SMALL-SCALE INDUSTRY GRANT YEAR III

STIMULATING THE GROWTH OF SMALL-SCALE INDUSTRY

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FINAL REPORT
YEAR III

STIMULATING THE GROWTH OF SMALL-SCALE INDUSTRY

by

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INTRODUCTION

The Agency for International Development (AID) initially funded on January 23, 1974, Contract No. AID/ta-c-1062, through which the Economic Development Laboratory (EDL) of the Engineering Experiment Station at the Georgia Institute of Technology was assigned the responsibility of implementing a long-range program of work in the area of stimulating growth of small-scale industry by providing grants to selected counterpart institutions. The administrative portion of this AID contract was assigned internally to the International Programs Division of the EDL and given the project number A-1600 by the Georgia Institute of Technology.

Second and third consecutive years were funded by the sponsor agency. This is the final report for Year III of this project, which has been implemented in four different regions of the world. For Year III, four counterpart institutions were funded: Soong Jun University, Seoul, Korea; the Fundação Educacional do Sul de Santa Catarina, Tubarão, Brazil; the University of Ife, Ile-Ife, Nigeria; and the University of the Philippines, Institute for Small-Scale Industries, Manila, Philippines.

As established by the contract guidelines, the following criteria were used in selecting the counterpart institutions:

1. Suitability of the national macroeconomic framework for local business conditions.
2. Existence of practicing or potential entrepreneurs.
3. Community concern over unemployment.
4. Existence of potential markets for additional products.
5. Linkages (current or potential) with educational, financial, and business communities.
6. Quality of the staff.
7. The institution's potential for utilizing the grant effectively.
8. Potential multiplier effects.
9. Host government commitments.

One of the basic provisions of the AID contract was that linkages or counterpart relationships with organizations in developing countries would be established and four of these counterpart institutions would be funded under the present contract. After reviewing approximately 30 potential counterparts

in 12 countries, the four institutions mentioned above were selected for this project.

Each selected institution prepared and presented its project proposal and later each one became a project (B-426, B-427, B-455, and B-463, respectively). Each project was funded by a $45,000 grant (one year) provided for by Project A-1600.

The terms of the grants to the counterpart institutions permitted the grantee to utilize half of the grant funds for personnel, travel, materials and supplies, conferences, etc. The balance of the funds were to be used by the grantee to obtain training and consultation services from U.S. technical assistance organizations.

The Georgia Institute of Technology subsequently contracted with all four grantees to provide training, consultation, information and data, and audio-visual documentation of the projects. In addition, two of the grantees utilized the services of the East-West Center in Hawaii.

Each individual project has been reported on separately,[1/] but in a summary manner some of the immediate results obtained during this third year are the following:

Project B-426--Soong Jun University (SJU), Seoul, Korea

1. Preparation and publication of three case histories based on actual technical assistance cases. A Methodology for Case Study and Case History Preparation also was compiled and published.

2. Provision of management and technical assistance to 33 companies, of which 10 were in Seoul and 23 in Taejon.

3. Seventeen of the firms receiving management or technical assistance this year reported employing 651 at the start of 1976 and had increased employment to 810 persons by the year's end, a gain of 159 jobs.

[1/] For additional details, refer to the respective end-of-the-year report entitled Final Report--Small-Scale Industry Grant for each year and each counterpart named in this document, published by the Economic Development Laboratory, Georgia Institute of Technology, Atlanta, Georgia, January 1974, 1975, and 1976.

4. The SJU staff developed five additional pieces of appropriate technology hardware and eight software applications were recorded.

5. The Small-Scale Industry Information Center (SSIIC) was incorporated into the SJU Engineering Library and reactivated this year.

6. A staff member participated in a four-week training program presented by the Georgia Institute of Technology in Atlanta, Georgia.

7. The EDL staff assisted in reviewing the SJU Department of Industrial Engineering.

8. A training and development seminar for small-scale manufacturers of communication instruments was offered by SJU staff during Year III and 48 persons participated.

9. Completion of the third annual audiovisual documentation of the program. Both new and old cases were documented at this time.

10. The newly appointed Data Manager for the SSIIC received five weeks of training at the East-West Center in Hawaii in the field of data collection and management for rural small-scale industry libraries.

11. A new organizational linkage was bonded with the Korean Communication Instrument Manufacturers Association.

12. Outside financial support grew, with SJU receiving almost $70,000 in research grants from five organizations during 1976.

Project B-427--Fundação Educacional do Sul de Santa Catarina (FESSC), Tubarão, Brazil

1. Preparation and publication of one feasibility study, three prefeasibility studies, and 24 new manufacturing opportunity reports

2. Provision of management and technical assistance to 45 local small-scale industries in 10 different municipalities. Consultation, information, and limited assistance were provided to another 35 enterprises in the same geographic area.

3. Fifteen of the companies receiving management and technical assistance were surveyed and they reported employing 915 persons at the start of the year; the same companies reported employing 1,911 persons at the end of the year for an increase of 996 jobs. In addition, two new companies were started, generating 80 jobs.

4. The Basic Data Center (CDB) increased its holdings by 2,946 documents during the year, all of which were classified, coded, and added to the collection. Since the flood of 1974 destroyed the CDB, a total of 3,552 documents have been added to the collection, 606 in 1975 and the balance this year. During the year, 106 inquiries for information were made to the CDB by different users, and they also provided all the data support for the preparation of the studies published by FESSC.

5. The FESSC staff presented or participated in 14 conferences, seminars, or lectures during this third program year. Thirteen were held in the state of Santa Catarina and one was in Manila, Philippines.

6. FESSC completed four research studies funded by the federal or state government. These studies are entitled Populações de Baixa-Renda-Condição Social e Necessidades Habitacionais em Santa Catarina; Capacitação de Recursos Humanos para o Sul de Santa Catarina; Modelo Teórico para a Educação de 1º Grau; Plano de Operações do Projeto Litoral Sul de Santa Catarina.

7. Five industry studies were researched, prepared, and published. The topics covered were (a) design of an electric kiln for a ceramic coating process; (b) quality control in the manufacturing of jellies, jams, and candies; (c) distribution system for a manufacturer of nonalcoholic beverages; (d) agro-industrial study on breeding swine, producing and processing broilers, and operating a feed mill; (e) small-scale production of construction materials and cement forms.

8. Presentation of 19 industrial training programs to over 350 participants. Basic skills were taught to the participants, who were training to become welders, electricians, machine fitters, and mechanics, to name a few.

9. Members of the FESSC staff were enrolled and completed 18 different staff training programs during the year. A minimum of 30 persons from FESSC were exposed to these staff training programs, offered in Florianópolis, Blumenau, Criciúma, Joaçaba, and other cities in the project area.

10. Evolution of the Center for Permanent Education (CEP), created in 1974 at the start of this program, into the Department of Permanent Education (DEP). Through the DEP the institution has been providing the training reported under item 8. The CEP presented 112 programs to 2,552 participants in 1974, and the following year (1975), they offered 31 programs to 512 persons; addition of

this year's activities brings the total up to 162 training programs presented to 3,414 persons over the last three years.

11. Completion of the third audiovisual documentary on small-scale industries in Santa Catarina. In the past three years, FESSC has developed its own audiovisual capability and has purchased the necessary equipment to carry out this activity.

12. Financial support has been increased through contributions from sources other than AID. In 1976, FESSC expended $148,139 on this program, of which $45,000 was received from the AID grant fund and the balance of $103,139 was generated by FESSC from three main sources: (a) SUBIN (state agency), (b) sponsored research, and (c) internal funds.

Project B-455--University of Ife (UI), Ile-Ife, Nigeria

The University of Ife (UI) entered the program late in June 1975 and completed its year of activity before the end of Year III.

1. Completion of a baseline study with focus on the industrial sector in the selected area. This study was published under the following title: Small-Scale Industry Grant, Baseline Data-Nigeria Program Area, Georgia Institute of Technology, Atlanta, Georgia, October 1976.

2. Establishment of two field stations--one each at Ile-Ife and Ado-Ekiti. The first field station, at Ile-Ife, was staffed with five persons and the one at Ado-Ekiti with four persons. Through this action, the UI has initiated the first industrial extension field office system in Africa.

3. Provision of on-site management and technical assistance to 53 small-scale industries in the areas of Ile-Ife and Ado-Ekiti. During their first year of operations, the Ile-Ife field office serviced 25 small-scale industries and the Ado-Ekiti field office completed 28 cases of management and technical assistance.

4. Presentation by UI staff of four training programs on the subject of small industry development. A total of 73 government officials occupying small-industry positions in all the states of the Federation attended two of these programs, which were presented in August 1975 at Ile-Ife. Fifty small industrialists and government officials participated in a program, also in August 1975, at Ilorin, and new IRDU staff members attended one in March 1976 at the University of Ife.

5. Planning and implementation of an exhibition of products manufactured by small-scale industries in Nigeria. This exhibition was open to the public from August 25 to August 27, 1975, at the Kwara Polytechnic in the city of Ilorin.

6. Preparation and publication of 16 studies on related aspects of small-scale industry development in Nigeria. These studies were all prepared by members of the UI staff and cover such subjects as: industrial policy, organization, finance, project feasibility, entrepreneurship, and manpower and training. Titles of all these studies appear in the 1976 yearly report of the project published by the Georgia Institute of Technology.

7. Preparation and publication of operation guidelines for the field stations and a brochure on the services available through the Management and Extension Division for small-scale industries in the project area.

8. Development of staff for the Industrial Research and Development Unit (IRDU) of the UI. Two senior members of IRDU participated in a seminar presented by the Centre for Management Development (CMD) at Benin City in September 1975. Another staff member attended the "Train the Trainers Course" offered in Lagos by the Industrial Training Fund. The head of IRDU also attended the Mini-Conference on Adaptive Technology and Small Industry Development presented by the Georgia Institute of Technology and the University of the Philippines, Institute for Small-Scale Industries in Manila, Philippines, on May 26-29, 1976. Three additional staff members received training from EDL staff on site during the program year.

9. Assisted by EDL staff on site, the first year audiovisual documentary was completed. A selected group of small-scale industries in both Ile-Ife and Ado-Ekiti were included in the tapes filmed at this time.

10. Financial support has been provided by UI from sources other than AID. In 1976, UI reported disbursing $321,274 on this program, of which $45,000 was granted from this program and the balance of $276,274 was provided by the Nigerian government and UI internal funds.

Project B-463--University of the Philippines, Institute for Small-Scale Industries (UP/ISSI), Manila, Philippines

This institution entered into the program early in January 1976. At the end of their first program year, the following results have been obtained:

1. A baseline study with focus on the industrial sector of the region being served by the extension office of UP/ISSI was completed. This document was published under the following title: Small-Scale Industry Grant, Baseline Data, Philippines Program Area, Economic Development Laboratory, Georgia Institute of Technology, Atlanta, Georgia, December 1976.

2. The first industrial extension office was opened in Tacloban City, Leyte, with seven staff members. This is the first industrial extension service facility to be established in the Philippines.

3. The Tacloban City extension office serviced 14 technical assistance cases in this first year of operations. Two of the cases were from the public sector and the other 12 from the private sector. In addition, the extension office responded to an additional 15 technical assistance inquiries and established coordination with seven agencies or organizations in the region.

4. An item of appropriate technology hardware was developed. The staff of the Tacloban City extension office designed and fabricated a feed mixer from a 55-gallon drum. The development of appropriate technology hardware is an area of great potential benefit to the small-scale Filipino farmers.

5. A survey of the training needs of entrepreneurs located in Tacloban City was conducted and the results will be used in planning future industrial training programs.

6. Five members of the UP/ISSI staff received special training during the year. Two of these persons visited the Technology and Development Institute of the East-West Center, Honolulu, Hawaii, for a four-week training program presented for the Asian RATC/SID Centers. The other three persons participated in training programs offered by the Economic Development Laboratory of the Georgia Institute of Technology in Atlanta, Georgia. Details of the coursework are presented in the corresponding end-of-the-year report for Project B-463.

7. Additional staff training was provided on site to seven members of the UP/ISSI staff by EDL staff members. The training was oriented to the operation of the extension office and general administrative procedures.

8. Research concerning industrial opportunities in the region was conducted in cooperation with the Regional Industrial Development Executives Course of UP/ISSI. In cooperation with the Small Business Advisory Center (SBAC) of the Department of Industry, industry studies are being prepared on the coconut, fishing, and wood-based industries.

9. The first-year audiovisual documentary for the project was completed. Assisted by the East-West Center staff on site, the UP/ISSI completed documentation (videotape and still photographs) of a selected group of small-scale industries in the project area.

The sections presented hereafter fully describe the background, objectives, and overall activities of the Year III program. The report also highlights some of the results attained by the project staff and the conclusions reached by the Project Director and staff.

PROGRAM PLANS FOR YEAR III

Background

The Economic Development Laboratory (EDL) of the Engineering Experiment Station at the Georgia Institute of Technology, a nonprofit organization, has been in existence since 1955. This internationally known unit of Georgia Tech now has an interdisciplinary staff of 75 persons and a broad and diversified program of economic development activities. It was created to provide the research and technical services required to accelerate the economic growth of the state of Georgia.

The Laboratory's broad program of industrial and economic development research, service, information, and training covers 10 major fields of activity: area development, community development, market analysis, industrial economics, management and technical assistance to industry, technical information services and technology transfer, manpower resources, basic data collection and dissemination, industrial and economic development training, and international development services. Special studies relating to natural resources, plant location, industrial land use, and industrial development program planning also are conducted.

In the spring of 1964, the then Industrial Development Division (IDD) became interested in the possibility of establishing an international program as a natural extension of its development work in process and previously carried out in port cities and adjacent coastal areas, particularly in Savannah and Brunswick, Georgia. In further investigating this idea, it became apparent that at the time there were few, if any, universities in this country which were actively engaged in training Latin American students in the basic principles and methodologies of industrial development.

Having recognized the need for and potentials of a sound program of industrial development for the emerging nations, especially in Latin America, the Economic Development Laboratory added to its professional staff bilingual personnel with extensive industrial experience in both Latin America and the United States.

The International Programs Division (IPD) of the Economic Development Laboratory then began to draw on the experience gained by EDL during its earlier years through the broad-gauged industrial development programs operated in

Georgia. In 1972, after a series of successful AID-sponsored projects in Latin America, the Economic Development Laboratory was awarded an AID 211(d) grant.

It was under this grant (Project B-414) that EDL identified the need for stimulating the growth of small-scale industries in less-developed countries (LDC). In an attempt to respond to this identified need, EDL prepared a proposal under the title of "Stimulating Growth of Small-Scale Industry," which was submitted to AID for consideration on October 15, 1973. Early the following year (January 23, 1974), the proposal was accepted and funded by AID, and the administrative portion of the contract became Project A-1600 at the Georgia Institute of Technology.

The EDL staff had identified the general problems associated with the expansion and diversification of existing industries and the creation of new small industries in the following manner:

1. Lack of a system analysis approach to providing research, services, and information to industry.

2. Insufficient funding to expand industrial assistance activities.

3. Continuing need for training of more organizational staff personnel.

4. Lack of knowledge of pragmatic methodologies.

5. A deficient information base related to technical and management problems of small-scale industries.

The Economic Development Laboratory suggested a program that would attempt to cope with these problems. Some of the basic elements suggested in the proposal were:

1. An organization focus with clearly defined aims.

2. A well-trained and motivated staff.

3. An information base.

4. A technical assistance "delivery system."

When this program was funded by AID, Project A-1600 was created to serve as the administrative project, and $45,000 grants were made to each of the counterpart institutions. Mr. Nelson C. Wall, Head of the International Programs Division, is Project Director on A-1600.

The terms of the grants to counterpart institutions permitted the grantee to utilize half of the grant funds for personnel, travel, materials and

supplies, conferences, etc. The balance of the funds were to be used by the grantee to obtain training and consultation from U.S. technical assistance organizations.

Both the Georgia Institute of Technology and the Technology and Development Institute, East-West Center, subsequently contracted with the grantee to provide training, consultation, and audiovisual documentation of the project.

The four counterpart institutions funded during Year III by this project may be briefly described in the following manner:

Soong Jun University. Soong Jun University was formed in 1970 when Soong Sil College united with Taejon College to form a new cooperative venture in the field of Christian education. Soong Sil College, in turn, was formed in Pyeng Yong (North Korea) in 1897 and reopened in Seoul in 1954, after being closed in 1938 during the Japanese occupation. Taejon Presbyterian College was founded in 1956 by the Southern Presbyterian Mission in the city of Taejon.

The main campus is located in Seoul near the large industrial area of Young Dung Po, which has a population of about 1.5 million inhabitants. The second campus at Taejon is near a smaller industrial area with a population of about 450,000 persons.

Immediately after Dr. Hahn Been Lee became President of Soong Jun University in March 1973, contacts were made by Mr. Ross W. Hammond, Director of the Economic Development Laboratory, with Dr. Lee. As a result of these contacts, both institutions entered into an agreement of mutual cooperation on July 30, 1973.

Fundação Educacional do Sul de Santa Catarina. The Fundação Educacional do Sul de Santa Catarina (FESSC) is an autonomous entity, as established by the Civil Code and national legislation under Decree Laws 200 and 900. It was constituted by Municipal Law No. 443-67 of October 18, 1967. It was recognized as being of utility to the federal government by Decree No. 70.680 of June 7, 1972.

FESSC has the following objectives: (1) develop middle and higher education as required by the labor market, which is to be done by formal and informal course work; (2) promote education and research related to the development of the state of Santa Catarina; and (3) engage leadership and population in the process of self-promotion to develop the local and regional areas.

Since early 1972, FESSC and Georgia Tech's Economic Development Laboratory (EDL) had been jointly studying the possibilities of initiating a joint program of work. As a result of these early deliberations, both institutions officially entered into an agreement on March 11, 1972. The agreement established that the signatories, as centers of higher education, have common interests in both local and regional development and in the development of students at a professional level for the area of South Santa Catarina. The agreement also provided for the cooperative promotion of programs, projects, and activities, with the understanding that other organizations may participate.

FESSC then presented a proposal to the Georgia Institute of Technology entitled "Program of Development for Small and Medium Industries." It was implemented by a grant funded under this contract, which was provided to the Georgia Institute of Technology by the Agency for International Development (AID) for this purpose.

In 1974, the Economic Development Laboratory, in cooperation with FESSC, initiated Year I of a program of small-scale industry development. This program was expanded in 1975 (Year II) and 1976 (Year III), again under funding by the Agency for International Development.

University of Ife. The University of Ife was established by the government of the Western State of Nigeria in October 1961. It is financed by the federal and the state governments on a 40%-60% basis. The university admitted its first students in October 1962, and the Department of Economics in the Faculty of Social Sciences was one of the earliest departments to be set up.

The University of Ife is located in the heart of the agricultural area of western Nigeria. It is committed to a close identification with, and improvement of, the agricultural, commercial, industrial, and cultural activities of the population around it.

In its research commitments, therefore, the university places a great emphasis on relevant applied research, without sacrificing the necessary theoretical and fundamental research. It is in this spirit that the University of Ife has set up research programs on (1) population and manpower, (2) drugs, (3) customary laws, (4) coal and allied minerals, (5) human resources, (6) Kainji Dam problems, (7) agricultural extension and implementation, and (8) small and medium-scale industries. All these are action-oriented programs and are designed to bring community problems into day-to-day analysis and investigation by University of Ife scholars, on a teamwork basis.

The Industrial Research and Development Unit (IRDU) was set up by the Department of Economics in August 1969 and at present serves as the counterpart unit in this project. The IRDU has the following main objectives:

1. The continuance of information gathering with a view to performing academic study, analysis, and interpretation of the data collected. The unit proposes to build up a data bank and materials for teaching and research.

2. Establishment of an effective industrial extension service to assist the existing industries to develop, grow, and modernize their operations and to create a linkage between them and the large industries, on a functional basis.

3. The encouragement of community industries through close liaison between the unit and the communities that have raised, or will raise, money to set up community enterprises.

In July 1975, the Economic Development Laboratory, together with the University of Ife, initiated Year I of a program of small-scale industry development. The program was continued in 1976 (Year II) under the same grant.

University of the Philippines. The University of the Philippines Institute for Small-Scale Industries (UP/ISSI) has directed its efforts since 1966 to the support of small-scale industry and entrepreneurial development in the Philippines, concerning itself particularly with appropriate support for rural development.

The UP/ISSI activities have included, in behalf of the Philippine small-scale industry, such matters as management training, in-plant technical assistance support, entrepreneurial development, management and technical data development and dissemination, as well as the continuing and successful advancement of its own professional and executive capacities.

In August 1975, a request for assistance in the establishment of a pilot rural extension office for small and medium industries was made by UP/ISSI to the Economic Development Laboratory of the Georgia Institute of Technology. The widening of the ISSI professional capacities and, particularly, the intensification of its programs for direct rural development activity was in response to government executive directives to government operating agencies to intensify efforts for the establishment of appropriate industries in regions outside the Greater Manila area.

This counterpart entered the program in January 1976. Since then, the development of further Government of the Philippines support to permit UP/ISSI to widen and direct its capacities to rural objectives has been abetted by this grant and by the technical cooperation of the Georgia Institute of Technology.

Objectives

At the initiation of this program, the continuing objectives were clearly defined, and they have been reviewed by the sponsor at each of two comprehensive reviews conducted since January 10, 1974. The objectives are threefold and are best described in the following manner:

1. To encourage selected developing country organizations to focus on employment generation through programs which accelerate the expansion of existing industry and the creation of new small industries.

2. To demonstrate and document the impact of alternative approaches to the stimulation of small industry.

3. To create in the appropriate governmental, industrial, and financial sectors of small industry an awareness of potentials and ways to maximize these potentials.

Each of the four counterpart projects (B-426, B-427, B-455, and B-463) have their own specific objectives which coincide with the overall project philosophy of the main program (A-1600). To insure compliance with these program objectives, the project administration established two main areas of activity for the Economic Development Laboratory staff: (1) training of selected counterpart staff both on site and in the U.S.A. and (2) provision of on-site consultative services to the different programs implemented by the grantee institutions. It was also established that the EDL project staff would assist the counterpart personnel in providing managerial, engineering, scientific, and technical assistance to selected small and medium-size industries in the participating host countries. The established objectives for Year III were met during this contract year.

Total Project Goals of the AID/ta-c-1062 Contract

The project goals were delineated by the Agency for International Development at the start of the Small-Scale Industry Grant on January 23, 1974. The

established goals, to be achieved over a period of four years, are as follows:

> The general objective of this contract is to generate employment in developing countries, particularly outside the metropolitan centers, by: (a) strengthening the capability of a selected institution in each country to provide effective technical assistance to local small industry, (b) demonstrating and documenting the impact of alternative approaches to technical assistance to small industry, and (c) infusing the governmental, industrial, and financial sectors of the local community selected to provide employment with the understanding of the techniques of generating jobs. The above objective will be carried out through the use of grants to selected Lesser Developed Country (LDC) organizations.

Once the total project goals are reached, the sponsor anticipates the following outputs:

1. Increased job opportunities in four countries.
2. Increased viability of indigenously owned enterprises.
3. Improved capability of four LDC institutions to serve small industry.
4. Tested methodologies for strengthening LDC institutions.
5. Evaluation reports on successes and failures in assisting small industry.

The total project goals have been met over the past three years plus several additional accomplishments during Year III which are listed in the Introduction and will be presented in further detail in the balance of this end-of-the-year report.

Programs of Work

Under Project A-1600, the role defined for the Georgia Institute of Technology was that of administering the overall project, providing guidance to the participating institutions in the development and design of their programs, providing advice and counsel as needed, and suggesting alternative options, all leading to the enhancement and assurance of positive results, as established by the project goals.

The EDL Project Director then generated for Year III a suggested program for each counterpart institution. These suggested programs were modified by the Counterpart Project Directors and their staffs to meet their own objectives and established needs. In order to create some degree of comparison and to

establish criteria comparable to all projects, the suggested counterpart program recommended the following activities:

1. Counterpart Organization Functional Activities

   a. Organization. The counterpart will administratively designate a unit to mount a program of research, service, training, and technical information for the small industry sector. Staff personnel will design the program based on the organization's goals and motivations.

   b. Facilities and Staff. The counterpart will provide adequate office, equipment, and other resources to the designated unit to permit its staff to function effectively. Staff personnel who have appropriate backgrounds and who, with appropriate training, can implement the program of assistance will be assigned to the unit.

   c. Technology Transfer. An information collection will be established by the counterpart, where one does not exist already, to permit the staff to conduct research on industrial problems, needs, processes, and products, especially as they relate to small-scale industry, and to disseminate technical information.

   d. Delivery System. The counterpart will design and implement a procedure to permit direct contact with small industries and entrepreneurs for the purpose of ascertaining their needs and problems and for the provision of staff assistance and research in the solution of problems, both management and technical in nature. This industrial extension activity will have as its aim the establishment of new industry and the expansion and diversification of existing industry.

   e. Education and Training. The counterpart will design and deliver appropriate training programs related to small-scale industry. Educational programs related to industrialization will be encouraged.

2. Independent Continuing Activities. The counterpart will design, in cooperation with the EDL Project Director, a specific program of continuing

activities which should include, but not be limited to, the following major subject areas:

a. Research Activities. For example, this could be in the areas of: (1) preparation of case histories; (2) approaches leading to employment generation; (3) analysis, evaluation, and development of new industrialization techniques (if appropriate), products, and processes. Other research activities also will be considered.

b. Industrial Extension Activities. This should be a pragmatic type of program related directly to serving the new and existing small-scale industries. Sample activities would be: (1) industrial problem-solving; (2) advice to and consultation with industry; (3) survey of small-scale industry problems and needs.

c. Training Activities. The counterpart institution should consider the possibility of providing on-site training to persons in industry. This training may be to management, supervisors, or employees, as needed. Some sample subjects to be considered are: (1) market analysis, (2) small industry operation, and (3) industrial processes.

d. Educational Activities. This is an option, but if the counterpart is an educational institution, it is highly recommended.

e. Training and Consultation. This task will be the responsibility of the EDL staff. As needed, selected counterpart institution staff will receive appropriate training at the EDL headquarters in Atlanta, Georgia. The training may take various forms as appropriate, including classroom work, on-the-job training, consulting and advisory services, plant tours, and other pertinent topics.

Using the established program guideline, the individual counterpart institutions then developed their corresponding programs for this year. The individual programs are summarized as follows:

B-426--Soong Jun University (SJU)

1. Organization. The counterpart project administration had recognized during Year II that the inactivity of the Small-Scale Industry Information Center (SSIIC) was limiting the program and it was established that during Year III the SSIIC was to be reestablished and activated.

2. Staff and Physical Plant. Unfortunately, at the end of Year I the person on the SJU staff responsible for the SSIIC left SJU and he had not been replaced since that time. It was planned for Year III to find and train (if necessary) a person to assume these duties. The SSIIC, when activated, would probably be incorporated into the collection at the Department of Industrial Engineering so space allocation was also planned for this action.

3. Program Areas. In cooperation with SJU, the Project Director designed the program of work for Year III. In a summary manner, the program of work was as follows:

a. Industrial Training and Education. For the past two years several successful short-term training programs had been offered to industry managers, engineers, and entrepreneurs in general. This activity would be continued during Year III. The programs proposed for Year III would include: (1) training seminars involving an interchange of SJU and EDL professional staff, (2) assessment of the joint program on science and engineering education at SJU, (3) management seminars on site for interested small-scale industries, and (4) additional staff training as needed.

b. University Training and Education. The new Industrial Engineering Department became established at SJU in part because of the assistance provided by the program during Years I and II. During this third year, the EDL staff would be made available as needed for further consultation in areas such as: (1) preparation of classroom material and coursework for the program leading to a degree in industrial engineering, (2) review and modification of the departmental curriculum, and (3) identification of specific effects on university education policies and practices as a result of these industry-oriented educational programs.

c. Industrial Extension and Research Service. Now that this portion of the program has been securely established at both the Seoul and Taejon campuses, it was proposed that for Year III these activities would be implemented: (1) further development of chemical and electrical engineering capacities; (2) expansion of the industrial engineering and management assistance facilities at both the Seoul and Taejon campuses; (3) increased emphasis on the subjects of quality control, plant and production management and marketing; (4) special emphasis on energy management in the program of technical assistance to small-scale industries. The joint staff would review and implement, if

possible, the use of solar energy applications on behalf of small-scale industry users.

d. Audiovisual Documentation. As in the previous two years, plans were made for the taping of an audiovisual document representative of the activities implemented during this year and a review of some of the previous activities.

B-427--Fundação Educacional do Sul de Santa Catarina (FESSC)

1. Organization. The counterpart institution had recognized during Year II that the existing organizational structure no longer covered the needs of the institution and designed a new structure for implementation during Year III. It was further understood that the Center for Permanent Education (CEP), created during Year I of this program, would complete its evolution and spin off to become the Department of Permanent Education (DEP).

2. Staff and Physical Plant. Based on the needs of the different program units, FESSC had hired an industrial engineer at the end of Year II who brought the program staff up to 12 persons. This did not include the staff of the Basic Data Center, Center for Permanent Education, or the Counterpart Project Director and his staff.

Plans had been under way for two years for the expansion of the existing physical facilities at FESSC. The goal for Year III was to complete the "New Campus Plan" and present it to the proper authorities in Brazil.

3. Program Areas. The EDL Project Director and his counterpart at FESSC jointly designed a program to assure the necessary support in the implementation of the following activities over a 12-month period:

a. Basic Data Center (CDB). During Year I, the CDB had lost nearly all of its holdings as a result of the March 1974 flood. In Year II, 606 documents had been added to the CDB collection, which was equivalent to doubling existing holdings. For Year III, it was planned to continue expanding the collection of information of social, economic, industrial, and technological origin. As part of the program, it was planned to step up the interaction between CDB and other national and international collections that are active in the field of small-scale industry development. The CDB would continue to be oriented to the collection, classification, and dissemination of pragmatic, up-to-date information on Brazilian and international material relevant to small-scale industries.

b. Center for Management and Technical Assistance (CETEG). This "delivery system" had been established during Year I and by now it had become very strong and well-developed. This action-oriented unit planned to continue to provide management and technical assistance to 12 companies on a continuous basis and to 40 additional companies on an "as needed" basis. The staff also planned to research and conduct four feasibility studies, 12 manufacturing opportunity studies, two small-scale industry case histories, and develop at least one management guideline for small-scale enterprises.

c. Center for Permanent Education (CEP). As in the past two years, the FESSC staff would assist in the presentation of short courses, lectures, workshops, industrial training programs, and staff training courses. For this year, three training programs were planned, as well as two lecture series. Industrial training programs were tentatively planned, subject to government approval. During the year, CEP would spin off and become the Department of Permanent Education if the proposed plan was successful.

d. Adaptive Technology Center (CATT). This center was established during Year I as an interim step leading to the future establishment of "technological education" as one of the educational options offered at FESSC. Plans for Year III included modest growth and the addition of two professionals to the staff--an industrial engineer and a chemical engineer. Plans also called for the establishment of a modest chemistry laboratory. Technical courses would be started during this year for the university students and the high school students. The CATT staff would continue to provide the technical backup to the technical assistance cases.

B-455--University of Ife (UI)

1. Organization. Year I activities at UI were initiated with the selection of the existing Industrial Research and Development Unit (IRDU) as the base unit for the program. The Counterpart Project Director then assigned specific responsibilities to the different groups within IRDU and they assumed the task of implementing the program components. During the year, as the program evolved, new organizational needs were identified and changes implemented to best serve the project and the small industries in the project area.

2. Staff and Physical Plant. As needed, the staff was to be enlarged to man the planned expansion. The candidates were to be considered and selected on the basis of interest, capability, and motivation to carry out the planned

tasks. Based on the needs of the different groups involved in the program, it was also necessary to allocate appropriate office space and equipment to assure the logistical support necessary to the implementation of the program.

3. Program Areas. The Counterpart Project Director, in cooperation with the EDL staff, designed a program to support the implementation of the following activities for the year:

a. Establishment of an Extension Service. A primary objective for this year of the IRDU program was to establish an industrial extension service. Two field stations were programmed--one each in Ile-Ife in Oyo State and Ado-Ekiti in Ondo State. As part of this action, operating procedures, guidelines, and other documents needed by the field offices also would be generated.

b. Preparation of Baseline Study. The compilation of selected baseline data on a national and regional basis for Nigeria was necessary in order to establish a benchmark. It was planned to conduct this study during the first quarter of the year. The primary sources for the information would be the annual publications of the national government; this information would be expanded through updated data which would be gathered on each industry or group of industries known to IRDU.

c. Management Development Division. This existing component of IRDU was to be strengthened to make it capable of assuming the administration and operation of the industrial extension services. During the year, a brochure describing the services offered also would be published.

d. Industrial Training and Education. The first priority was the development of a specific short-term training program for the IRDU staff. The counterpart staff, in the meantime, would offer industrial training programs, workshops, and seminars to government officials, interested persons, and the general public, as needed. Short-term training at EDL headquarters in Atlanta was also planned for the "senior" staff members of IRDU.

e. Technical Assistance. The counterpart staff requested, in particular, that during this first year EDL would make available to the program its much-needed industrial engineering expertise. IRDU plans in the future to develop its own in-house technical capability, but this would have to be provided by EDL during this initial phase.

B-463--University of the Philippines, Institute for Small-Scale Industries (UP/ISSI)

1. Organization. This institution started its first year in the program during 1976. The Counterpart Project Director decided to initiate the program within the existing organizational framework at UP/ISSI, and specific administrative units were designated to assume the responsibility for the portions of the program relating to research, service, training, and technical information.

2. Staff and Physical Plant. The program included the expansion of existing facilities to house the planned field office staff. The different units participating in the program were allocated appropriate staff space and equipment to assure the required logistical support.

3. Program Areas. In cooperation with the Project Director, the UP/ISSI administration and staff designed the program of activities to be implemented during the year. The establishment of an extension office within the campus facilities of the University of the Philippines, Tacloban City, Leyte, was given the highest priority. Tacloban City was chosen as the location of the first extension office because it is the political, communications, and commercial center of Region VIII. The Government of the Philippines has selected Region VIII as a priority area for development, and at Tacloban City UP/ISSI has many former participants of the Entrepreneurship Development Program that are eager to assist in the development of the program.

Training activities were planned for the extension office in such areas as: (a) management and technical courses, (b) seminar for selected industrial activities, and (c) seminar for entrepreneur development.

The extension service would provide technical support to the small industries in Region VIII. Typical services would include: (a) response to general inquiries via reports, relevant publications, and direct professional face-to-face response, (b) general management and technical assistance and consultancy on site, (c) feasibility studies oriented to the development of new enterprises, and (d) entrepreneur support, particularly to those establishing new enterprises.

During the early part of the year, a baseline study would be conducted to gather support data on the region, all of which would serve as a benchmark for evaluation of results of project activity. Plans were also made for UP/ISSI staff training both on site and at EDL headquarters in Atlanta, Georgia.

The four counterpart programs outlined above are described in full in the following reports:

Yoon Bae Ouh and Donald E. Lodge, Final Report, Year III--Soong Jun University, Small-Scale Industry Grant, Georgia Institute of Technology, Project B-426 Report, Atlanta, Georgia, 1977.

Jose Muller and Nelson C. Wall, Final Report, Year III--Fundação Educacional do Sul de Santa Catarina, Small-Scale Industry Grant, Georgia Institute of Technology, Project B-427 Report, Atlanta, Georgia, 1977.

Sam A. Aluko and Nelson C. Wall, Final Report, Year I--University of Ife, Small-Scale Industry Grant, Georgia Institute of Technology, Project B-455 Report, Atlanta, Georgia, 1977.

Herminia Fajardo and Donald E. Lodge, Final Report, Year I--University of the Philippines, Institute for Small-Scale Industries, Small-Scale Industry Grant, Georgia Institute of Technology, Project B-463 Report, Atlanta, Georgia, 1977.

Use of Grant Funds

Each of the four grantees was funded for a one-year period in the amount of $45,000. Disbursements of these funds are shown in Tables 1, 2, 3, and 4 respectively for the four counterpart institutions.

Table 1

DISBURSEMENT OF GRANT FUNDS
SOONG JUN UNIVERSITY
YEAR III
(in dollars)

Expenditures	Funds by Source: AID[1/]	Ind. Univ.[2/] Foundation	SJU[3/]	Total
Direct Salaries and Wages	$ 9,952	$5,250	-	$15,202
Travel				
International	4,500	-	-	4,500
Local	2,474	750	-	3,224
Materials and Supplies	3,647	-	-	3,647
Conferences and Seminars	1,927	-	-	1,927
Contracted Services (GIT/IDC)				
SJU Personnel Training	10,500	-	-	10,500
EDL Consulting	10,000	-	-	10,000
TDI (E-W Center)				
Audiovisual Documentation	2,000	-	-	2,000
SJU Indirect Expenses				
General Overhead	-	-	$ 8,000	8,000
Technical Service Support	-	-	3,000	3,000
Totals	$45,000	$6,000	$11,000	$62,000

1/ From AID Small-Scale Industry Grant.

2/ The Industry-University Cooperation Foundation is an organization in Korea designed to promote mutual cooperation from which SJU applied for and received a grant.

3/ Normal overhead allowance plus depreciation allowance for use of university labs and workshops.

Table 2

DISBURSEMENT OF GRANT FUNDS
FUNDAÇÃO EDUCACIONAL DO SUL DE SANTA CATARINA
YEAR III
(in dollars)

Expenditures	Funds by Source: AID[1]	Funds by Source: Cost Sharing-FESSC[2]	Total
Personal Services	$17,000	$ 73,789	$ 90,789
Materials and Supplies	500	3,191	3,691
Travel	2,000	4,152	6,152
Contracted Services	-	3,204	3,204
Publications (Purchased)	1,000	3,495	4,495
Local Consultants	-	4,610	4,610
Contracted Services from GIT/EDL	22,500	-	22,500
Audiovisual	2,000	-	2,000
Overhead	-	9,456	9,456
Other	-	1,242	1,242
Totals	$45,000	$103,319	$148,139

[1] From AID Small-Scale Industry Grant.

[2] Cost-Sharing funds were distributed as follows:

SUBIN (state agency)	22.98% of total
FESSC	31.22% of total
Contracts	15.42% of total

Table 3

DISBURSEMENT OF GRANT FUNDS
UNIVERSITY OF IFE
YEAR I
(in naira)

	Sources of Funding			
	University of Ife	Nigerian Governments: Federal and State	AID[2/]	Total
Personal Services				
Director of Unit (Nominal Allowance)	10.00	-	-	10.00
Head, Management Division (Nominal Allowance)	-	500.00	-	500.00
Head, Training Division (Nominal Allowance)	-	500.00	-	500.00
Senior Research Fellow	6,895.00	-	-	6,895.00
Research Fellows & Senior Extension Officers	5,350.00	12,248.00	-	18,598.00
Research Assistants or Extension Officers	5,560.00	12,000.00	-	17,560.00
Administrative Officer or Assistant Extension Officers	2,780.00	9,000.00	-	11,780.00
Technical Assistants	-	44,008.00	-	4,008.00
Stenographers	1,370.00	1,728.00	-	3,098.00
Typists I & II	900.00	2,328.00	-	3,228.00
Office Analysts	2,700.00	2,328.00	-	5,028.00
Field Assistants	2,700.00	-	-	2,700.00
Office Assistants or Office Attendants	900.00	1,632.00	-	2,532.00
Drivers	1,800.00	2,328.00	-	4,128.00
Total	30,965.00	19,600.00	-	80,565.00
Add Benefits (15%)	4,644.75	7,440.00	-	12,084.75
Materials & Supplies				
Extension Activities - Ife	6,000.00	1,250.00	4,750.00	12,000.00
Extension Activities - Ado-Ekiti	6,000.00	1,250.00	4,750.00	12,000.00
Printing & Stationery	6,000.00	4,000.00	-	10,000.00
Books & Journals	500.00	600.00	-	1,100.00
Fellowship & Training Courses	-	6,500.00	2,500.00	9,000.00
Office Furniture	-	6,000.00	-	6,000.00
Office Rental	-	2,000.00	-	2,000.00
Maintenance of Office Equipment & Vehicles	-	5,000.00	-	5,000.00
Field Supervision & Local Trips	-	-	1,500.00	1,500.00
Scientific & Technical Equipment	15,890.00	12,900.00	-	28,790.00
Georgia Institute of Technology Consultancy Costs [1/]	-	-	13,500.00	13,500.00
GRAND TOTAL	₦69,999.75	₦96,540.00	₦27,000.00	₦193,539.75

[1/] The GIT personal services include the authorized overhead and retirement.

[2/] From AID Small-Scale Industry Grant.

Note: For this calculation the rate of exchange used was $1.66 = 1 naira.

Table 4

DISBURSEMENT OF GRANT FUNDS
UNIVERSITY OF THE PHILIPPINES
INSTITUTE FOR SMALL-SCALE INDUSTRIES
YEAR I
(in dollars)

Expenditures	Disbursed to UP/ISSI	GIT[1]	TDI/E-W Center[2]	Total[3]
Personal Services	$ 4,200	$14,060	$2,000	$20,260
Travel				
Local	1,300	-	-	1,300
International	5,600	3,840	-	9,440
Materials and Supplies	3,300	2,600	-	5,900
Equipment	8,100	-	-	8,100
Total	$22,500	$20,500	$2,000	$45,000

[1] Includes the authorized GIT overhead and retirement charges.

[2] Contract with East-West Center for audiovisual documentation.

[3] From AID Small-Scale Industry Grant.

GENERAL ACTIVITIES DURING PROGRAM YEAR III

In the Introduction section of this report, it was indicated that Project A-1600 was established by the Georgia Institute of Technology as the administration project and all implementation would be carried out under the four companion projects--B-426, B-427, B-455, and B-463. It was considered necessary by the Project Director to structure this final report in such a manner as to permit this section to highlight some of the relevant activities implemented by the counterpart institutions.

Soong Jun University (SJU)

Highlights of SJU's Year III activities are presented below. SJU's accomplishments are described in greater detail in a separate report (B-426).

1. Industrial Training and Education. Under the program, the Acting Chairman of the Department of Engineering came to EDL headquarters in Atlanta, Georgia, to participate in a four-week training program. He also was exposed to the industrial extension service established by EDL in Georgia. It is anticipated that this training will enhance his ability to contribute to the SJU small-scale industry program. Another significant event was the Training and Development Seminar for Small Firms in the Communication Instrument Manufacturing Industry jointly presented by the Korea Communication Industry Cooperative Union and SJU on August 16-20. Forty eight participants--engineers, owners, and managers--attended, representing 24 firms. Indicative of the success of this program is the fact that 80% of the participants stated that this seminar assisted them in solving company problems.

Year III saw publication of three case histories on technical assistance cases handled by SJU staff members. These efforts included diversified assistance to a woodworking machine manufacturing company and a sewing machine company, as well as development of a low-cost tensile strength tester and immersion pyrometer for a group of foundries.

2. University Training and Education. Late in 1974 and as a result of the Year I program, the appropriate national authorities allowed SJU to establish the Department of Industrial Engineering. During Year III, Dr. David Fyffe, Professor in the School of Industrial and Systems Engineering at GIT, was on site in Korea for a three-week period. During his stay, he assisted

in a review of the SJU Department of Industrial Engineering and in identifying gaps in the available industrial engineering texts and reference books in use; subsequently, a number of books were donated by GIT staff and shipped to SJU.

3. Industrial Extension and Research Activities. According to the records maintained by the SJU staff during Year III, 10 different small-scale industries were provided with technical assistance in the Seoul area and another 23 companies in the Taejon area. A survey of 17 companies (seven in Seoul and 10 in Taejon) which had received technical assistance during the year indicated that their employment had increased from 651 persons at the start of the year to 810 persons by the end of the year, or a gain of 159 jobs in those industries. Tables 5 and 6 present the results of this survey, as reported by each of the two campuses.

4. Appropriate Technology. The subject of appropriate technology has been emphasized since the start of the program. During Year III the project staff developed, manufactured, and field tested five devices which are considered by the staff to be appropriate technology for the Korean small-scale industry sector. These devices are:

- Flat-plate solar collector
- Multi-tapping machine
- Drilling fixture
- Filter press
- Bicycle brake tester

The flat-plate solar collector is shown in Figure 1 and 2 as an example of the type of devices being designed and made by the project staff. In addition, a number of software items of appropriate technology were also developed, applied, or suggested during the year; they include:

- An improved plant layout and a system for process control and production planning for use in a machinery plant
- A cost accounting system for a metal products producer
- A quality control chart system for a machinery plant
- A method for controlling the tensile strength in textile production
- Time standards for machining and assembly operations in a metal products plant
- The use of an organic solvent to remove fluorescent substances from waste paper, enabling conversion to wrapping paper for use in export shipments

Table 5

SUMMARY OF EMPLOYMENT CHANGES OF SURVEYED COMPANIES
ASSISTED BY SOONG JUN UNIVERSITY, SEOUL, 1976

Technical Assistance Case No.	Employment End of 1975	Employment End of 1976	Variance
1	14	21	+ 7
2	14	29	+15
3	142	155	+13
4	36	40	+ 4
5	30	43	+13
6	52	74	+22
7	39	98	+59
Total	327	460	+133

Source: Soong Jun University, Survey Data, Fourth Quarter, 1976.

Table 6

SUMMARY OF EMPLOYMENT CHANGES OF SURVEYED COMPANIES
ASSISTED BY SOONG JUN UNIVERSITY, TAEJON, 1976

Technical Assistance Case No.	Employment End of 1975	Employment End of 1976	Variance
A	38	14	-24
B	32	23	- 9
C	77	95	+18
D	56	60	+ 4
E	25	26	+ 1
F	13	18	+ 5
G	3	5	+ 2
H	5	12	+ 7
I	45	66	+21
J	30	31	+ 1
Total	324	350	+26

Source: Soong Jun University, Survey Data, Fourth Quarter, 1976.

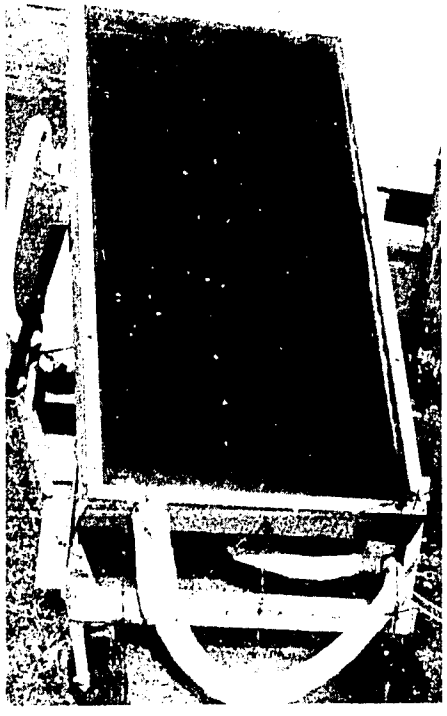


Figure 1

Flat-Plate Solar Collector, SJU

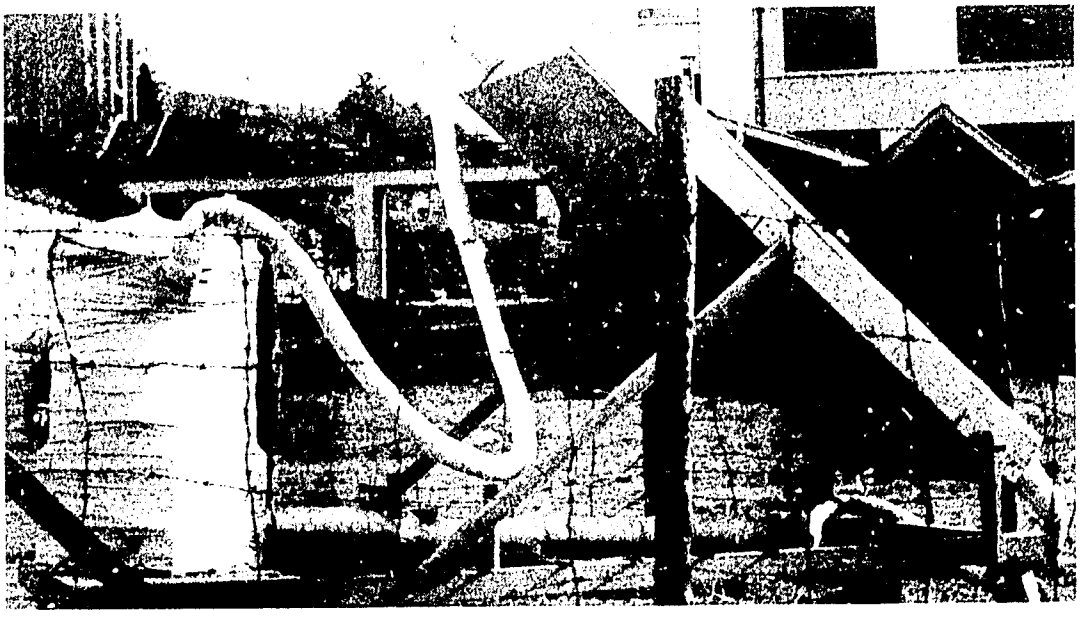


Figure 2

Solar Collector Installation, SJU

- A method for using acid clay to decolorize rice bran oil
- A way of utilizing sodium hydroxide and sodium carbonate to reduce the acidity of rice bran oil

5. Small-Scale Industry Information Center (SSIIC). This unit was established in 1974, Year I, during which time the EDL on-site staff assisted in establishing guidelines for the classification of the collection and determining the future acquisitional needs. Unfortunately, during Year II, the SSIIC did not meet the original expectations, because the person on the SJU staff responsible for the SSIIC left the SJU campus and the Center was not active during that year.

During Year III, the SSIIC was relocated to the Department of Industrial Engineering, where it became part of the Engineering Library and ceased to be a separate unit. The Chief Librarian at SJU was given the responsibility for maintaining the collection; he traveled to the East-West Center for five weeks of training in the collection, documentation, and dissemination of materials related to small-scale industry and the SJU/GIT joint program before becoming the Data Manager for the SSIIC.

6. Audiovisual Documentation. The audiovisual documentation for Year III was continued by the staff member of the East-West Center, Hawaii, during the month of September 1976. This year's audiovisual documentation covers some of the old technical assistance cases and some selected new cases. Copies of the tapes have been made available to the sponsor.

7. Other Activities. Although it is not possible in every case to verify that any particular program at SJU has caused the school to be invited to participate in other programs or activities, the following can reasonably be cited as possible spin-offs:

a. The Korean Ministry of Education gave the Integrated Development Center a $2,000 grant for the conduct of basic research on community development through technical innovation.

b. The Korean National Federation of Small Industry Cooperatives paid $4,000 toward Dr. Ouh's travel costs and registration fees for the U.S. Small Business Administration's International Symposium on Small-Scale Industry, held in Washington, D.C., on November 15-18, 1976.

c. The Asian Foundation provided a $7,500 grant for the continuation of the development of an improved version of the "chegae."

d. The Southern Presbyterian Church and the United Presbyterian Church gave $50,000 for a 1-1/2-year rural development project to be directed by the Regional Development Institute on the Taejon campus.

e. SJU received $6,000 during 1976 from the Industry-University Cooperative Foundation for its part in a five-year small-industry development program which involves three neighborhood universities. SJU has been designated as the lead institution for this project.

f. Two SJU faculty members were asked to be technical consultants to the Korean National Federation of Small Industry Cooperatives.

g. Dr. Ouh was invited by the Technology and Development Institute of the East-West Center to participate in a week-long RATC Program Evaluation Workshop.

h. The Konrad Adenauer Foundation has expressed interest in funding SJU faculty and student training and education in Germany to expedite the present small-scale industry program.

i. The Industrial Development Research Centre funded Dr. Ouh's attendance at a Pre-Research Meeting on a Regional Comparative Study on Small-Scale Industrial Entrepreneurship which was held in Hyderabad, India. The meeting was conducted by the Association of Development Research and Training Institutes of Asia and the Pacific (ADIPA), of which the SJU Integrated Center is a member.

Figure 3, on the following page, is the Project Plan for the activities scheduled for Year III.

Fundação Educacional do Sul de Santa Catarina (FESSC)

The Year III report for this project (B-427) presents at length the many accomplishments of the dedicated and well-motivated staff of FESSC. The most notable achievements are summarized below.

1. Basic Data Center (CDB). As a result of the March 1974 flood (Year I), the CDB was practically destroyed and the main objective was to rebuild the collection as quickly as possible. During Year II, over 600 documents were received, classified, cataloged, coded, and entered into the CDB collection. This input practically doubled the collection. In Year III, the additions to the collection totaled 2,946 documents. Table 7 presents a summary of the

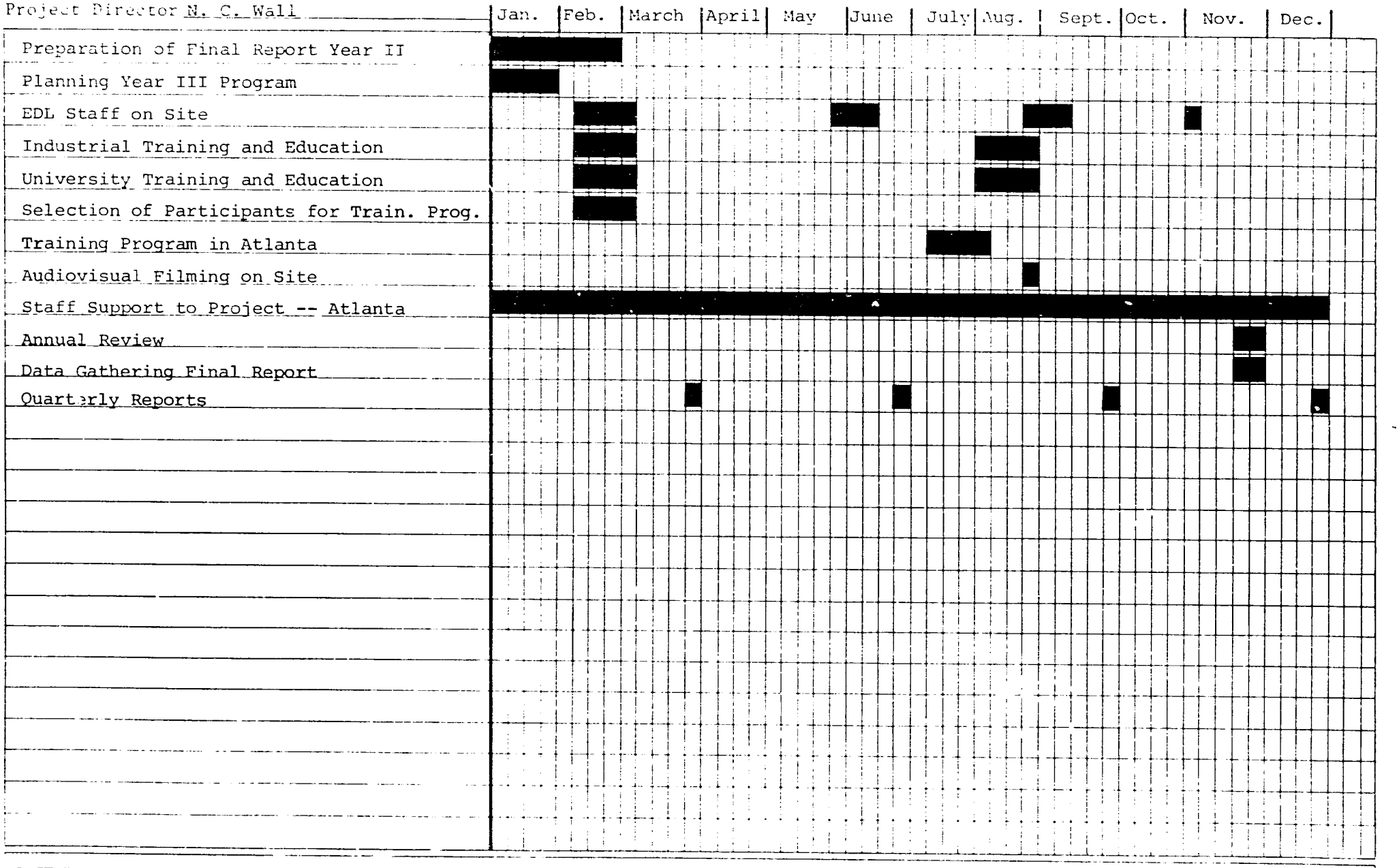
Figure 3

PROJECT PLAN

Project No. B-426, Year III

Project Title Small-Scale Industry Program, SJU

Project Director N. C. Wall



LEGEND

Table 7

PUBLICATIONS ADDED TO THE CDB COLLECTION
1975-1977

Type of Publication	Number Added in Year 1975-76	1976-77
Periodicals	477	863
Annuals	9	10
Articles	1	-
Catalogs	33	81
Books	57	107
Manuals	2	9
Maps	3	1
Reports	15	22
Profiles	1	74
Monographs	3	11
Newspapers	5	12
Calendar	-	1
Studies	-	88
Booklets	-	88
Pamphlets	-	53
Newspaper Clippings	-	1,475
Census	-	3
Others	-	48
Total	606	2,946

documents added to the CDB collection in both Year II and Year III of the program. The usage of the collection also increased; in Year II only 60 data requests were made to the CDB staff, while in Year III the requests for information totaled 106. As routine procedure, the CDB also provides all the information and data backup requested by the project staff in developing reports, industrial cases, guidelines, or technical assistance cases.

A section of the collection housed at the CDB is shown in Figure 4 of this report.

Figure 4

Section of the Basic Data Center at FESSC

2. Center for Management and Technical Assistance (CETEG). This center has been very successful and a great contributor to the program's achievements since the start of Year I. The staff has been actively providing management and technical assistance to the small-scale industries located in the two micro-regions of AMUREL and AMSESC, a geographic area that covers 9,500 square kilometers and encompasses 32 municipalities. During Year I, the FESSC staff recorded servicing 45 industries plus innumerable others attended following the flood disaster; in Year II, the CETEG staff were able to service 37 industries, and in the past year, they attended 80 requests for technical and management assistance. Of these 80 cases, 45 were considered technical or management assistance cases and the balance were inquiries, consultations, and limited assistance requests.

The companies being served are typical of the small-scale industry sector in Brazil. In most cases, the owner-operator has very limited technical or management background. Figures 5 and 6 represent two such industries.

Figure 5

Owner-Operator of Small-Scale Industry in Brazil

Figure 6

Small-Scale Bottling Plant, Tubarão, Brazil

Employment generation in this rural area continues to be a high priority in the CETEG program. Table 8 summarizes the variations in employment and sales for 15 companies that received management or technical assistance under the FESSC program and were surveyed at the end of the program year, as well as two new companies which were established during the year.

During the 12-month period, the staff also researched and published one feasibility study, three prefeasibility studies, 24 new manufacturing opportunity studies or identifications of manufacturing opportunities, and two management guidelines; initiated one industrial case study; and assisted, conducted, or sponsored 13 conferences, seminars, and lectures.

3. Adaptive Technology Center (CATT). The CATT was established in Year I to serve as the nucleus around which FESSC could start developing engineering or technical disciplines and, eventually, an engineering department and degree programs in engineering by 1979 or 1980. After a very slow start, CATT has grown slowly in the past two years. In Year III, CATT added a chemical engineer and an industrial engineer to its staff. The unit staff is at present reviewing "foreign" technologies and attempting to adapt them to local small-scale industry applications.

As part of their Year III activities, the CATT staff researched and developed a design project for a kiln required by one of the local companies as well as a production study in the field of jellies, jams, and candies. Negotiations are under way by the EDL staff to have the International Rice Research Institute (IRRI) use the CATT facilities in Brazil to serve some of the IRRI projects.

4. Industrial Training and Education. The Center for Permanent Education (CEP) evolved during the year to the Department of Permanent Education (DEP) but continued to have the responsibility of coordinating with FESSC and other units all the training activities under this program. In Year III, the DEP offered 19 industrial training programs which were completed by 359 persons. In addition, 14 lectures, conferences, and workshops were presented to government officials, local manufacturers, and FESSC staff members. Over 30 members of the FESSC staff received special training in some 18 different training programs sponsored by CEP and offered by FESSC or other participating institutions.

Table 8

VARIATION IN EMPLOYMENT AND VOLUME OF SALES
COMPANIES RECEIVING TECHNICAL ASSISTANCE, 1976

Company Name	Employment 1976 Variation				Sales (Cr$000) 1976 Variation			
	Start	End	Absolute	%	Start	End	Absolute	%
Cerâmica Fatima Ltda.	21	19	- 2	- 9.5	360	420	+ 60	+ 16.6
Zomer Ind. Plasticos Ltda.	25	35	+ 10	+ 40.0	6,000	7,200	+ 1,200	+ 20.0
Irmãos Fernandes	70	96	+ 26	+ 37.1	4,200	6,000	+ 1,800	+ 42.3
Metalurgica Souza Ltda.	36	27	- 9	- 25.0	2,425	2,600	+ 175	+ 7.2
Nicodemos Philippi Cia.	17	80	+ 63	+370.6	1,791	4,800	+ 3,009	+168.0
ALUSUD-Aluminios do Sul S.A.	48	300	+ 252	+525.0	-	50,000	+50,000	-
ELINCA-Electro Ind. Catarinense Ltda.	8	14	+ 6	+ 75.0	92	120	+ 28	+ 30.4
Luiz Pedro Medeiros and Filhos Ltda.	26	28	+ 2	+ 7.6	1,102	1,800	+ 698	+ 63.3
Nivaldo Cunha de Oliveira	25	22	- 3	- 12.0	3,600	5,760	+ 2,160	+ 60.0
INEL-Industria Extrativa Ltda.	102	122	+ 20	+ 19.6	3,861	6,000	+ 2,139	+ 55.4
Farmoterapica do Vale Ltda.	28	95	+ 67	+239.2	360	2,067	+ 1,707	+474.1
Tubarão Com. e Ind. Quimica Ltda.	5	23	+ 18	+360.0	1,500	1,800	+ 300	+ 20.0
O. J. Kliemann and Filhos	86	98	+ 12	+ 13.9	7,500	9,000	+ 1,500	+ 20.0
INBRAL-Ind. Bras. de Laminados	2	152	+ 150	+7,500.0	132	3,800	+ 3,668	+2,778.7
INCOCESA-Ind. Com. Cerâmica S.A.	416	800	+ 384	+ 92.3	3,200	9,500	+ 6,300	+196.8
Galvanosul Ltda.	-	20	+ 20	-	-	1,500	+ 1,500	-
Refraza S. A.	-	60	+ 60	-	-	900	+ 900	-
Total	915	1,991	+1,076	+117.5	36,123	113,267	+77,144	+213.5

5. Audiovisual Documentation. One of the accomplishments of the Year II program was the establishment of an audiovisual section at FESSC. In Year III this unit, together with the EDL staff assigned to audiovisual documentation, taped the industrial cases for the year. Part of the equipment purchased is shown in Figure 7 of this report. Copies of the tapes and still photos have been made available to the sponsor and will be made available to other interested persons upon request.

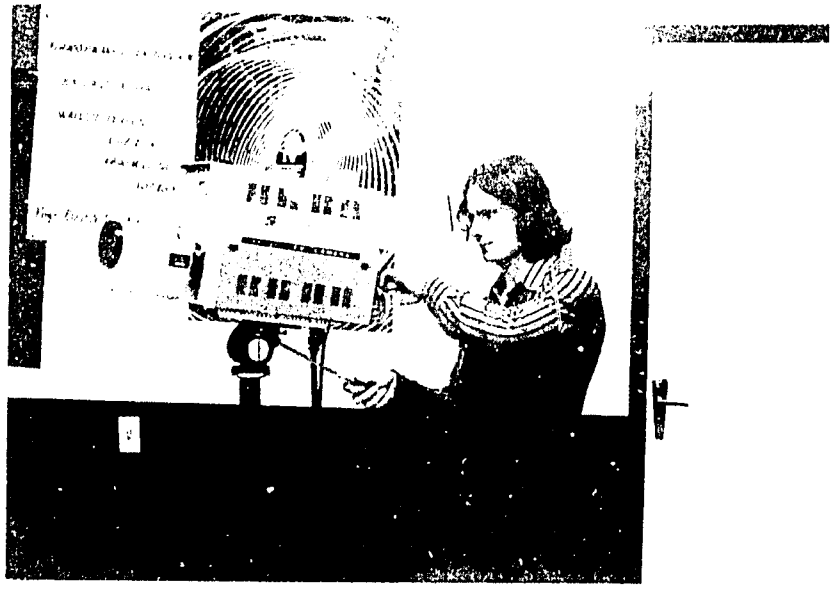


Figure 7
Audiovisual Equipment at FESSC

Figure 8 on the following page is the Project Plan for Year III of this program.

University of Ife (UI)

At the end of the first year of implementation of this project, the Industrial Research and Development Unit (IRDU) of the UI had attained the goals originally established by the program.

1. Extension Service. The main scope of work planned for Year I was the establishment of a solid organizational foundation through which pragmatic and effective industrial extension services could be provided to small-scale industries in Oyo and Ondo states. Early in the year, the IRDU staff, in cooperation with EDL staff on site, prepared Industrial Extension Operation Guidelines for the future field stations. Following that, the first field station was

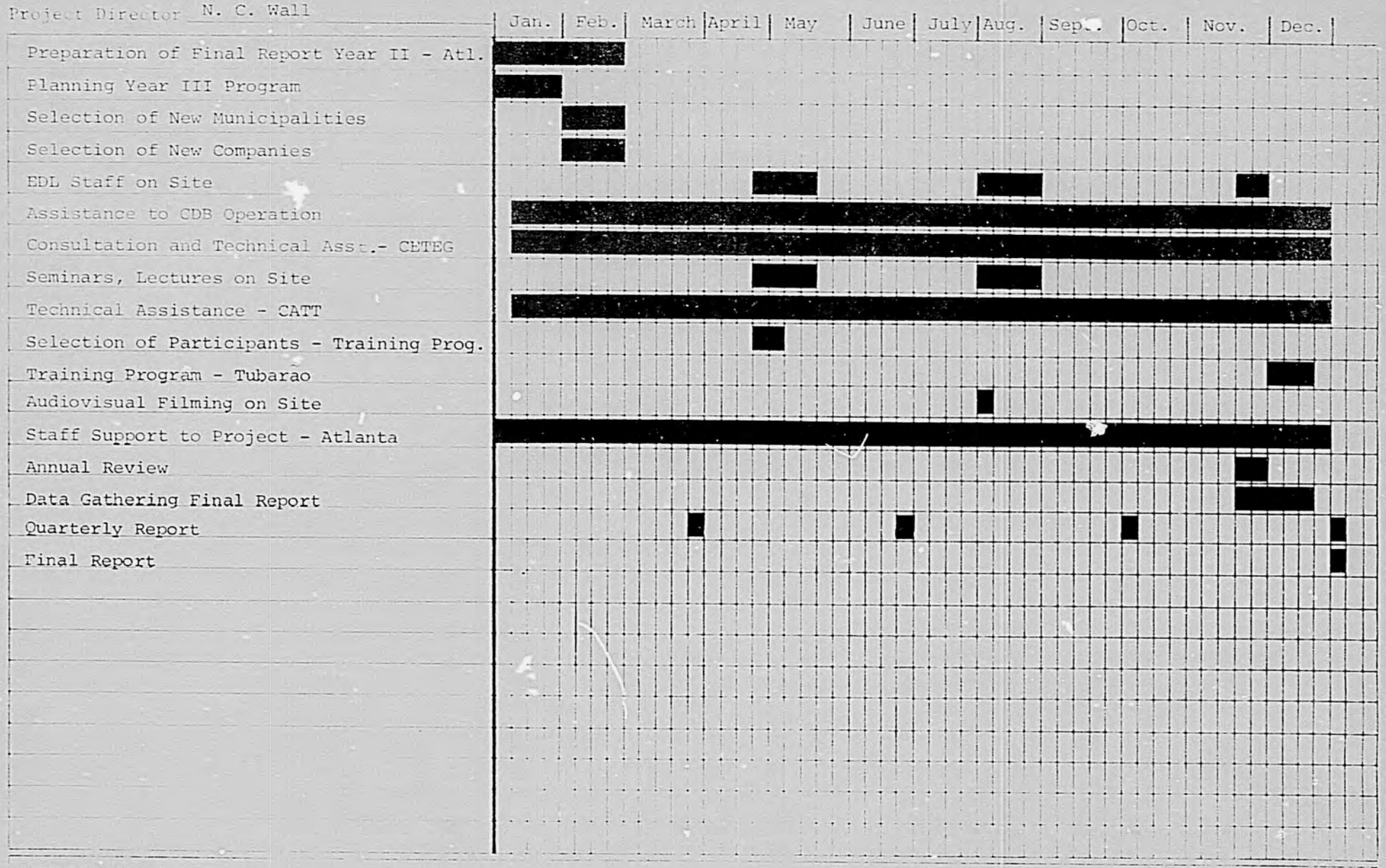
Figure 8

PROJECT PLAN

Project No. B-427

Project Title SIG-FESSC-Year III

Project Director N. C. Wall



LEGEND

established at 26 Obalufon Street in Ile-Ife and five persons were assigned to this office. Later in the year, the second field station was established at 226 Ikere Road in Ado-Ekiti and staffed with four persons.

The officer in charge of each station received on-site training provided by the EDL staff in Nigeria at the time. The balance of the field station staff was trained by the IRDU senior staff. During the first year, the Ile-Ife field station was able to render management and technical assistance to 25 small-scale industries and the Ado-Ekiti field station served 28. Figure 9 presents a small-scale roadside automotive mechanic shop and Figure 10 a small-scale textile operation.

Figure 9

Roadside Mechanic in Nigeria

Figure 10

Textile Manufacturer Served by IRDU

2. Baseline Study. The IRDU staff, assisted by the EDL staff on site, prepared a baseline study of Nigeria and the project area as the first field activity sponsored by the program. The published study has been presented to the sponsor.

3. Management Development Division. This division of IRDU was responsible for implementing the industrial extension portion of the program and the establishment of the field stations. As the project expanded, it became apparent that the division had to be reorganized to cope with the existing needs. The division was expanded and evolved into the present Management and Extension Division. The service being provided at present is the first of its kind to be offered to the small-scale industry sector in Nigeria. A brochure describing the available services was published and circulated to local small-scale industries.

4. Industrial Training and Education. During the year, the IRDU staff presented four workshops to government officials and to the general public. Their records indicate that participants included 73 government officials, mostly from the Ministry of Industry, and 50 small-scale industrialists. One of the four workshops was held only for IRDU staff as part of their training.

An exhibition of products made by small-scale industries in Nigeria was organized and held by IRDU. This exhibition was open to the general public from August 25 to August 27, 1975, at the Kwara Polytechnic in the city of Ilorin.

Two senior staff members of IRDU attended the seminar presented by the Centre for Management Development (CMD) at Benin City during the month of September 1975. One other senior staff member represented IRDU at the Mini-Conference on Adaptive Technology and Small Industry Development presented by the Georgia Institute of Technology and the University of the Philippines, Institute for Small-Scale Industries in Manila, Philippines, May 26-29, 1976.

5. Technical Assistance. The two field stations established during Year I provided on-site technical assistance to 53 small-scale industries within the project area, as was indicated at the start of this section. Of these, 33 cases are being monitored (17 from Ile-Ife and 16 from Ado-Ekiti) for employment generation. At the end of Year I, these 33 companies employed a total of 391 persons. The increase or decrease in employment of these companies will be reported at the end of Year II of the B-455 project.

6. Published Studies. A total of 21 documents were published by the IRDU staff during the first year of their project. Of these 21 studies, four were feasibility studies, one was a national study commissioned by the government, and the other 16 had to do with organization, policy, entrepreneurship, finance, and training.

Figure 11, on the following page, is the Project Plan for Year I at UI.

University of the Philippines, Institute for Small-Scale Industry (UP/ISSI)

As soon as the Year I grant was established, the UP/ISSI staff started implementing the approved program of work. Their first year of activity has allowed UP/ISSI to achieve their primary goals.

1. Extension Service. The project plan called for the initiation of this service during the first year of activity. Early in the year the first extension office was established at Tacloban City, Leyte, in Region VIII. A picture of the Tacloban office and some members of the staff appears as Figure 12.

The staff of seven persons had been trained by the senior members of the UP/ISSI staff and were able to initiate operations at once. The Tacloban City office initiated 14 technical assistance cases during the year, of which two were in the public sector and the remaining 12 were in the private sector. Of the 14 cases, one was terminated during the first year and the other 13 are being carried over into Year II. In addition, the staff contacted 18 other small-scale industries, but they reported no need for technical assistance at this time.

No appreciable increase in employment was reported during Year I, but it is anticipated that the project will be able to generate more employment since many of the cases being serviced at present call for plant expansion and increased utilization of existing facilities. The 14 companies that were served during the year reported a total increase of seven jobs.

2. Information and Research. The UP/ISSI staff generated the necessary data to allow for the preparation of the baseline study of the region. This study was published by the Georgia Institute of Technology, and copies have been made available to the sponsor. UP/ISSI staff members also conducted other research studies and responded to 15 data inquiries ranging from project conceptualization guidelines to sources of financing.

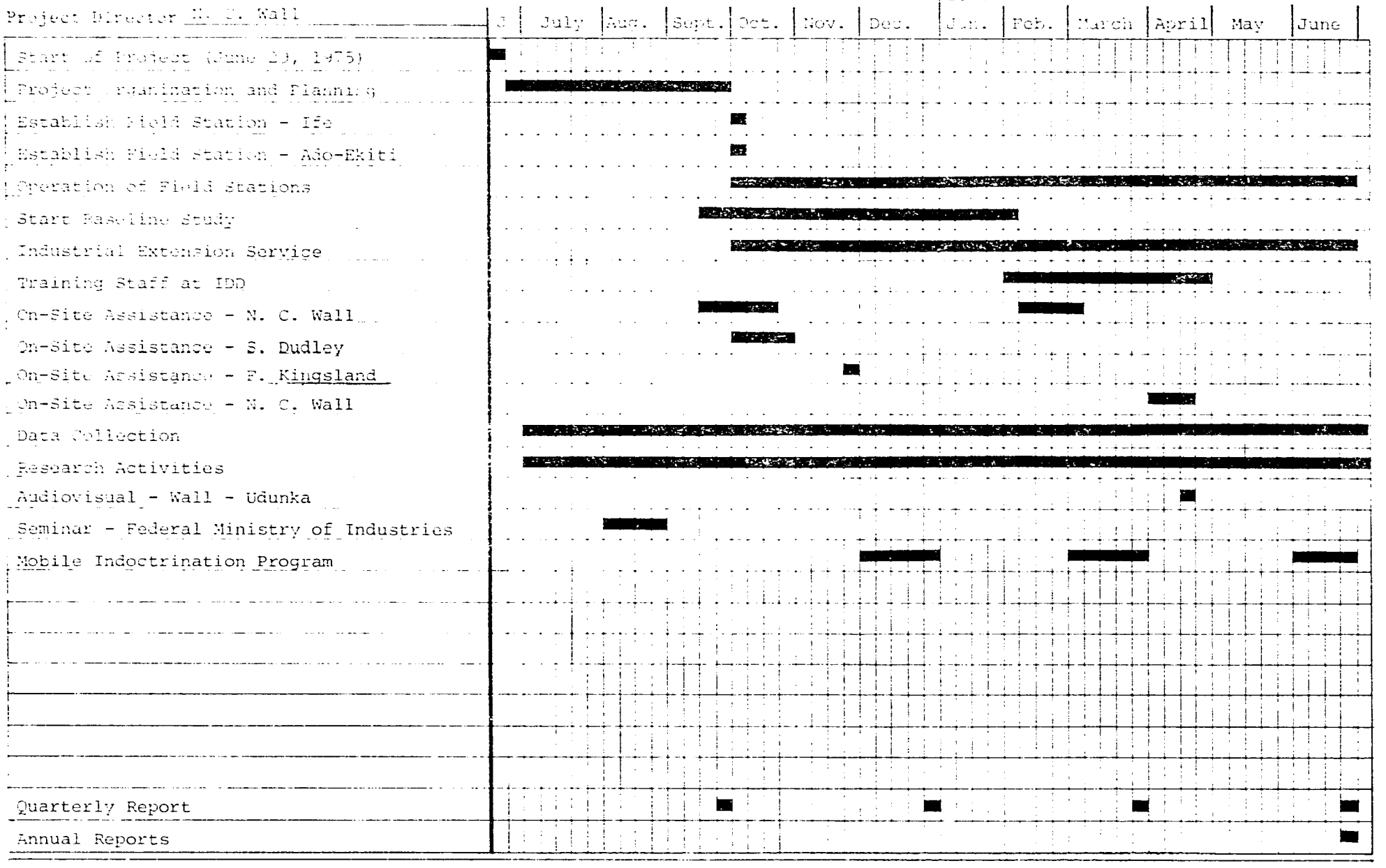
Figure 11

PROJECT PLAN

Project No. B-455

Project Title S.I.R. University of Ife - Year I

Project Director N. C. Wall



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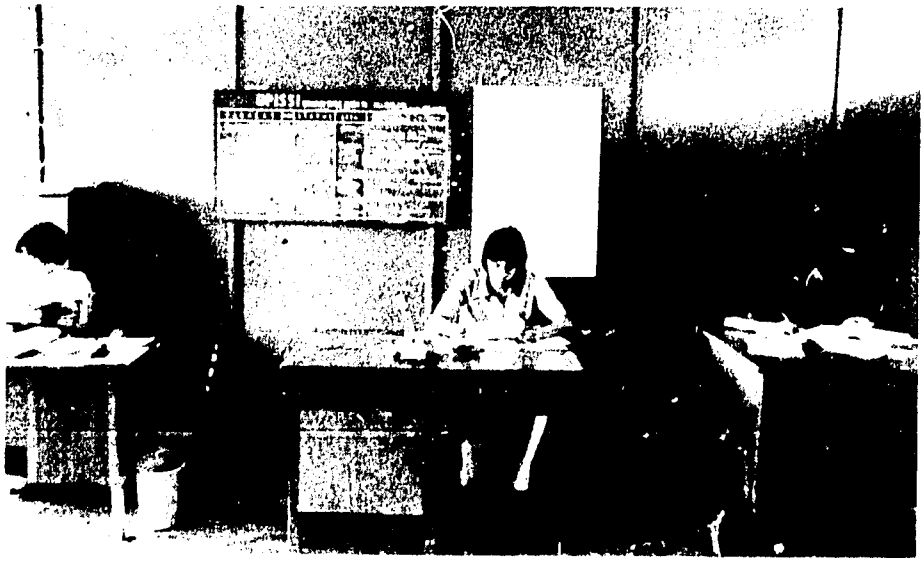


Figure 12

UP/ISSI Office in Tacloban City

3. Staff Development and Training. A four-week training program was designed and presented at EDL headquarters in Atlanta, Georgia, for the person who was to become the officer in-charge of the Tacloban City office. Another staff member of UP/ISSI participated in a four-week program of training at the East-West Center, Hawaii, for directors of Asian RATC/SID centers which dealt with the evaluation of the activities of these centers. Both the Counterpart Project Director and the Coordinator separately visited EDL headquarters in Atlanta, Georgia, during the year to confer and coordinate actions that were planned for the year.

4. Appropriate Technology Activity. A mechanical feed mixer was designed and fabricated out of a 210-liter gasoline drum. This equipment, operated manually, was made to serve a local swine raiser. The entrepreneur can now mix efficiently his feed, which consists of soybeans, greens, rice bran, and other ingredients. Full design details are available from EDL or from UP/ISSI. Figure 13 shows the finished feed mixer designed by the UP/ISSI staff.

5. Linkages with Other Organizations. Recognizing the need to coordinate the extension office activities with national and local organizations with common interest in the region, the following linkages were developed.

National Economic Development Authority (NEDA)

Sab-A Basin Development Activity

Small Business Advisory Center (SBAC)

National Cottage Industry and Development Authority (NACIDA)

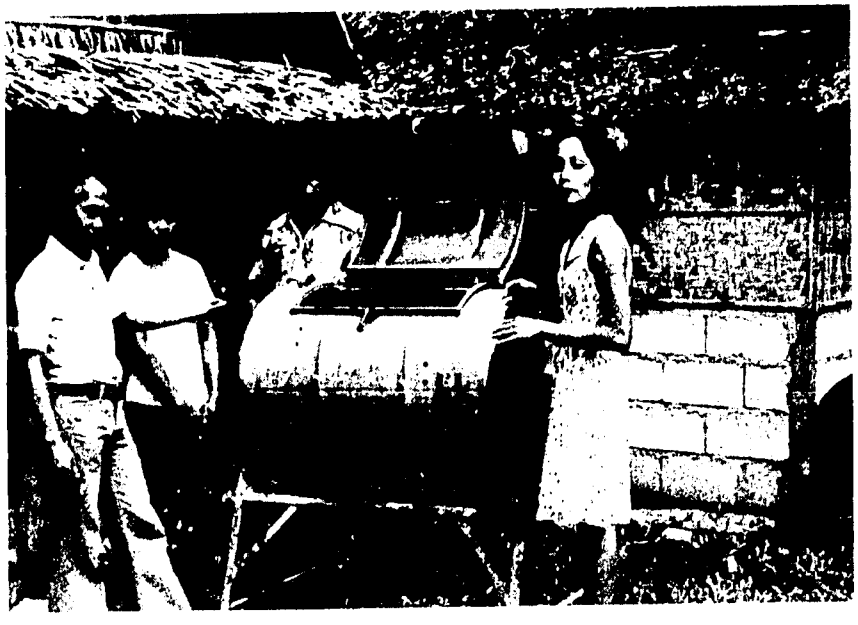


Figure 13

Appropriate Technology Feed Mixer, UP/ISSI

Development Bank of the Philippines (DBP)

The Government of Tacloban City

Divine Word University (DWU)

6. Audiovisual Documentation. Under a separate contract with the East-West Center, Hawaii, an audiovisual document of the activities of the extension office was prepared. Copies of this tape and of still photographs have been made available to the sponsor and can be made available upon request to other interested persons.

Figure 14, on the following page, is the Project Plan for Year I at UP/ISSI.

Economic Development Laboratory

As specified by the grant document, each of the four counterpart institutions invested one half of its grant funds in contracting with the Economic Development Laboratory to provide the necessary training and consulting assistance to the individual projects. Two of them also contracted with the East-West Center, Hawaii, to assist in taping the audiovisual documentation of the program.

Project No. 8-4[illegible]

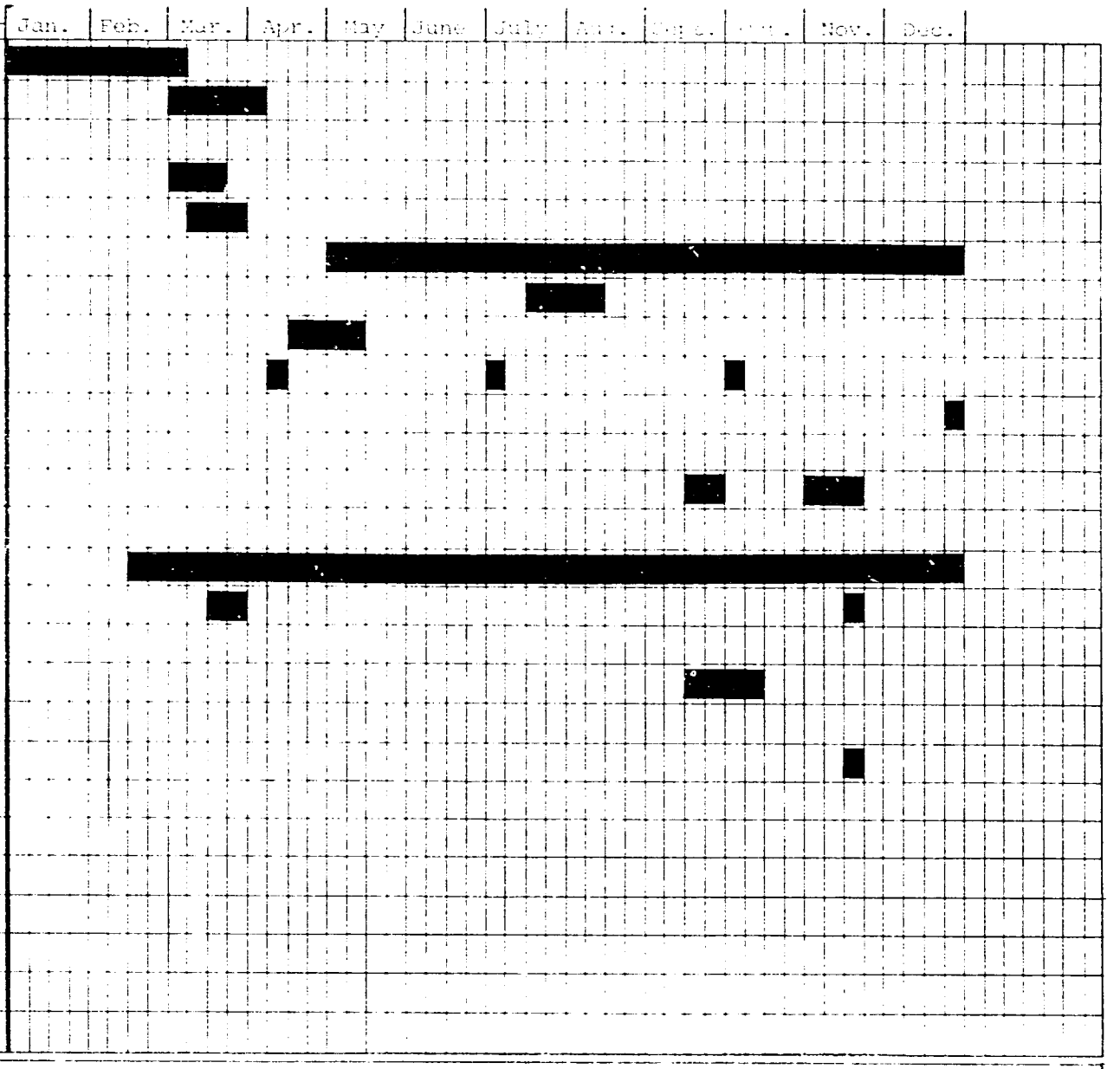
Project Title SEA UP/ISSI

Project Director N. C. Wall

Figure 14

PROJECT PLAN, YEAR I

1976-1977



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Many members of the EDL staff were on site during the year to provide the contractual support to the individual projects. A brief listing of the individual EDL staff members follows. Most of these visits were funded by one of the corresponding projects (B-426, B-427, B-455, or B-463); yet others, marked with an asterisk, were on site under an AID 211(d) grant to the Georgia Institute of Technology.

Soong Jun University (1976)

February 11-March 12	R. A. Manoff
May 24-June 12	E. D. Lewis*
June 1-June 9	R. W. Hammond*
June 1-June 9	Howard Dean*
June 1-June 9	Donald E. Lodge*
August 23-September 11	David E. Fyffe
October 31-November 7	Donald E. Lodge

Fundação Educacional do Sul de Santa Catarina, Brazil (1976)

April 17-May 14	Nelson C. Wall
August 7-August 23	Nelson C. Wall
August 7-August 13	Edwina Udunka
November 27-December 10	Harlan Davis

University of Ife (1975-1976)

September 23-October 11	Nelson C. Wall
September 27-October 14	Sherman Dudley
November 29-December 6	Martha Ann Stegar*
November 29-December 6	Frank Kingsland
March 23-April 17	Nelson C. Wall

University of the Philippines, Institute for Small-Scale Industries (1976)

March 12-April 2	R. A. Manoff
May 23-May 30	Ross W. Hammond*
May 23-May 30	Howard Dean*
May 23-May 30	Donald E. Lodge*
May 23-May 30	Kenneth Stephens*
May 23-May 30	Philip Hess*
September 13-September 29	Sherman Dudley
November 7-November 20	Donald E. Lodge

THREE-YEAR REVIEW

January 9, 1977, marked the completion of the third year of implementation of Project A-1600. Of the four counterpart institutions participating in this program, two had completed three years of activity (Soong Jun University, B-426; and Fundação Educacional do Sul de Santa Catarina, B-427), one had completed 18 months of implementation (University of Ife, B-455), and the fourth had ended its first year (University of the Philippines, Institute for Small-Scale Industries, B-463).

Individual activities and achievements of each of the four counterparts have been recapitulated above under the title of General Activities During Program Year III, as well as in the individual end-of-the-year report for each of the four projects. At this time, a review will be made of accomplishments, changes, and other indicators that point out the overall effect of this program in the respective project areas of the two counterparts that have completed three program years.

Soong Jun University

The staff at SJU, working out of two campuses, have been active in the geographic areas around Seoul and Taejon, which include Young Dung Po, Kwanak, Yun Kee Kun, Tae Duck Kun, and Taejon. Details of population and land areas appear in the corresponding Base Line Data published by GIT in 1975.

One important goal pursued by the SJU staff has been development of appropriate technology. In the past three years, the SJU staff has developed, built, and field-tested nine appropriate technology devices. These devices are:

- Low-cost tensile strength tester
- Sizing or shaving die for truing up metal rod cross sections
- Low-cost immersion pyrometer
- Wheeled version of the "chegae," the traditional backpack
- Flat-plate solar collector
- Multi-tapping machine
- Drilling fixture
- Filter press
- Bicycle brake testing device

The last five were developed this year and have been mentioned in this report. The original low-cost tensile strength tester appears as Figure 15 of this report and the modified version is shown in Figure 16.

Figure 15

Original Low-Cost Tensile Strength Tester, SJU

Figure 16

Modified Tensile Strength Tester, SJU

Since the project began, the SJU staff has been monitoring the employment variance in some of the industries they have been providing technical assistance to. Table 9 presents the variance reported by the SJU staff in the monitored industries.

The SJU staff provided technical assistance to 18 companies in Year I, 28 industries in Year II, and 33 industries in Year III. This means that

Table 9

VARIANCE IN EMPLOYMENT
COMPANIES RECEIVING ASSISTANCE FROM SJU
1974-1976

Year	No. of Companies	Employment Start	Employment End	Variance
1974	19	-	868	-
1975	19	868	1,444	+576
1976	18	1,371	1,188	-183

Note: The loss in 1976 was due mainly to one company that shifted from a labor-intensive leather goods line to a specialized PVC line.

in the past three years a total of 79 small-scale industries have received this service.

A Department of Industrial Engineering has been established and is presently in operation as a result of this program. There is no way to quantify the impact or benefits this single result may produce, but the staff considers it to be highly important.

In an attempt to strengthen the bonds between SJU and the companies being served under this program, SJU created an industry-university cooperative committee. This committee has been operating for three years and has awarded certificates of membership to many of the companies. To a certain degree, this certificate is recognized as an award for achievement by the small-scale industrialist.

Fundação Educacional do Sul de Santa Catarina

The FESSC staff is responsible for a geographic area of about 9,500 square kilometers, encompassing a total of 32 municipalities which, in turn, form two micro-regions called AMUREL and AMSESC. The 1970 Census of Population reported 233,266 persons living in AMUREL and 263,519 inhabitants in AMSESC, or a total for the two mini-regions of 496,795 inhabitants; at the time, this represented 17.12% of the total population of the state of Santa Catarina.[1/]

[1/] Nelson C. Wall, Small-Scale Industry Development in South Santa Catarina, Brazil, Case History, Economic Development Laboratory, Georgia Institute of Technology, Atlanta, Georgia, February 1976, p. 36.

Before the program was initiated in 1974, both mini-regions were showing signs of growth, but the industrial and commercial sectors were the weakest of the economic factors. Since 1970, the FESSC staff has been keeping records on the taxes on circulation of merchandise (imposto sobre circulação de mercadorias-ICM) and the industrial production taxes (imposto produção industrial-IPI), and these are presented in Tables 10 and 11 of this section. It is apparent from these tables that both mini-regions have experienced a healthy growth in their revenues from both of these taxes. The program does not claim credit for this increase, but it has assisted this growth through its management and technical assistance services to local enterprises.

For the past three years, the project has been monitoring the variance in employment and sales of some of the companies receiving management and technical assistance from the FESSC staff. Table 12 presents this information. The companies that have been monitored have shown healthy increases in both new jobs and total sales volume.

FESSC staff members not only have provided management and technical assistance to local small-scale industries, but also have prepared studies, reports, and other publications useful to the industrial community. Table 13 summarizes these activities.

In the industrial training field, FESSC presented 112 programs to 2,552 participants during Year I. The following year, 31 programs were offered to 512 participants, and in Year III an additional 19 programs were presented to 359 persons. Over the three years, there have been 162 industrial training programs offered to a participating population of 3,423 persons.

Table 10

REVENUE FROM IPI TAXES, 1970-1976

Year	AMUREL		AMSESC		Total	
	Cr$	Index	Cr$	Index	Cr$	Index
1970	1,157,255	1.000	2,622,862	1.000	3,780,117	1.000
1971	1,661,000	1.435	4,809,000	1.833	6,470,000	1.712
1972	2,436,812	1.467	7,540,830	1.567	9,977,642	1.542
1973	3,072,375	1.261	11,929,977	1.582	15,002,352	1.504
1974	5,753,686	1.873	18,899,746	1.584	24,653,432	1.643
1975	13,306,577	2.313	28,371,700	1.501	41,678,277	1.691
1976	22,376,884	1.682	47,990,116	1.691	70,367,000	1.688

Source: FESSC records.

Table 11

REVENUE FROM ICM TAXES, 1970-1976

Year	AMUREL		AMSESC		Total	
	Cr$	Index	Cr$	Index	Cr$	Index
1970	11,216,052	1.000	11,191,537	1.000	22,407,589	1.000
1971	14,713,389	1.312	16,700,799	1.492	31,414,188	1.402
1972	10,970,972	1.085	22,439,738	1.344	33,410,710	1.223
1973	21,784,242	1.364	32,225,793	1.436	54,010,035	1.406
1974	31,987,934	1.468	46,410,701	1.440	78,398,635	1.452
1975	52,872,848	1.653	76,102,514	1.640	128,975,362	1.645
1976	89,510,163	1,698	112,364,837	1.476	201,875,000	1.565

Source: FESSC records.

Table 12

VARIATION IN EMPLOYMENT AND VOLUME OF SALES
COMPANIES RECEIVING ASSISTANCE FROM FESSC
1974-1976

Year	No. of Companies	Employment			Sales (Cr$000)		
		Start	Finish	Variance	Start	Finish	Variance
1974	8	-	109	-	-	3,656	-
1975	8	109	140	+ 31	3,656	7,780	4,124
1976	17	915	1,991	+1,076	36,123	113,267	+77,144

Table 13

INDUSTRY-ORIENTED ACTIVITIES
FESSC, 1974-1976

Type of Activity	1974	1975	1976	Total
Technical Assistance-Continuous	8	12	12	32
Technical Assistance-Discontinuous	14	25	33	72
Feasibility Studies	4	4	5	13
Manufacturing Opportunity Studies	15	14	24	53
Case Studies	-	-	2	2
Other Publications	-	10	6	16

RESULTS AND CONCLUSIONS

The preceding sections have identified many of the accomplishments that have resulted from this third year of the program of work implemented by Project A-1600 and the four counterparts. This final section will briefly summarize the Year III achievements and present the corresponding conclusions.

Results of the Soong Jun University Program (B-426)

1. The professional staff at SJU conducted an in-depth survey of 17 small-scale industries that are presently in this program. These companies have been recipients of the technical assistance service during 1976. In summary, the SJU survey reports that 159 new jobs have been created, for a 24% increase in employment.

2. The joint SJU-GIT team was able to provide technical assistance to a total of 33 small-scale industries, of which 10 were in Seoul and 23 in the Taejon area.

3. Three case histories in technical assistance were prepared, covering assistance provided to a woodworking machinery manufacturer, a sewing machine manufacturer, and to a group of foundries.

4. A member of the GIT team developed a Methodology for Case Study and Case History Preparation.

5. An additional five pieces of appropriate hardware have been designed, built and tested:

- a flat-plate solar collector
- a multi-tapping machine
- a drilling fixture
- a filter press
- a testing device for bicycle brakes

6. Eight software items of appropriate technology have been developed, applied, or suggested by the joint SJU/GIT team.

7. A very successful training and development seminar was held, attended by 48 persons from small-scale industries that manufacture communication instruments.

8. The Small-Scale Industry Information Center was incorporated into the SJU Engineering Library and reactivated with the appointment of a Data Manager.

9. The Data Manager of the SSIIC attended a five-week training course at the East-West Center, covering the development, maintenance, and operation of a small-scale industry data collection.

10. Another member of the SJU team participated in a four-week training program conducted by GIT in Georgia. This staff member was able to observe several of the GIT industrial extension offices and to visit firms which have received assistance from these offices.

11. SJU formed a linkage with the Korea Communication Instrument Manufacturers Association and plans to work closely with that group on matters affecting small-scale firms in that industry.

12. Audiovisual documentation of Year III was filmed during the year, covering several of the technical assistance cases which are described in the annual report.

Results of the Fundação Educacional do Sul de Santa Catarina Program (B-427)

1. The CETEG staff provided technical-management assistance to 45 industries in 10 different municipalities within the state. At the same time, 35 additional enterprises consulted with the FESSC staff during the year.

2. During the year, the industries being served and surveyed by the FESSC/GIT staff have increased their labor force by 996 new jobs and their sales on the order of 74 million cruzeiros.

3. The FESSC staff completed during the year one feasibility study, three prefeasibility studies, 24 new manufacturing opportunity reports, two management guidelines, and started one industrial case history.

4. As part of the activities for the year, 14 conferences, seminars, and lectures were presented by the project staff.

5. The Basic Data Center added 2,946 documents to its collection and supplied direct answers to 106 inquiries for information. It also provided all the data support for the preparation of all the studies and reports published during the year.

6. Several special research projects were funded during the year by the federal government, which is a good indicator of the respected position FESSC has been able to gain within Brazil.

7. Training was provided to the FESSC staff and 18 programs were sponsored by the DEP for the staff during 1976-1977.

8. The Adaptive Technology Center prepared the first series of "technical" reports related to local industrial needs.

9. During the year, 19 industrial raining programs were sponsored by DEP and over 350 persons completed these training courses.

10. The Center for Permanent Education became sufficiently strong during Year III to be "spun off" a newly created department of FESSC.

11. The third audiovisual documentation was completed during this year. The FESSC audiovisual group is now doing its own documentation.

12. The EDL staff provided on-site professional consultation to many of the local industries being served by the counterpart staff.

Results of the University of Ife Program (B-455)

1. The first two field stations -- one each at Ile-Ife and Ado-Ekiti -- were adequately equipped and staffed and made operative during the year.

2. The extension service was established, staff was trained, guidelines prepared, and plans made for the establishment of six field stations, including the two which opened in 1975-1976.

3. Through the extension service staff, 53 small-scale industries were given technical assistance during this period. Data have been collected on these industries so that next year the employment generated may be determined, as well as variation (increase or decrease) in sales and other economic indicators.

4. A total of 73 government officials occupying small-industry positions in all the states of the federation were in attendance at training programs offered by IRDU. During the year, about 50 small-scale industrialists participated in an IRDU workshop on "Problems of Small Industries in Nigeria."

5. An exhibition of products manufactured by small-scale industries was successfully organized by IRDU at Ife and Ilorin in August of 1975.

6. The counterpart staff completed and published 16 studies on various aspects of small-scale industry development in Nigeria.

7. The federal government commissioned IRDU to prepare a study on the "Economic Viability of States in Nigeria." As a result of this study, completed in February 1976, additional states have been created in that country.

8. At the start of this program, IRDU had no full-time senior staff members (all were part-time or volunteers). At the end of the first year, IRDU had six full-time senior staff members.

9. During the program year, internal organization changes evolved and, as a result, a new organizational structure emerged by the end of the first year. It is interesting to note that this was accomplished totally by the IRDU staff as they went further into the program year.

10. An audiovisual history of the program was prepared. Due to a necessary schedule change, the actual taping did not take place until the first month of Year II, but covered the first year of activity. This activity was funded under a separate contract.

11. During the grant year, both the IRDU staff and the EDL staff had the unusual opportunity of working together and becoming acquainted with new problems. The knowledge gained of real-world problems and solutions will be of direct value in staff development and feedback to the educational curricula of both institutions.

12. A baseline study of the target areas was completed during the year. The information gathered will serve as a benchmark for project evaluation at the end of the grant.

Results of the University of the Philippines, Institute for Small-Scale Industries Program (B-463)

1. On May 12, 1976, the extension office located on the campus at Tacloban College of the University of the Philippines was opened to the public. This act was made possible by a number of tasks which were completed between February 9, 1976, and the opening day -- the selection of an Officer-in-Charge, the recruitment and training of staff personnel, the arrangement of suitable office space in Tacloban, the outfitting of the office, the preparation of reporting formats, and the distribution of publicity releases.

2. The staff of the extension office visited 30 firms and initiated 14 industrial extension service programs during Year I. Two of these were involved with the public sector and 12 were with the private sector.

3. The staff serviced 15 technical assistance inquiries concerning a variety of subject matter. These differed from the industrial extension service programs in that the nature of the inquiries allowed for the delivery of satisfactory answers with one visit to the client or by referral to a pertinent office or agency covering the subject matter.

4. The staff attended seminars presented in Tacloban by three GIT staff members; the Officer-in-Charge received four weeks of training at GIT; and two staff members each received three weeks of orientation training at the UP/ISSI headquarters on campus.

5. The staff conducted a survey of the training needs of entrepreneurs located in Tacloban for the purpose of planning training programs for these people.

6. Linkages were established with seven governmental agencies and other organizations active in Region VIII development efforts, to insure that various programs may be coordinated and operated to complement each other.

7. The staff conceived, designed, constructed, and delivered a piece of appropriate technology hardware to a client. This was a manually operated feed mixer for use by a swine grower, providing a more thorough mixture of ingredients and permitting the use of local resources instead of a more expensive commercial feed mix.

8. An audiovisual documentation of the year's activities was prepared. Under a separate AID contract, the extension office documented the first-year program through the efforts of the East-West Center. The resulting videotape and photographic collection provided a concise history of the highlights of the program of technical assistance to small-scale industries in Region VIII.

9. The baseline study on Region VIII was completed and published.

10. Consulting services were provided by the EDL staff. In addition to the time utilized in provision of technical assistance to small-scale industries, EDL had time available to provide on-site consultation to the extension office staff in such areas as project development, project administration, operations, and report preparation.

11. During the grant year, both the UP/ISSI staff and the EDL staff had the opportunity of working together in seeking and attempting to solve new

problems. The knowledge gained of real-world problems and solutions will be of direct value in staff development and in feedback to the university education curricula.

Conclusions

Under Project A-1600, EDL has been able to successfully establish four counterpart projects with units in developing countries. These counterparts are fully dedicated to the concept of generating and expanding small-scale industries in their respective areas of influence. The two counterparts that have completed three years are now capable of implementing action-oriented, pragmatic industrial programs, and some fine results are presently visible.

These four counterpart programs have directly or indirectly assisted in the generation of over 1,000 new industrial jobs in rural areas of developing nations. As a secondary result of the program, the counterpart institutions are now capable of carrying out to some degree the necessary research, adaptation, and transferral of appropriate technology and the design and presentation of industrial training and educational programs.

Perhaps the greatest single accomplishment of the program is that small-scale industries in the four project areas are receiving assistance that previously was unavailable to them. This new service is expected to have a beneficial economic impact on the rural poor of these areas.

It is, therefore, the conclusion of the Project Director and the Counterpart Project Directors that results to date are far greater than initially conceived, but these are nowhere near the long-range benefits that can be anticipated. The counterparts are eager to continue this activity and have made appropriate plans for the next program year.