Beaming," Monsanto Textiles Company, 1973
15. "Evaluation of Automatic Yarn Inspectors for Tire Yarn Beaming," Monsanto Textiles Company, 1972
16. Authored approximately 50 operating instructions for processing nylon apparel yarn at Monsanto Textiles Company

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BIOGRAPHICAL SKETCH

ESCOFFERY, RONALD G.--Research Associate
Economic Development Laboratory

Education

M.B.A., Rutgers Graduate School of Business Administration	1973
B.A., Howard University	1972
Chase Manhattan Bank Credit Training	1974

Employment History

Georgia Institute of Technology	
Research Associate II	1979-Present
F. A. Johnson & Associates, Inc.	
Director of Finance & Marketing	1979
Escoffery, Bolton & Associates, President	1977-Present
Geore & Branday Ltd., Manager, Investment Department	1975-1977
Chase Manhattan Bank, Manager	
Credit & Marketing Financial Analyst	1974-1975
Rutgers MESBIC, Student Consultant	1972-1973
Johnson & Johnson, Graduating Financial Intern	1973

Experience Summary: As a financial analyst and consultant, is experienced in all phases of business, financial management and economic development, with emphasis on project and solution implementation, banking, budgeting, management and technical assistance to businessmen, loan packaging, financial counseling, feasibility studies, research for business development and expansion, and trouble shooting. Recently became involved in community revitalization projects, contributing to the development of financing vehicles for the catalyst projects which enabled the project implementation.

Current Fields of Interest

All phases of economic development with special interest in business and commercial development, identification and solution of business problems, and commercial revitalization.

Major Reports and Publications

1. "An Approach for an Economic Diversification Strategy for Bogalusa,"
1979

Georgia Institute of Technology
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BIOGRAPHICAL SKETCH

ESTES, CHARLES M., Jr.--Research Engineer II
Economic Development Laboratory

Education

M.B.A., University of South Carolina	1974
B.S., Industrial Engineering Auburn University	1971

Employment History

Georgia Institute of Technology	
Research Engineer II	1980-Present
Monsanto Textiles Company	
Industrial Engineering Supervisor	1978-1979
Senior Industrial Engineer	1975-1977
Industrial Engineer	1971-1975
Auburn University Computer Center	
Applications Programmer	1970-1971

Experience Summary: Industrial engineering responsibilities included designing and implementing automated materials-handling systems, developing improved management information systems, developing improved methods of operation, and determining manpower requirements. Specific accomplishments included development of computer program to optimize finished goods packaging, development of computerized operator scheduling system, chairmanship of committee to develop product inventory system, design of materials-handling system for new manufacturing process, development of manpower estimates for several long-range manufacturing processes, and implementation of several new procedures to increase labor productivity. As supervisor, managed group of five professionals. Also participated on start-up team of new manufacturing facility, coordinated \$1.5-million plant-wide cost reduction program, coordinated facilities planning and site development activities, and assisted in development of cost standards, budgets, and economic evaluations. At Auburn University Computer Center, provided programming assistance to students and assisted faculty/staff with computer applications for special projects.

Current Fields of Interest

Application of sound business and engineering principles to improve manufacturing businesses, including materials handling, economic evaluation, cost reduction, facilities planning, management information systems, and business planning.

Major Reports and Publications

1. "Site Development Manual," Monsanto Textiles Company, October 1978, coauthor
2. "Principles and Economics of Industrial Packaging," University of South Carolina Graduate Paper, May 1974
3. Published numerous analyses and recommendations for Monsanto Textiles Company

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BIOGRAPHICAL SKETCH

KEMPER, DANIEL C.--Research Engineer II
Economic Development Laboratory

Education

M.B.A. in Finance, Georgia State University	1980
B.I.E. (Co-op), Georgia Institute of Technology	1973

Employment History

Georgia Institute of Technology	
Research Engineer II	1979-Present
John H. Harland Co.,	
Senior Industrial Engineer	1975-1979
Industrial Engineer	1974-1975
AT&T Long Lines, Operations Supervisor	1973-1974
Schweizerische Isola-Werke, Industrial Engineer	1972
Bean and Whitney, Inc., Telephone Engineer	1970-1973

Experience Summary: At Georgia Tech, is a member of the Trade Adjustment Assistance Group, which provides technical and financial aid to firms adversely impacted by imports. Responsibilities include: in-depth analyses of each firm's strengths and weaknesses; development of full-scale business recovery plans involving marketing, financial and production strategies that address each firm's unique set of problems; assistance in preparing the necessary documents required for the firms to obtain Trade Adjustment loans; and recommendation of appropriate technical assistance to the participating firms. At Harland Company, had complete responsibility for the corporate industrial engineering program. Designed and implemented equipment layouts and material-handling systems in 21 plant locations to achieve standardized work flow. Developed plans and specifications and acted as liaison with architects and contractors on a multimillion-dollar construction program that included 16 new facilities and 5 renovations. Proposed and implemented cost reduction efforts such as capital equipment justifications, productivity improvement, and an energy conservation program for a total annual savings of over one-quarter million dollars. At AT&T, managed 13 relatively inexperienced craftsmen performing maintenance on over 1,600 private-line telephone circuits and installation of 500 new circuits per month. Was responsible for maintaining service and installation performance goals while seeing that all personnel received adequate training. As Industrial Engineer for Isola (Swiss Insulating Works, Ltd.), developed a computerized format for break-even analyses of proposed products. As Telephone Engineer, was responsible for numerous records verification projects under contract with New York Telephone and Southern Bell.

Current Fields of Interest

Productivity improvement as it relates to the optimal utilization of all available resources; manufacturing feasibility studies; financial analysis; operations and facilities design.

Major Reports and Publications

1. "Aly Handbags--Trade Adjustment Initial Assistance, Final Report," Georgia Institute of Technology, June 1980
2. "Miss Erica--Trade Adjustment Initial Assistance, Final Report," Georgia Institute of Technology, May 1980
3. "Taylor Radio--Trade Adjustment Initial Assistance, Final Report," Georgia Institute of Technology, May 1980
4. "Justification for the Purchase of a Wire Binding Machine," John H. Harland Co., March 1979
5. "A Proposal for an Automated Check Book Cover Machine," John H. Harland Co., June 1977
6. "A Proposal for Producing Self-Adhesive Address Labels," John H. Harland Co., May 1976
7. "A Proposal for Producing Check Transaction Registers," John H. Harland Co., January 1975
8. "A Trend Analysis System for Public Services in Fulton County," Georgia Institute of Technology, Department of Industrial and Systems Engineering, May 1973, coauthor
9. "Mindestbestellmenge," Schweizerische Isola-Werke, July 1972

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BIOGRAPHICAL SKETCH

LANIER, DIANNE D.--Research Associate II
Economic Development Laboratory

Education

M.B.A., Georgia State University	1979
B.A., University of Georgia	1974

Employment History

Georgia Institute of Technology	
Research Associate II	1979-Present
Marketing Information Service	
Project Manager	1979
Research Analyst	1978
Rich's, Research Analyst	1976-1978

Experience Summary: As a research associate at Georgia Tech, activities include outreach to acquaint prospective clients with the market research capabilities available within EES's Economic Development Laboratory. Duties also include consultation with clients seeking assistance from the Economic Development Administration or Trade Adjustment Assistance Program, with particular emphasis on marketing strategy and implementation of market research survey results. While a marketing research analyst at Marketing Information Service, provided assistance in preparing research proposals, methodologies, data analysis, reports and statistical processing of data. Also responsible for questionnaire design and creation of instructions for field personnel. As a project manager, directed all phases of the research process, with particular emphasis on client liaison and initial problem definition via a consulting orientation. Specific duties included interface with internal and external staff members and involvement in all areas of design and analysis, including methodological design and interpretive report writing and presentation. As a research analyst with Rich's, was responsible for liaison with independent field services, questionnaire design, sample determination, supervision of coding process, SPSS programming, analysis and report writing in conjunction with survey research effort. Evaluated research reports and surveys prepared by other firms for Rich's management. Received training in trade area research from Hammer, Siler, George/Gould Retail Consultants and authored a major study of six potential southeastern markets for Rich's.

Current Fields of Interest

Major Reports and Publications

1. "The Modern Masculine Lifestyle," Advances in Consumer Research, Vol. IV, coauthor

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BIOGRAPHICAL SKETCH

LINDSEY, EDGAR T.--Senior Research Associate
Economic Development Laboratory

Education

M.B.A., University of Virginia	1972
B.S.I.M., Georgia Institute of Technology	1970

Employment History

Georgia Institute of Technology	
Senior Research Associate	1980-Present
Western Carolina University	
Associate Professor and Associate Director, Center for Improving Mountain Living	1976-1980
Harrison-Taylor Corporation	
Vice President & Treasurer	1975-1976
Southern Bank and Trust Company, Vice President	1973-1975
Citizens & Southern National Bank of South Carolina	
A National Accounts Officer	1972-1973
Summer Intern	1971
Citizens & Southern National Bank (Atlanta)	
Project Supervisor	1970

Experience Summary: Directed consulting projects for a federally sponsored technical assistance program designed to assist small businesses in a rural region; included establishing new techniques of assistance delivery, developing cooperative working arrangements with federal, state, and private organizations; and designing continuing educational programs for small businesses. Served as Vice President and Treasurer of a closely held corporation operating in several southeastern states. Served as Vice President of Loan Administration for a statewide bank establishing a new system of loan approval. Assisted in the establishment of a new bank division for the servicing and monitoring of national corporate accounts; upon the development of the division, serviced the bank's national corporate accounts which were headquartered in mid-Atlantic, Southeastern, Southwestern, and Western states. Served as a team member on a study team determining the feasibility of establishing an international banking department which was successfully established. Developed and performed a geographical market analysis of customers' attitudes towards banking services as a summer intern project.

Current Fields of Interest

Economic development, including business development and the development of assistance and support systems for the private sector in underdeveloped regions of the U.S.

Major Reports and Publications

1. "Imports - The Impact on North Carolina," North Carolina Commerce Report, July-August 1979, N.C. Department of Commerce
2. A significant number of consulting project reports written through grant support and for private industries--proprietary information

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BIOGRAPHICAL SKETCH

LUMPKIN, RONALD O.--Research Scientist II
Economic Development Laboratory

Education

M.B.A. in Finance, Georgia State University	1977
B.B.A. in Accounting and Finance, Georgia State University	1975

Employment History

Georgia Institute of Technology	
Research Scientist II	1978-Present
Complete Auto Transit (Subsidiary of Ryder)	
Regional Controller	1977-1978
Lockheed-Georgia Company	
Customer Supply Technical Group Supervisor	1972-1973
Supervisory Field Representative (Logistic Support Manager-Edwards AFB)	1971-1972
Customer Supply Technical Group Supervisor	1968-1971
Customer Supply Liaison Man	1966-1968
Development Test Material Man	1966
Spares Support and Equipment Technician	1962-1966
Rich's Inc.	1959-1962

Experience Summary: At Georgia Tech, primarily involved in consulting with businesses by analyzing the firm's capabilities, isolating problems, and developing strategies or solutions. With Complete Auto Transit, was involved in eliminating accounting/financial problems through internal auditing, reviewing existing methods, and initiating proper procedures. Involved in design and installation of D.O.S. mini-computer system, analysis of capital expenditures, cash flow management, tax management and cost analysis for rate negotiations. Began with Lockheed in the identification and sale of spare parts, equipment, manuals and training with control over scheduling, planning and delivery of hardware and services. Responsible for the design of a real time/random access procurement tracking and inventory control system from feasibility study phase through testing and implementation. Prepared procedures and instructions and conducted formal training for management and union personnel on mechanized systems and ancillary accounting functions. Had supervisory responsibility over organization that handled procurement/acquisition, inventory control, functional test and inspection, repairs, subcontracted rework, and accounting and control, including data entry for dynamic test inventory valued at over \$200 million. Additional responsibilities included planning, budgeting, forecasting, quoting, labor relations, procedures, schedule control, and contractual obligations. As the Logistic Support Manager at Edwards AFB, California had all off-site support functions (acquisition, receiving, inspection, warehousing, packaging and crating, shipping, accounting control, reporting, etc.) during the Air Force testing of the C-5 aircraft. Was involved in inventory control, receiving, distribution and retail merchandising with regional department store chain.

Current Fields of Interest

Analysis of business problems and the development and implementation of strategies or plans considering the major functional areas of a company--marketing, accounting/finance and production; data processing use; application of financial tools and other activities involved in sound management and business practices.

Major Reports and Publications

1. "First Annual Report of the Southeastern Trade Adjustment Assistance Center," prepared for Economic Development Administration, 1979, coauthor
2. "Diagnostic Review/Feasibility Study for Pinellas Seafood Company," Georgia Tech Report, 1979
3. "Development of a Set of Simplified Financial Management Procedures for Small Cities and Counties of Georgia, Georgia Tech Report, 1979
4. "A Demonstration Project to Establish a Technological Delivery System for Small and Medium-Sized Firms," Georgia Tech Report, 1979, coauthor
5. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," prepared for Economic Development Administration, 1978, coauthor
6. "User Guide to Complete Auto Transit's Datapoint System," Complete Auto Transit, 1978
7. "Project 923--Real Time/Random Access System for C-5 Inventory Management," Lockheed-Georgia Company, 1967, coauthor
8. Author of approximately 130 procedures for Lockheed-Georgia Company

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BIOGRAPHICAL SKETCH

MULLER, JAMES C.--Research Engineer II
Economic Development Laboratory

Education

M.B.A. in Management, Georgia State University	1972
B.M.E., Georgia Institute of Technology	1967

Employment History

Georgia Institute of Technology	
Research Engineer II	1977-Present
Corning Glass Works	
Equipment Development Engineer	1975-1977
Senior Equipment Engineer	1974-1975
Southwire Company,	
Assistant Manager, Design Engineer	1972-1974
U.S. Army, Ordnance Officer	1968-1970
International Harvester, Design Engineer	1968

Experience Summary: At Georgia Tech, functions as project director and/or principal investigator on sponsored research projects concerning energy conservation and economic feasibility; also provides management and technical consultation to manufacturing firms in the southeastern United States. As senior equipment engineer in charge of equipment development at Corning in the Electronic Products Division, developed six new and different pieces of production equipment, taking them through all stages of development: conceptualizing, funding, designing, prototyping, debugging, fabricating, training operators, training maintenance personnel, commissioning, and documenting. As assistant manager of design engineering, provided engineering drawings to support all Southwire Continuous Rod projects; functioned as a design engineer, designing a complete continuous copper casting machine and bar preparation machine; did feasibility studies on an insulated scrap reclamation plant, designed the eventual system, and participated in the design of a system for recycling the plastic insulation material. As test officer, U.S. Army Armor and Engineering Board, conducted field test of experimental wheel and track vehicles. As platoon leader, commanded 98 men performing direct support maintenance on vehicles and armament of two battalion-size combat units. Assigned to General Staff, Support Command DaNang, monitored the readiness of engineer construction and material-handling equipment for all U.S. Army forces from Chu Lai to the DMZ. As design engineer, designed the valve train for a family of six-cylinder engines in medium-duty trucks.

Current Fields of Interest

Manufacturing engineering and manufacturing management, in particular: feasibility studies on new ventures, analysis of current problems, equipment selection and development, cost reduction programs, automation, computer-aided manufacturing.

Patents

1. "Automatic Metering System," U.S. Patent Pending, coinventor
2. "Pour Pot Manipulator," U.S. Patent No. 3,877,509

Registrations

Licensed Professional Engineer, Georgia, Reg. No. 11429
Licensed Professional Engineer, North Carolina, Reg. No. 7943
Certified Manufacturing Engineering, Cert. No. 970285, Exp. Date, Dec.
31, 1982

Major Reports and Publications

1. "Industrial Supply Company, Brunswick, Georgia: An Economic Analysis," Georgia Tech Report, May 1980
2. "The Feasibility of Manufacturing Machine Shop Products in Southwest Georgia," January 1980, with Harvey Diamond
3. "Feasibility of Manufacturing Metal Stampings in Southwest Georgia," Georgia Tech Report, January 1980, with Harvey Diamond
4. "The Feasibility of Obtaining Metalworking Support Facilities for Southwest Georgia Manufacturers," Georgia Tech Report, August 1979, with Harvey Diamond
5. "Diagnosis of Butler Furniture Industries," Georgia Tech Report, August 1979
6. "Feasibility of Reopening the Southern Electric Steel Mill, Birmingham, Alabama," Georgia Tech Report, May 1979
7. "Precision Metals Inc., An Economic Analysis," Georgia Tech Report, January 1979
8. "Trade Adjustment Assistance Provided to the Atlanta Umbrella Company," Georgia Tech Report, December 1978
9. "A Craftsman's Guide to Energy Conservation," textbook to be used in vocational/technical schools in Georgia, November 1978, with Esther Burks, Tom McGowan, and William Studstill
10. "Production and Profitability Analysis of Miami Laces Corporation," Georgia Tech Report, November 1978
11. "Energy Conservation and Management in Vocation/Technical Schools," Georgia Tech Report, September 1978, with James Clark
12. "Technical Assistance to Mulvey Supply Company, Hollywood, Florida," Georgia Tech Final Report, April 1978

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BIOGRAPHICAL SKETCH

RICE, GREGORY F.--Senior Research Associate
Economic Development Laboratory

Education

J.D., De Paul University	1961
B.A., De Paul University	1954
12 Semester Hours of Accounting, USAFI	1956

Employment History

Georgia Institute of Technology	
Senior Research Associate	1979-Present
Atlanta Protection Systems, Inc., President	1978-1979
Southern Silk Mills, Vice President Marketing/Sales	1977-1978
The Lovable Company, Vice President of Operations	1971-1976
Sears Roebuck & Company, Buyer/Merchandiser	1966-1970
Jewel Companies, Attorney, Buyer	1958-1965

Experience Summary: Georgia Tech activities include outreach to acquaint prospective clients with TAAC Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both the client and EDA to facilitate implementation of technical and/or financial assistance. President of Atlanta Protection Systems, in-home sales of residential burglar and fire alarm systems. As Vice President Marketing/Sales, directed national 16-man representative sales force. Formulated marketing and sales plans and budgets for sales in excess of \$20 million, priced all products, determined overall P&L plan, and administered the Marketing Department. As Vice President of Operations was responsible for all manufacturing and staff support areas except finance. Acted as marketing coordinator for company, and was responsible for unifying sales and manufacturing functions. Buyer/merchandiser duties at Sears included determining composition of line and pricing of products for retail and catalog sales, and preparing sales and P&L budgets. Negotiated long-term buying arrangements and costs with vendors, and prepared sales and production planning schedules for vendors. As a buyer for Jewel, determined selection, pricing and sales presentation of toys for retail food, discount and drug stores and for catalog operations. Also prepared sales plans and P&L budget. As an Attorney for Jewel, worked in law division in contract, regulation and labor areas.

Current Fields of Interest

Analysis and solution of management/manufacturing problems with emphasis on the interrelation of marketing, production, and financial operations.

Registrations

Licensed to practice law in the state of Illinois and the United States District Court, Northern District of Illinois, 1961

Georgia Institute of Technology
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BIOGRAPHICAL SKETCH

SPRINGFIELD, ROBERT W.--Research Engineer II
Economic Development Laboratory

Education

B.I.E., Georgia Institute of Technology 1969

Employment History

Georgia Institute of Technology	
Research Engineer II	1979-Present
Summerour and Associates, Inc., Management Consultants	
Associate	1977-1979
Senior Consultant	1975-1977
Staff Consultant	1973-1975
Colonial Stores, Inc., Retail Food Chain	
Industrial Engineer, Corporate Warehousing and Transportation Department	1969-1973

Experience Summary: As a research engineer at Georgia Tech, duties include program management responsibility for a business consulting unit which provides management, financial, production, and marketing services primarily to small and medium manufacturing firms. As a management consultant with Summerour and Associates, worked with both large and small companies in solving the problems of facility design, employee productivity, personnel recruiting, training, cost and method analysis, inventory control and production planning. As a senior consultant, specialized in on-site implementation of problem solutions and engineering programs with complete documentation. As an associate consultant, responsibilities included marketing consulting services, preparing proposals and surveys and supervising staff engineers performing on-site implementation work. As an industrial engineer with Colonial Stores, did extensive project work in product delivery to stores, warehouse material handling methods, inventory control, store material handling methods, equipment justification, and facility layout and design.

Current Fields of Interest

Utilization of sound marketing, financial and management techniques that apply to manufacturing businesses; operations management with respect to diagnosing and solving problems.

Major Reports and Publications

1. "A Diagnostic Review and Business Recovery Plan," prepared for Mapletree, Inc., July 1980, coauthor
2. "A Diagnostic Review of Company Operations," prepared for Forsyth Industries, February 1980, coauthor
3. "A Business Recovery Plan," prepared for the Curlee Clothing Company, March 1979

Major Reports and Publications (continued)

4. "Economic Feasibility Study for the Proposed Relocation of Sewing, Finishing, and Distribution Activities," prepared for the Tobias Kotzin Company, January 1979
5. "Layout Concept for Central Cutting and Piece Goods Facility," prepared for Noel Industries, Inc., February 1977
6. "Facilities Utilization Study," prepared for Skyline Manufacturing Company, Inc., November 1977
7. "Industrial Engineering and Standard Data Manual," prepared for Atlantic Products Corporation, August 1977
8. "Survey Analysis of the Chicago Distribution Operations," prepared for Humphrey's Leather Goods, January 1977
9. "Results of an Assessment of Order Fulfillment Costs," prepared for McGregor-Donniger, Inc., October 1975, coauthor
10. "Survey of the Distribution Facility," prepared for Jonbil, Inc., November 1975
11. "Industrial Engineering and Incentive Wage Manual for the Camden Finished Goods Warehouse," prepared for Skyline Manufacturing Company, Inc., September 1974
12. "Cutting Engineering Manual-Summersville," prepared for Angelica, Inc., August 1973, coauthor
13. "Proposed Design for the Hazlehurst Service Center," prepared for the Edward Hyman Company, April 1973

Georgia Institute of Technology
Engineering Experiment Station

BIOGRAPHICAL SKETCH

TAYLOR, HARDY A.--Chief, Business Development Division
Economic Development Laboratory

Education

B.S. in Business Administration and Pre-Law, University of Alabama	1943
Defense Department Comptrollership School, Washington, DC	1955
Graduate School of Business Organization, University of Nebraska	1951
Harvard Graduate School of Business Administration	1944

Employment History

Georgia Institute of Technology	
Chief, Business Development Division	1979-Present
Head, Industrial Services Group	1977-1979
Associate Chief, Industrial Development Division	1976-1977
Assistant Head, Industrial Services Branch	1970-1976
Assistant Head, Industrial Services Branch,	1970-1976
Head, EDA Services Section	1970
Head, Management and Technical Assistance Section	1968
Senior Research Scientist	1968
Research Scientist, II	1968
U.S. Navy, Supply and Fiscal Officer/Comptroller	1943-1968
Gladwin Industries, Inc., Atlanta, Georgia, Treasurer/ Controller	1964-1966
Turco Products, Inc., Atlanta, Georgia, Representative and Field Engineer	1943
National Southern Products, Inc., Tuscaloosa, Alabama, Research Assistant	1943

Experience Summary: As the Head of the Industrial Services Group is responsible for directing the overall EDL program of management and technical assistance and EDA services to Georgia industry. Served as treasurer of a locally based national corporation, primarily a manufacturer for the telephone industry, and was responsible for accounting and financial management, office administration and sales maintenance services, purchasing, customer relations and local sales, personnel administration, print shop operations and sales catalog maintenance. Served as a member of the board of directors of several corporations with national and international sales distribution. In 1964 completed 20 years in U.S. Navy as top departmental executive with experience in all phases of business and financial management. Special emphasis was on controllership, which consisted of budgeting and internal auditing; supply and fiscal operations, consisting of accounting and payroll, office administration and personnel management and training, procurement and contract negotiation and administration, inventory management, warehousing, traffic operations, quality control, industrial safety, and property disposal. Assisted in development of, and was in charge of implementation of, a new inventory management concept at the Naval Aviation Supply Office, which is the worldwide

inventory control point for all Naval Aviation spare parts and material. This concept, based on the maximum utilization of the latest electronic data processing equipment, resulted in the greatest advancement in the management of aviation material during the past several years. Served as Supply and Fiscal Officer/Comptroller at several Naval Air Stations and directed a working staff of 75 to 300 civilian personnel. As the first U.S. Naval representative in Sicily, negotiated at the highest governmental levels in Sicily and in Rome in arriving at agreements and procedural methods for operation of a U.S. Naval Air Station. Additionally, recruited, interviewed selected and hired the initial group of 100 civilian personnel. Also negotiated and approved contract for procurement of equipment, supplies and services from European sources to provide complete support for a station population of 1,800 people. Developed the idea and published a catalog in connection with a Simplified Issue Procedure for General Stores Material. This idea has been further developed and is widely used through the Naval Supply System.

Current Fields of Interest

All Phases of area development activity, including industrial and community development, financial and inventory management, and management development.

Major Reports and Publications

1. "Technical Assistance to Motels and Restaurant Owners Located on U.S. Highway 301", Georgia Tech Report, January 1978, coauthor.
2. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1977, co-author
3. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, January 1977, coauthor
4. "Feasibility of Restructuring the Long-Term Financing of Delta Diversified, Inc.," Georgia Tech Report, July 1976, coauthor
5. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1975
6. "A Program of Technical Assistance to the Farmers Home Administration Business and Industry Loan Program," Georgia Tech Report, March 1975
7. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Report, December 1974 coauthor
8. "Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Report, August 1973, coauthor
9. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia", Georgia Tech Report, June 1973, coauthor
10. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia", Georgia Tech Report, September, 1972, coauthor
11. "A Program of Management and Technical Assistance in Designated EDA Counties in Georgia," Georgia Tech Final Report September 1971, coauthor

12. "Ways of Organizing a Business in Georgia," Georgia Tech Management and Technical Assistance Counseling Note, August 1971, coauthor
13. "An Evaluation Report on McGuire Tire and Recapping Company, Atlanta, Georgia," Special Report for the Small Business Administration, July 1971, coauthor
14. "A Feasibility Report on the Proposed Expansion of Bertie Industries, Inc., Windsor, North Carolina," Special Report for the Small Business Administration, June 1971, coauthor
15. "A Program of Management and Technical Assistance in Designated EDA Counties," Georgia Tech Final Report, August 1970, coauthor
16. "Management and Technical Assistance to Georgia Business and Industry," Georgia Tech Annual Report, August 1968, coauthor
17. "Economic Impact of a Proposed Industrial District to be Located in Richmond County, Georgia," EDA Special Report, May 1968, coauthor
18. "Economic Impact of Proposed Water and Sewerage Systems Improvements on Gibson, Georgia," EDA Special Report, April 1968, coauthor
19. "Economic Impact of Proposed Water and Sewerage System Improvements on Madison, Georgia," EDA Special Report, April 1968
20. "Economic Impact of Proposed Sewerage System Improvements on Camilla, Georgia," EDA Special Report, March 1968, coauthor
21. "Economic Impact of Proposed Water and Sewerage Systems Improvements on the City of Sylvester and Worth County, Georgia," EDA Special Report
22. "Economic Impact of a Proposed Industrial Park to be Located in Milledgeville, Georgia," EDA Special Report, February 1968
23. "Economic Impact of the Proposed Establishment of Keller Industries, Inc. in Swainsboro, Georgia," EDA Special Report, February 1968, coauthor
24. "Economic Impact of a Proposed Industrial Park to be located in Swainsboro, Georgia," EDA Special Report, January 1968, coauthor
25. "Economic Impact of the Proposed I-20 Regional Industrial Park at Comak, Georgia," EDA Special Report, January 1968
26. "Economic Impact of Proposed Water and Sewerage System Improvements on Warrenton, Georgia," EDA Special Report, September or December 1967
27. "A Simplified Inventory and Cost Control System for a Small Manufacturer," EDA Special Report, June 1967
28. "Economic Impact of Proposed Water and Sewerage System on Cleveland, Georgia," EDA Special Report, May 1967, coauthor
29. "Economic Impact of a Proposed Water Storage Tank on Tennille, Georgia," EDA Special Report, April 1967
30. "Impact of Proposed Water and Sewerage System on Blakely, Georgia," EDA Special Report, February 1967, coauthor
31. Author of numerous published company studies; procedural systems manuals; and operational plans
32. Published catalog in connection with a Simplified Issue Procedure for General Stores Material

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BIOGRAPHICAL SKETCH

THOMAS, JAMES M.--Research Associate II
Economic Development Laboratory

Education

M.S., Management, Purdue University	1977
B.S.I.M., Georgia Institute of Technology	1972

Employment History

Georgia Institute of Technology	
Research Associate II	1980-Present
Touche Ross and Company, Management Consultant	1977-1980
Purdue University, Instructor of Financial Accounting	1975-1977
Federal Reserve Bank-Miami	
Systems Department Manager	1974-1975
Branch Systems Analysts	1973-1974
Check Collection Analyst and Check Processing Supervisor	1972-1973

Experience Summary: With Touche Ross and Company, performed a broad range of general management consulting engagements, including a review of operations and fiscal controls for a county maintenance department, development of a water quality management program for a state-designated water pollution control district, design and implementation of inventory evaluation procedures for a general hardware manufacturer, management of a Chapter XI bankruptcy for the court and creditors of a food processing company, implementation of a fully integrated accounting system for a state welfare agency, analyses of engineering operations and manpower utilization for an affiliated company of the Bell System, development of employee performance appraisal and incentive system for two county governments, development of a staff performance appraisal system for the Atlanta Management Services Department of Touche Ross and Company, analyses of road and drainage system maintenance operations and manpower utilization for a county government, development of an organization and operations plan for a new lease company venture, and market profile analyses of potential management consulting markets in the southeastern United States. Work experience with Purdue University included course instruction in financial accounting. As Systems Department Manager, with the Federal Reserve Bank, developed and implemented the department's organizational structure, procedures and policies; planned and managed the efforts of the programming and operations analyst staff; and managed the systems and user department's conversion from second to third generation computers. As Check Processing Supervisor, supervised three operational units with over fifty employees. Branch System Analyst work experience included supervision of the Data Processing Department programming staff, and planning and coordination of the department conversion from second to third generation computers. As a Check Collection Analyst, performed analyses of short- and long-term computer hardware requirements, performed analyses of alternative damaged check processing equipment, and coordinated implementation of computer hardware recommendations. Work experience with the Georgia Power Company included drafting and layout design of electrical sub-stations.

Current Fields of Interest

Utilization of quantitative management tools in finance, operations and marketing in the development of strategic business and operating plans.

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BIOGRAPHICAL SKETCH

WILENCHEK, STEPHEN B.--Senior Research Associate
Economic Development Laboratory

Education

M.B.A., Harvard Business School	1964
B.S.I.M., Georgia Institute of Technology	1960

Employment History

Georgia Institute of Technology	
Senior Research Associate	1979-Present
Wilenchek & Associates, Consultant	1979-Present
Citizens and Southern National Bank	
Vice President-Senior Credit Officer	1976-1979
Vice President-Branch Manager	1975-1976
Vice President-Equipment Leasing	1972-1975
Vice President-Corporate Financial Planning	1971-1972
Commercial Lending Officer	1966-1971
Trainee	1964-1966

Experience Summary: As senior research associate at EES, activities include outreach to acquaint prospective clients with Trade Adjustment Assistance Program, consultation with clients to identify specific problem areas and develop strategies for recovery, and interaction with both clients and Economic Development Administration to facilitate application to EDA for financial assistance. As senior credit officer, administered diversified portfolio of problem commercial loans which initially totalled \$12 million. Developed specific strategies for each situation and reduced loans by \$4 million through sales of collateral, demands made upon guarantors, and refinancing of loans elsewhere. Identified losses and charged off uncollectible amounts. Acted as liaison with attorneys in numerous lawsuits concerning defaulted loans, and regarding litigation against the bank arising from loan transactions. Assumed management of commercial/retail bank branch having high percentage of problem loans. Systematically reduced problem loan balances by 25%, while increasing deposits by 40% and cutting expenses by 10%. Despite poor business conditions, generated new consumer and commercial loan business, including the first SBA-guaranteed loan made by this bank to a contractor. Organized and operated equipment leasing department. Within two years, outstandings reached \$12 million. Served on troubled customer's finance committee and board of directors. During this time customer's operating losses were substantially eliminated and administrative procedures were greatly improved. Sold commercial banking services to and negotiated lines of credit with major national companies as well as local businesses. Managed \$19-million loan portfolio. Consulted with customers on financial strategy, mergers and acquisitions, and arranged private placements of debt.

Current Fields of Interest

Financial management, marketing management, market analysis, and the interaction of these factors in making strategic business decisions.

CHARTS

ECONOMIC CHARACTERISTICS OF EDA-DESIGNATED COUNTIES^{1/}: GEORGIA

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
United States	216,863,000	1.6	13.5	12.1	12.1	9,590	13.7	5,751	84.4	7.0	44.9
Georgia	5,041,000	3.0	27.1	10.8	10.8	8,167	20.7	5,071	92.3	6.3	37.3
Appling	14,900	9.4	22.4	8.8	10.0	5,284	37.1	3,290	96.3	8.5	49.7
Atkinson	5,900	-5.2	31.1	8.1	8.7	4,386	44.6	2,709	87.9	8.0	50.8
Bacon	9,400	7.0	14.8	8.2	9.0	5,323	31.2	3,466	91.0	7.7	59.3
Baker	3,900	-2.7	63.7	7.9	8.8	3,947	45.9	2,482	99.8	5.8	69.2
Baldwin	32,100	-10.8	42.1	8.5	9.0	8,145	22.3	3,597	93.3	6.5	27.2
Banks	7,300	3.6	6.2	8.2	8.9	6,144	24.0	3,506	90.4	5.1	38.0
Barrow	19,500	10.3	16.7	9.1	9.5	7,263	18.1	4,187	84.3	6.6	43.8
Bartow	37,900	7.4	16.9	9.1	9.4	8,046	15.1	4,438	78.4	6.3	37.7
Ben Hill	14,700	7.1	27.8	8.7	9.6	6,077	31.9	3,959	92.9	8.2	39.4
Berrien	13,000	6.7	13.3	8.9	9.2	5,639	28.2	3,596	90.2	4.6	53.5
Bibb	143,500	-4.7	41.5	11.2	10.9	8,248	21.9	5,184	92.6	6.5	16.7
Blackley*	10,400	-2.5	20.3	9.1	9.5	6,644	28.4	3,917	98.0	3.0	66.7
Brantley	7,700	24.2	8.4	8.7	9.0	6,449	24.8	3,784	96.9	6.5	13.7
Brooks	13,800	-4.4	51.6	8.8	9.6	4,783	42.3	3,032	83.0	4.3	67.3
Bryan	8,400	18.2	24.9	8.8	9.6	6,490	30.3	3,860	104.1	6.4	10.8
Bulloch	34,800	5.1	33.1	9.9	10.7	6,520	32.1	3,985	102.5	4.9	58.8
Burke	18,800	-3.0	60.0	7.8	8.5	4,498	52.7	2,939	94.4	9.0	50.9
Butts	12,400	11.0	40.3	9.0	9.9	7,011	23.8	4,127	97.3	11.0	34.6
Calhoun	6,600	-4.4	62.8	7.2	9.1	4,139	52.0	2,661	84.2	5.4	62.4
Camden	12,000	-1.2	38.2	10.1	10.7	8,390	19.7	4,687	110.4	5.7	9.2
Candler	6,900	4.0	36.0	9.0	9.8	5,082	40.4	3,555	96.1	4.8	56.5

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Carroll	53,600	10.3	16.9	10.0	10.0	7,617	18.3	4,509	91.5	6.3	28.2
Catoosa	33,700	11.4	1.1	10.9	10.8	8,653	13.0	4,940	92.7	7.8	37.4
Charlton	6,700	8.5	32.9	9.1	9.6	5,469	29.0	3,805	102.4	6.5	6.7
Chatham	192,200	-3.8	40.9	12.0	11.6	8,245	20.9	5,163	94.2	6.9	7.6
Chattahoochee	16,500	-43.7	14.4	12.7	12.4	7,354	17.1	4,702	90.6	18.3	4.5
Chattooga	22,400	4.3	8.9	8.8	9.0	7,561	17.7	4,227	83.4	10.8	36.5
Cherokee	42,000	25.4	3.4	9.0	9.4	7,902	16.9	4,667	92.9	4.9	19.5
Clarke	69,800	0.1	22.1	12.8	12.3	8,220	20.4	4,849	79.3	5.2	24.9
Clay	3,500	-5.8	66.3	8.4	9.4	3,384	60.7	2,555	89.4	5.0	49.4
Clayton	136,000	25.0	4.1	12.0	11.9	10,965	5.9	6,147	93.2	5.3	10.2
Clinch	6,500	-6.1	28.1	8.0	9.0	5,925	36.3	3,230	78.9	5.4	6.4
Cobb	251,600	18.1	4.6	12.1	11.8	11,247	7.1	6,741	96.0	4.0	13.0
Coffee	25,000	2.6	26.2	8.7	9.9	5,828	32.9	3,671	86.3	9.0	63.8
Colquitt	34,000	-0.4	25.1	9.2	10.1	6,137	29.3	3,656	79.4	7.0	66.8
Columbia	32,500	31.8	15.4	11.1	10.9	8,028	19.2	4,749	106.2	4.8	26.6
Cook	12,300	-5.5	32.6	8.8	9.5	6,606	30.3	3,447	82.3	6.5	61.0
Coweta	36,900	7.6	30.5	9.5	10.2	7,640	20.6	4,605	96.5	6.6	27.0
Crawford	6,700	11.1	49.5	8.3	8.9	4,996	42.8	2,746	89.5	9.1	28.8
Crisp	19,100	-0.9	41.6	9.0	9.7	6,423	32.4	3,712	82.9	6.5	66.0
Dade	11,600	8.9	1.0	8.6	9.1	6,593	22.4	3,667	94.8	8.5	31.5
Dawson	4,800	25.6	0.2	8.1	8.8	6,244	27.2	3,502	84.0	9.2	11.9
Decatur*	24,700	3.9	41.4	8.6	9.5	5,441	39.6	3,304	93.8	5.9	52.2
DeKalb	457,000	2.4	27.1	12.7	12.4	12,137	7.1	7,214	92.8	4.8	4.1

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Dodge	16,700	3.2	29.4	8.9	9.3	5,532	35.7	3,955	87.5	5.4	52.4
Dooley	11,100	0.7	57.5	8.4	9.4	4,943	46.0	2,926	79.6	9.9	70.0
Dougherty	94,900	-4.8	42.3	11.8	11.7	7,875	23.1	4,875	97.9	7.8	70.6
Douglas	47,000	52.3	6.1	10.3	10.5	9,298	12.3	5,278	99.4	4.2	7.8
Early	13,200	-0.5	43.8	8.2	9.3	4,857	49.4	3,276	94.1	4.4	67.9
Echols	2,200	9.5	23.4	9.3	9.9	5,676	31.5	3,285	86.0	5.2	6.2
Effingham	16,700	15.8	20.3	9.6	10.1	7,950	21.8	4,275	97.6	6.2	31.9
Elbert	18,300	2.3	32.1	9.5	9.8	6,401	29.1	3,825	83.8	7.9	29.1
Emanuel	20,200	3.9	31.1	8.8	9.5	5,678	34.7	3,500	83.4	6.6	43.1
Evans	8,300	9.6	30.7	8.7	9.3	5,305	41.6	3,275	91.5	5.4	56.4
Fannin	14,700	7.8	0.3	8.6	8.7	5,704	24.6	3,499	88.5	8.2	8.6
Fayette	21,000	75.9	7.7	10.4	10.7	9,429	14.3	6,267	126.4	3.6	29.5
Floyd	78,900	2.4	13.3	10.2	10.2	8,285	15.4	5,080	94.1	7.8	41.1
Forsyth	22,900	25.3	0.1	8.8	9.2	7,381	17.7	4,884	106.7	5.7	39.9
Franklin	14,100	6.6	16.0	9.6	10.0	6,421	20.3	3,931	90.9	7.1	44.3
Fulton*	562,400	-12.0	40.6	12.1	11.8	9,359	17.6	6,426	86.1	6.7	14.0
Gilmer	11,100	19.5	0.3	7.9	8.4	5,736	27.9	3,522	88.3	10.0	14.3
Glascock	2,500	9.8	18.6	7.2	8.5	5,058	42.1	3,680	102.1	6.0	36.2
Glynn	49,500	-8.7	27.0	11.9	11.7	7,958	17.3	5,199	103.2	4.9	4.2
Gordon	27,900	11.3	4.8	8.9	9.1	7,807	15.1	4,360	78.0	9.9	42.3
Grady	19,400	4.0	33.3	8.8	9.5	5,428	35.2	3,434	93.0	4.7	72.8
Greene	10,800	1.2	58.3	8.6	9.5	5,973	33.1	3,193	84.0	7.3	30.7
Gwinnett	128,400	63.0	3.1	10.5	10.7	9,629	10.3	6,228	115.5	3.7	13.8

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Habersham	23,900	10.3	5.5	9.4	9.9	7,025	17.1	4,096	92.8	6.6	20.3
Hall	68,600	8.8	10.4	9.8	10.1	7,788	17.7	4,820	91.6	5.7	26.9
Hancock	9,200	-4.2	81.1	7.5	8.9	4,801	47.8	2,495	83.9	5.5	21.8
Hartson	17,700	6.6	7.2	9.4	9.7	7,239	17.5	4,082	73.3	6.1	20.7
Harris*	12,700	6.1	42.1	9.1	9.6	6,566	29.7	4,478	115.6	6.7	25.8
Hart	16,800	1.0	23.9	9.5	9.7	6,649	26.6	3,905	92.3	6.8	51.1
Heard	6,200	13.4	19.4	8.9	9.4	6,758	23.5	3,918	101.6	9.0	18.6
Henry	29,400	15.9	25.2	10.0	10.4	8,177	20.0	5,008	109.8	5.1	27.3
Houston	73,600	6.5	21.3	12.4	12.1	9,356	13.7	5,488	96.7	4.3	41.6
Irwin	8,400	2.0	32.7	8.6	9.5	5,099	43.8	3,597	95.6	5.9	64.5
Jackson	23,800	6.9	10.6	8.8	9.0	7,256	19.4	3,960	83.6	4.8	44.8
Jasper	6,900	16.0	42.0	8.8	9.9	6,074	34.9	3,638	99.6	4.1	33.5
Jeff Davis	10,900	8.1	15.5	8.9	9.6	6,003	26.3	3,590	95.3	6.4	48.6
Jefferson	16,700	-8.7	59.7	8.2	8.9	5,457	39.9	3,193	92.9	6.5	53.4
Jenkins	8,300	-4.3	47.0	8.4	8.8	5,177	44.4	2,999	88.3	5.0	56.1
Johnson	8,000	-1.5	32.2	8.5	9.2	5,359	39.4	3,196	95.5	4.8	48.7
Jones	15,600	19.6	27.1	9.7	10.1	8,008	21.7	4,671	105.5	5.7	17.7
Lamar	11,600	4.2	41.7	9.0	9.5	7,218	19.3	4,129	97.9	5.3	40.5
Lanier	5,300	0.1	27.7	8.4	9.8	5,830	31.5	3,611	96.7	4.7	44.7
Laurens	34,800	1.6	34.5	9.1	10.0	6,346	32.6	4,022	92.3	8.4	52.9
Lee	10,000	28.7	29.6	9.6	9.6	6,500	37.0	3,657	97.2	6.1	79.6
Liberty	27,800	43.7	31.7	11.7	10.6	6,063	32.5	3,740	86.1	5.3	8.2
Lincoln	6,200	-0.8	48.4	8.3	9.7	5,823	34.8	3,828	105.5	14.5	30.4

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Long	3,700	-4.3	31.1	8.1	9.2	5,414	37.2	3,456	112.0	6.0	9.4
Lowndes	63,800	5.8	31.1	11.4	11.4	7,077	25.0	4,059	82.9	6.4	47.3
Lumpkin	9,800	7.4	2.3	8.3	8.8	6,590	28.7	3,598	86.7	5.8	16.2
McDuffie	17,500	7.4	63.8	9.0	10.1	7,275	26.4	4,017	85.5	6.7	29.9
McIntosh	8,800	13.7	14.5	8.0	9.4	5,630	35.2	3,457	99.9	4.5	1.7
Macon	12,200	-11.6	46.9	8.3	9.2	5,441	42.6	3,039	86.2	9.1	66.3
Madison	16,100	12.8	37.5	8.8	9.7	7,000	19.3	3,962	89.5	6.2	38.5
Marion	5,800	11.6	49.2	7.9	9.3	5,919	40.2	2,861	73.5	8.7	24.7
Meriwether	21,000	2.7	48.2	9.0	9.4	6,312	32.2	3,612	96.6	7.3	37.2
Miller	6,200	-5.9	32.4	8.1	9.1	4,263	47.0	3,111	94.7	3.6	76.1
Mitchell	19,200	-7.1	55.4	8.6	9.4	5,683	36.9	3,292	85.6	7.6	76.4
Monroe	12,400	7.6	43.2	8.8	9.7	7,724	22.1	4,548	100.6	5.4	22.4
Montgomery	6,400	0.5	28.8	9.0	9.7	5,459	33.4	3,392	92.9	3.4	61.7
Morgan	10,300	-1.7	46.5	8.9	9.4	5,654	37.1	3,307	94.4	8.2	52.9
Murray	16,900	20.1	0.4	8.3	8.7	7,762	14.1	4,269	86.8	13.5	25.3
Muscogee	165,700	-9.6	33.2	12.2	11.5	7,814	19.9	5,176	94.4	7.1	7.2
Newton	32,800	15.9	29.1	9.2	9.8	7,858	19.8	4,493	92.6	7.5	33.7
Oconee	10,100	21.1	11.9	9.8	10.7	7,052	24.0	4,456	104.8	5.7	47.5
Oglethorpe	8,200	4.4	34.2	8.1	9.1	6,012	28.0	3,285	88.7	6.0	29.8
Paulding	23,300	24.9	6.4	8.9	9.2	7,563	18.3	4,027	82.7	4.7	15.1
Peach*	19,000	11.6	58.5	10.4	10.6	7,822	27.9	4,174	92.7	4.3	57.7
Pickens	10,900	8.5	3.4	8.3	8.7	7,357	20.8	4,223	91.4	6.9	17.3
Pierce	11,200	14.4	15.8	8.8	9.7	6,222	26.8	3,709	96.3	9.3	56.9

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Pike	8,600	14.2	38.2	8.5	9.2	6,652	28.2	3,755	99.9	4.5	41.9
Polk	31,300	1.4	15.8	9.2	9.2	7,254	20.3	4,165	86.7	10.0	28.4
Pulaski	8,200	-0.2	34.9	8.9	9.9	6,083	36.9	3,953	89.6	6.2	60.3
Putnam	9,200	4.3	50.4	9.3	10.4	7,996	27.0	4,596	98.0	3.4	27.2
Quitman	2,000	-13.0	70.6	6.8	8.3	3,968	54.1	2,255	96.3	6.9	30.8
Rabun	9,300	7.0	1.7	9.4	9.9	6,056	25.1	3,672	80.6	7.2	6.2
Randolph	8,900	0.9	61.6	8.0	9.2	4,097	50.6	2,861	93.0	7.4	49.7
Richmond	160,500	-8.1	36.9	12.0	11.4	7,994	20.1	4,937	92.8	6.2	18.7
Rockdale	30,600	58.2	10.6	10.2	10.4	8,882	15.7	5,572	116.6	4.5	24.9
Schley	3,100	-1.7	40.1	8.3	9.8	5,750	29.6	3,011	72.7	14.7	71.4
Screven	13,300	2.3	45.7	8.1	9.0	4,811	38.6	3,412	107.2	4.6	52.9
Seminole	8,200	9.1	34.3	8.9	10.0	6,518	29.0	3,782	91.6	5.8	67.0
Spalding	45,000	7.3	26.4	9.9	9.7	8,074	19.4	4,562	83.8	6.6	37.9
Stephens	22,500	5.5	13.2	9.8	10.0	7,225	17.8	4,433	92.7	8.3	18.3
Stewart	5,600	-15.7	72.9	7.8	9.1	4,813	48.0	2,690	90.6	8.0	23.9
Sumter	27,800	-4.1	45.5	9.4	10.0	6,719	31.7	3,664	78.0	9.4	64.6
Talbot	6,700	-3.0	77.0	7.7	9.0	5,245	41.7	3,405	105.2	6.8	22.5
Taliaferro	2,100	-11.3	71.6	7.6	8.2	4,416	51.4	2,800	86.8	10.8	26.8
Tattnell	17,200	0.2	34.8	8.9	9.5	5,582	35.3	3,122	100.9	4.7	49.3
Taylor	7,800	-6.0	45.6	8.2	8.9	5,746	36.5	3,083	90.2	6.6	32.5
Telfair	11,600	-3.4	36.3	8.3	9.3	5,310	35.5	3,123	82.3	8.3	36.0
Terrell	11,100	-8.0	67.3	8.7	9.9	5,447	42.4	2,931	78.2	8.0	77.0
Thomas	37,700	3.4	39.5	9.1	9.9	6,368	32.1	3,803	85.2	6.8	67.7

Area	Estimate Population 1977	% Net Migration 1970-1977	% Estimate Non-White Population 1978	Median Years of Education Completed, 1970		\$ Median Family Income 1969	% Below Poverty Income 1969	Per Capita Income		% Estimate Unemployment May, 1980	% Land in Farms 1974
				Male	Female			\$ Estimate 1977	% Change 1969-1977		
Tift	31,500	7.0	27.3	9.5	10.0	6,788	27.5	4,033	85.9	5.1	82.4
Toombs	21,600	6.6	25.0	9.3	9.7	5,995	31.0	3,885	99.7	5.7	43.9
Townes	5,000	9.2	0.1	8.7	8.9	4,917	30.4	3,522	99.3	4.4	12.2
Treutlen	6,100	2.4	32.5	7.6	8.9	4,972	38.1	2,969	79.4	5.8	45.4
Troup	45,500	-2.3	31.8	9.3	9.5	7,250	25.2	4,515	95.0	8.0	22.8
Turner	8,900	-5.4	40.3	8.6	9.7	5,693	33.6	3,178	78.3	7.1	76.7
Twiggs	8,300	-6.0	62.0	7.5	8.6	5,399	39.3	3,037	110.9	5.2	17.3
Union	8,300	17.0	x	8.2	8.4	4,563	36.0	3,000	86.8	8.1	16.8
Upson	24,500	0.9	28.6	9.1	9.5	7,699	18.8	4,441	86.2	3.9	25.7
Walker	53,900	-0.1	4.5	9.8	9.9	8,111	15.3	4,619	82.6	11.6	35.0
Walton	29,800	19.5	24.6	8.9	9.2	7,745	20.0	4,313	91.2	6.4	42.1
Ware	36,000	1.2	24.7	10.1	10.2	7,092	25.7	4,464	93.1	6.6	12.8
Warren	6,200	-10.3	68.0	7.4	9.0	5,297	43.5	3,015	100.3	14.9	42.6
Washington	17,000	-6.8	55.0	7.9	9.3	5,679	38.8	3,486	98.4	5.0	38.4
Wayne	19,400	1.7	19.5	10.0	10.2	6,909	25.6	4,169	97.7	6.9	22.5
Webster	2,400	-1.7	48.2	7.5	9.2	4,419	46.1	2,675	80.5	7.8	48.8
Wheeler	4,900	2.4	31.9	7.7	8.5	4,936	36.4	2,999	91.5	5.1	47.4
White	9,000	11.3	4.0	8.9	9.4	5,950	23.9	3,957	87.0	6.2	17.2
Whitfield	60,800	1.2	4.3	9.2	9.3	8,289	13.7	5,121	88.0	10.4	27.5
Wilcox	7,000	-2.2	31.9	8.6	9.5	4,923	39.9	3,217	90.7	8.2	46.9
Wilkes	10,400	-0.9	48.2	9.2	10.2	5,829	35.4	3,943	93.6	5.9	40.0
Wilkinson	9,900	0.1	46.8	8.2	9.4	6,511	29.3	3,760	106.5	4.1	17.9
Worth	17,000	7.7	37.7	8.9	9.5	5,388	39.8	3,214	92.1	6.4	65.6

1/ All Georgia counties are included; however, those marked * are not designated EDA counties.

z = less than 0.05%

Source for Estimate Population 1977: U. S. Department of Commerce, Bureau of the Census, Current Population Reports: Population Estimates, 1977, and Current Population Reports: Population Estimates and Projections.

Source for % Net Migration 1970-1977: U. S. Department of Commerce, Bureau of the Census, Current Population Reports: Population Estimates, 1977, and Current Population Reports: Population Estimates and Projections.

Source for % Estimate Nonwhite Population 1978: Georgia Office of Planning and Budget, and U. S. Department of Commerce, Bureau of the Census, Current Population Reports: Population Estimates and Projections.

Source for Median Years of Education Completed 1970: U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population.

Source for \$ Median Family Income 1969: U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population.

Source for % Below Poverty Income 1969: U. S. Department of Commerce, Bureau of the Census, 1970 Census of Population.

Source for Per Capita Income: U. S. Department of Commerce, Bureau of the Census, Current Population Reports: Population Estimates and Projections, 1977.

Source for % Estimate Unemployment May 1980: Georgia Department of Labor, Civilian Labor Force Estimates, Preliminary, May 1980, and U. S. Bureau of Labor Statistics.

Source for % Land in Farms 1974: U. S. Department of Commerce, Bureau of the Census, 1974 Census of Agriculture.

Chart 3

REGIONAL ECONOMIC DEVELOPMENT CENTER
GEORGIA INSTITUTE OF TECHNOLOGY
ACTIVITY REPORT

August 1, 1980 - October 31, 1980

	<u>Stabilization</u>		<u>Business Expansion</u>		<u>New Venture</u>		<u>Community Development</u>		<u>TOTAL</u>	
	Previous	Current	Previous	Current	Previous	Current	Previous	Current	Previous	Current
ONGOING (BEGINNING)	9	6	9	6	8	7	1	1	27	20
NEW	9	5	9	3	12	1	1	0	31	9
DISCONTINUED	12	3	12	1	13	6	1	0	38	10
ONGOING (ENDING)	6	8	6	8	7	2	1	1	20	19
TOTAL ACTIVE DURING QUARTER	18	11	18	9	20	8	2	1	58	29

Percentage of Effort as Measured by Cost*

	<u>This Period</u>	<u>Previous Period</u>
Business Stabilization	38	31
Business Expansion	31	31
New Venture	28	35
Community Development	3	3

*Cost is interpreted to mean Budget Cost for Period of Reporting.

Chart 4

SUMMARY OF PROJECT ACTIVITY BY TYPE AND SUBREGION

<u>Subregion</u>	<u>New Venture</u>	<u>Business Expansion</u>	<u>Business Stabilization</u>	<u>Community Development</u>	<u>Current Costs % of Total</u>
Altamaha Georgia Southern EDD	1	0	1	0	7
Central Savannah EDD	5	0	1	0	20
Chattahoochee-Flint EDD	0	0	0	0	0
Coastal Area EDD	0	0	1	0	4
Coosa Valley EDD	0	0	0	0	0
Georgia Mountains EDD	0	0	0	0	0
Heart of Georgia EDD	0	0	0	0	0
Lower Chattahoochee EDD	0	0	0	0	0
McIntosh Trail EDD	0	0	0	0	0
Middle Flint EDD	0	0	2	0	7
Middle Georgia EDD	0	0	0	0	0
North Georgia EDD	1	0	0	0	3
Northeast Georgia EDD	0	0	0	0	0
Oconee EDD	0	0	0	0	0
South Georgia EDD	0	3	1	0	14
Southeast Georgia EDD	0	1	1	0	7
Southwest Georgia EDD	0	3	2	0	18
Non-EDD	1	1	3	1	20
TOTAL	8	8	12	1	100

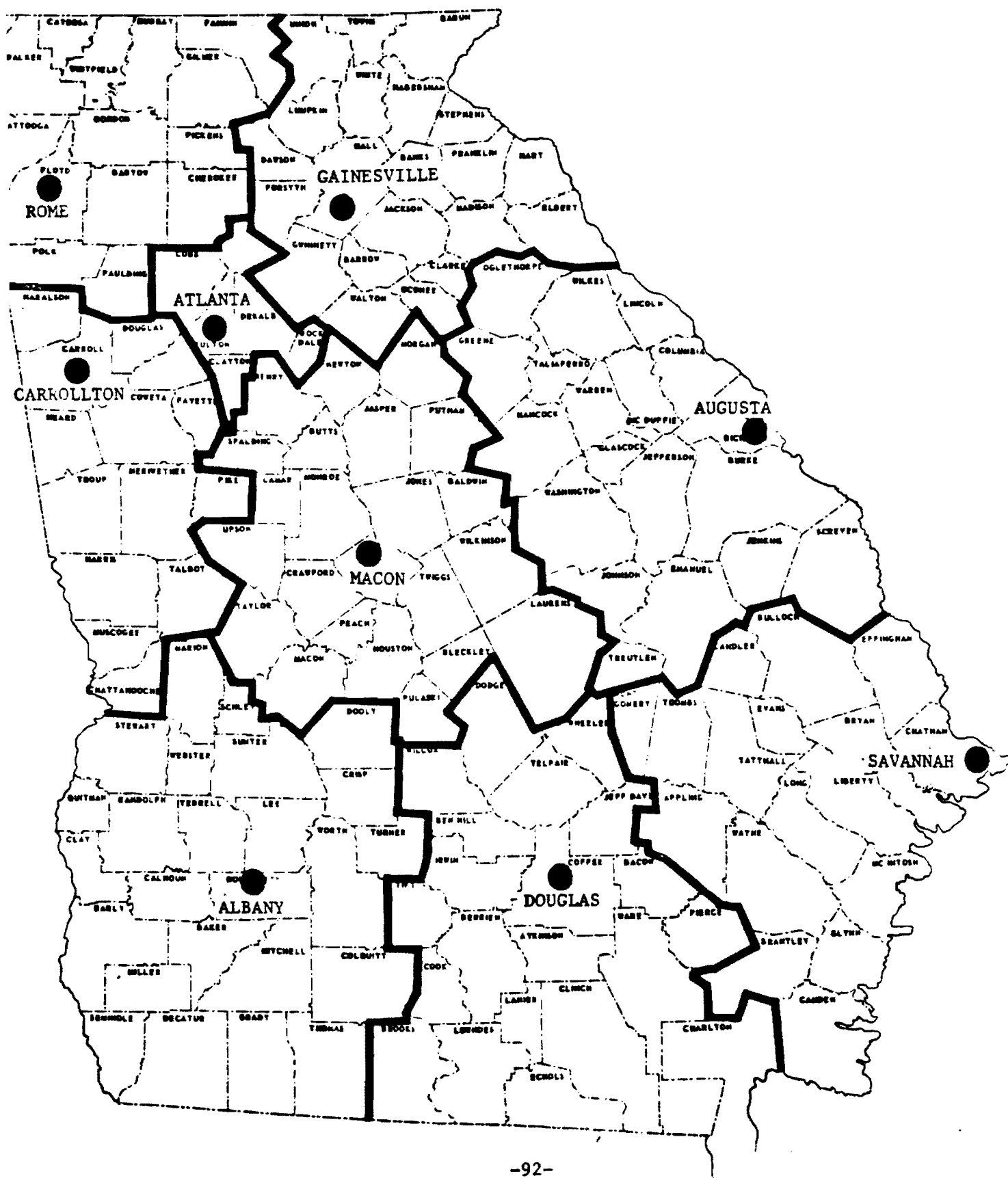
Chart 5

JOB IMPACT SUMMARY

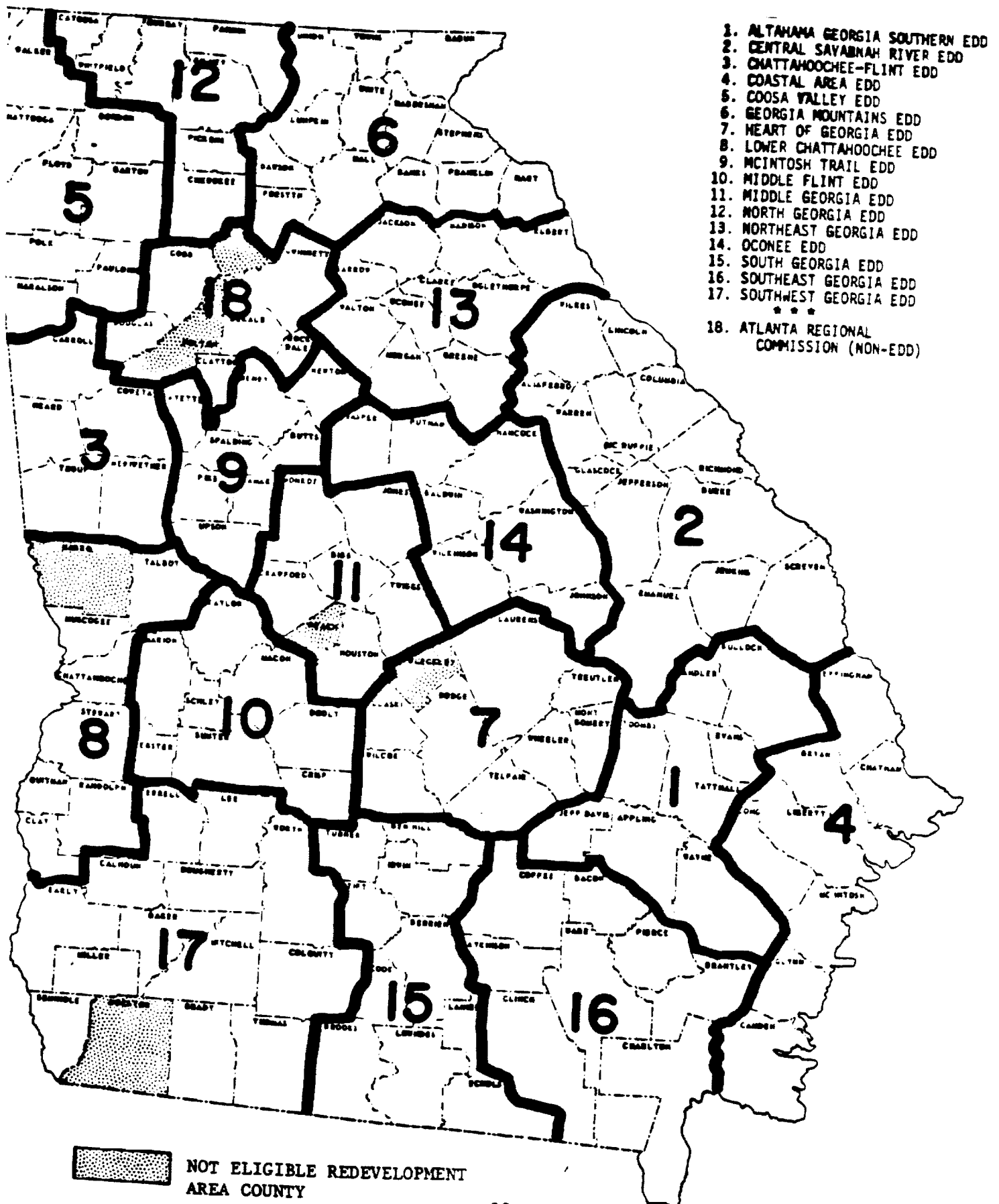
Subregion	Business Stabilization		Business Expansion		New Venture		Community Economic Development		Other	
	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual	Goal	Actual
Altamaha Co. Southern EDD	Not Estab.	0	Not Estab.	0	Not Estab.	0	Not Estab.	0	Not Estab.	0
Central Savannah River EDD	"	0	"	0	"	0	"	0	"	0
Chattahoochee Flint EDD	"	0	"	0	"	0	"	0	"	0
Coastal Area EDD	"	3	"	0	"	0	"	0	"	0
Coosa Valley EDD	"	0	"	0	"	0	"	0	"	0
Georgia Mountains EDD	"	0	"	0	"	0	"	0	"	0
Heart of Georgia EDD	"	0	"	0	"	0	"	0	"	0
Lower Chattahoochee EDD	"	0	"	0	"	0	"	0	"	0
McIntosh Trail EDD	"	0	"	0	"	0	"	0	"	0
Middle Flint EDD	"	0	"	0	"	0	"	0	"	0
Middle Georgia EDD	"	0	"	0	"	0	"	0	"	0
North Georgia EDD	"	0	"	0	"	0	"	0	"	0
Northeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Oconee EDD	"	0	"	0	"	0	"	0	"	0
South Georgia EDD	"	0	"	0	"	0	"	0	"	0
Southeast Georgia EDD	"	0	"	0	"	0	"	0	"	0
Southwest Georgia EDD	"	0	"	0	"	0	"	0	"	0
Non-EDD	"	0	"	0	"	0	"	0	"	0
TOTAL	"	3	"	0	"	0	"	0	"	0

MAPS

Map 1
AREA OFFICE LOCATIONS



Map 2
ECONOMIC DEVELOPMENT DISTRICTS
AREA PLANNING AND DEVELOPMENT COMMISSION BOUNDARIES



Map 3
PROJECT LOCATION BY COUNTIES

