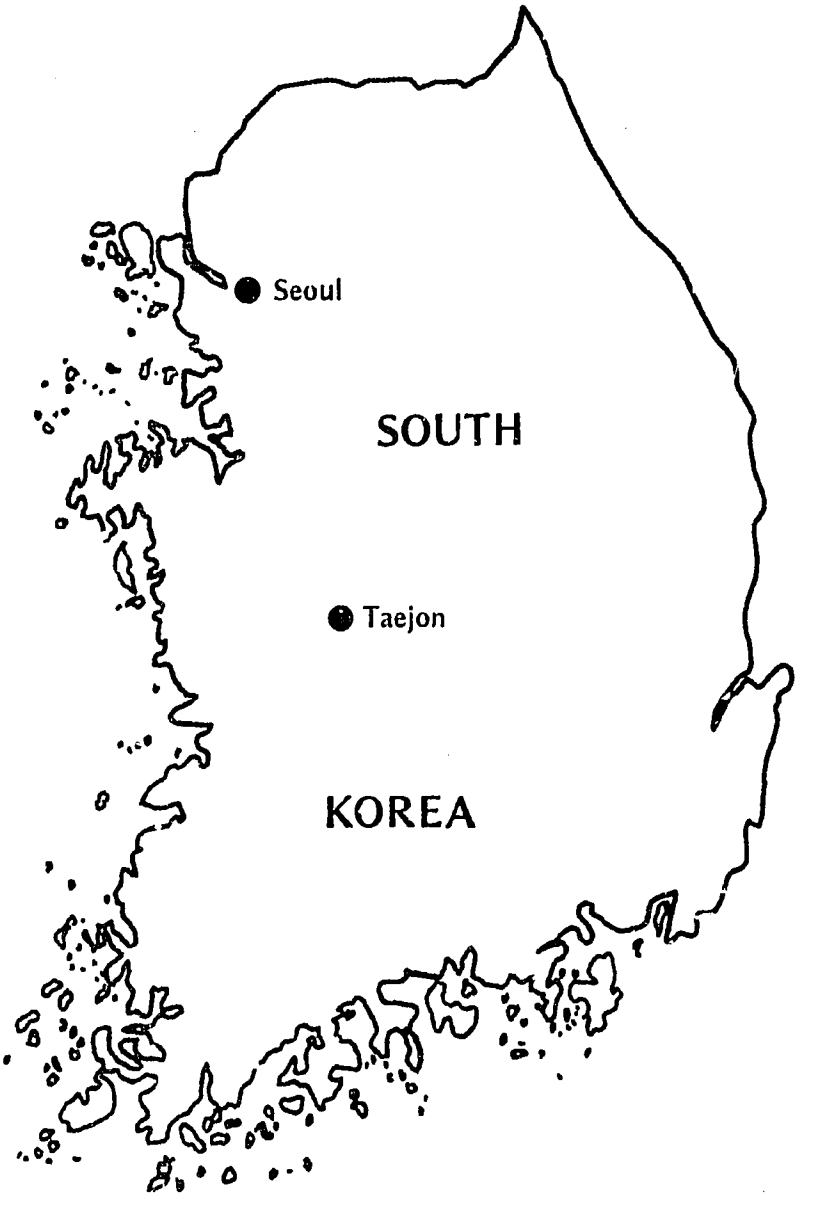
YEAR I.

SMALL–SCALE INDUSTRY GRANT



SOONG JUN UNIVERSITY ACTIVITIES

Grant Period: January 10, 1974 to January 9, 1975

A PROGRAM FUNDED BY THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

FINAL REPORT

SOONG JUN UNIVERSITY
SMALL-SCALE INDUSTRY GRANT

by

Yoon Bae Ouh

and

Nelson C. Wall

Contract No. AID/ta-c-1062

Industrial Development Division
ENGINEERING EXPERIMENT STATION
Georgia Institute of Technology
January 1975

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INTRODUCTION

On January 23, 1974, the Agency for International Development (AID) entered into Contract No. AID/ta-c-1062 with the Georgia Institute of Technology (GIT) whereby GIT was to make $45,000 grants for small-industry programs to two institutions located in different geographic regions of the world. This is the final (end-of-the year) report covering the activities jointly carried out by the Georgia Institute of Technology and one of the two selected grantee institutions, Soong Jun University (SJU) in Seoul, Korea.

In selecting the grantee institutions, the administration of the Georgia Institute of Technology used the following criteria as guidelines:

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 staff.
7. Institution's potential for utilizing grant effectively.
8. Potential multiplier effects.
9. Host government commitments.

After initial screening, SJU presented a proposal titled, "Establishment of a Small-Scale Industry Development Program," and this proposal was funded under the AID/GIT small industry grant program. The main objectives of the project are to generate employment outside metropolitan centers and to provide assistance to small-scale industries in selected areas. Some of the immediate results of this project are the following:

1. Study of the trends of small-scale industries during the first half of 1974.
2. Establishment of the Small-Scale Industry Information Center (SSIIC).
3. Provision of on-site technical assistance to 18 small-scale industries in the areas of Yongdung-po and Taejon.
4. Development of a simple test machine and tools for small-scale industries.

5. Presentation of training program to unskilled workers in 66 small-scale industries at the Yongdung-po Industrial Complex.
6. Training at Georgia Tech's Industrial Development Division (IDD) of staff members of SJU.
7. Provision of consultant services by IDD staff in Korea.
8. Preparation of an industrial engineering curriculum for SJU.
9. Request to and authorization by the government of Korea for SJU to establish an industrial engineering curriculum at the university.
10. Preparation of an audiovisual documentation of the first-year program by the Technology and Development Institute (TDI), East-West Center, Hawaii.
11. Research study on the population status of small-scale industries in the Yongdung-po area.

The following sections of this report describe in detail the background, objectives, and activities of the program and outline the results achieved and the conclusions reached by the project staff.

PROGRAM PLANS FOR YEAR I

Background

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. At present, Soong Jun University has an enrollment of about 2,000 students, of which some 800 are in engineering.

The main campus is located in Seoul near the large industrial area of Yongdung-po, which has a population of about 1.5 million inhabitants. The second campus at Taejon is also near a smaller industrial area with a population of about 450,000 persons. Recently, the government of Korea announced plans for the development of a new "science town" adjacent to the Taejon campus.

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

After about six months of effort, a proposal for a grant in the amount of $45,000 was submitted by Soong Jun University to the Industrial Development Division which was approved by AID and GIT, and the SJU program was initiated. At the time the program was initiated, the organization structure shown in Figure 1 had been established at SJU.

The terms of the grant permitted the grantee to use half of the grant funds for personnel, travel, materials and supplies, conferences, etc. The remainder of the funds was to be used by the grantee to obtain training and consultation from U.S. technical assistance organizations.

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

Dr. Hahn Been Lee, President of Soong Jun University, had the general administration of the different units at SJU, but the Integrated Development Center (IDC), under the direction of Dr. Yoon Bae Ouh, had the overall responsibility for the project as Counterpart Project Director. Mr. Ross W. Hammond, Chief of the Industrial Development Division, assigned Mr. Nelson C. Wall of his staff as Project Director for Georgia Tech's portion of the program.

Objectives

The general objective of the project is to develop a small-scale industries program at Soong Jun University. Through this program, SJU would (1) assist in generating employment in Korea, (2) provide technical assistance to small industries in the target areas, and (3) strengthen the relevancy of the educational program.

In order to assist in meeting the established objectives, two main areas of activity were established for the Georgia Institute of Technology staff: (1) training of selected SJU staff members both in Korea and the U.S.A. and (2) provision of on-site consultation by staff members of the Industrial Development Division of the Engineering Experiment Station at the Georgia Institute of Technology. It was further established that the project staff would assist SJU personnel in providing managerial, engineering, scientific, and technical assistance to selected small-scale industries in two defined geographic areas of the Republic of Korea.

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

At the start of the "Small-Scale Industry Grant Program" (Project A-1600) in 1974, the following goals were established by the Georgia Tech grant to be completed in the first year of the project:

1. Select and recommend to AID/Washington, TA/OST, four Lesser Developed Country (LDC) institutions from different geographic regions as candidate institutions.

2. Carry out preliminary visits to the selected institutions to develop and establish patterns of collaboration.

3. After final selection, assist the grantee in preparing final plan for the utilization of the grant funds in a manner best suited to achieve the stated objectives.

4. Award the grant once this was approved by AID.

5. Provide consultation to the grantee during the planned activity period.

6. Monitor and evaluate project at least twice during the following 12-month period.

7. Assemble base-line data study at the start of the project.

All of the established goals were met during the first year of the project plus several additional accomplishments which were listed in the introduction and will be amplified in the balance of this final report.

Program of Work

On the basis of the program of work which had been suggested in the original SJU proprosal, the project director established the following activities for the first program year, all of which were implemented:

1. Organization. On the basis of the existing organization at SJU (Figure 1), specific administrative units were to be designated to assume the responsibility for the portions of the program relating to research, service, training, and technical information. All programs were to be oriented to serving the small-scale industries of the selected areas.

2. Staff and Physical Plant. Depending on the different program units, it was necessary to allocate appropriate staff office space and equipment to assure the logistical support necessary to the implementation of the program. The staff needed to be selected with the assurance that the candidates were interested, capable, and motivated to perform the required tasks.

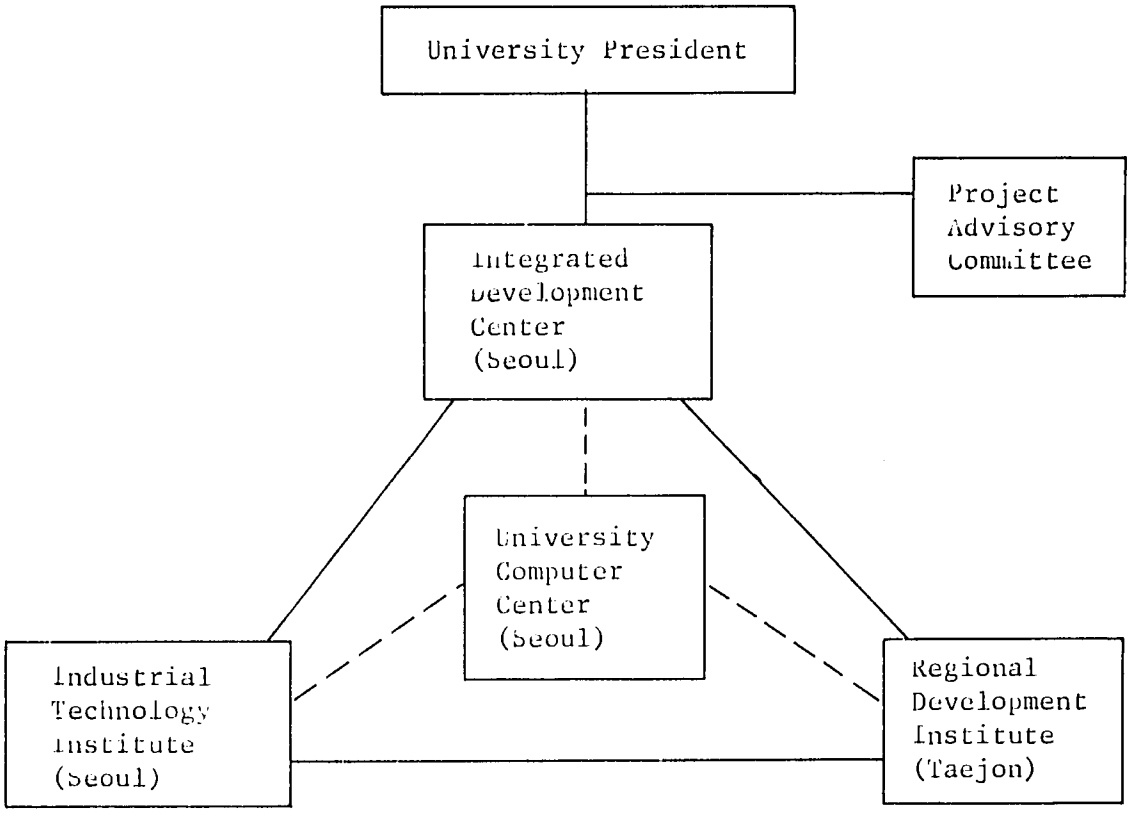
3. Project Policy. The program required a multi input-output system, but it had a basic theme -- stimulation of existing and new small-scale industries.

4. Program Areas. A program of work was designed to implement the following activities during the 12-month period:

a. Small-Scale Industry Information Center (SSIIC). The center was to be established during Year 1 of the program. It was to be the responsibility of the SSIIC to carry out surveys of small-scale industries in the two target areas and to generate the necessary basic data relevant to industry size, products, processes, major problem areas, and other governing factors. The center would also initiate a relevant collection of information from outside sources which would serve in the future as reference material. At the same

Figure 1

ORGANIZATIONAL STRUCTURE OF SOONG JUN UNIVERSITY
(January 1974)



time, the center would attempt to collect and disseminate management and technical information appropriate to the activities of small-scale industries. As part of the operation of the center, the gathered data would be cataloged, indexed, and stored in such a manner that it could be retrieved when needed.

b. Industrial Training and Education. A specific short-term training program was to be established for staff members of SJU, in an attempt to enhance the capability of the counterpart staff in the area of "real world" problems common to small-scale industries. The training program could be carried out in various forms as appropriate, including classroom activities, on-the-job training, guidance, consultation, industrial tours, and general business contacts, as needed. It was also planned to allow students to participate in this activity, so that they too could contribute to the development of small-scale industries in Korea.

c. University Training and Education. It had been established early in the project that since SJU was a technologically-oriented institution, it would be desirable to assist it so that it could expand its engineering programs to include industrial engineering. This would in the future allow the SJU graduates to participate more usefully in the industrial development of the nation. It was further planned that during the first year a curriculum would be generated and that this would then evolve into an "academic program" to be instituted as soon as the proper government authorization could be obtained.

d. Industrial Extension and Research Activities. Through this fourth main portion of the program of work, a linkage would be made between SJU and the existing small-scale industries in the SJU area of influence. It was planned to provide technical assistance to small-scale industries through an industrial extension service. When needed, applied research activities would also be incorporated in the portion of the program.

Use of Grant Funds by SJU

For the 1974-75 grant year, the grantee was funded in the amount of $45,000. These funds were disbursed as shown on the following page.

Activities	Disbursed to SJU	GIT	TDI/E-W	Total
Personal Services	$11,100	$13,840[1/]	$2,000[2/]	$26,940
Travel				
International	4,810	6,485		11,295
Local	1,500			1,500
Material and Supplies	2,100	175		2,275
Conferences and Seminars	1,000			1,000
Dev. of Testing Machine	250			250
Testing Experiments	940			940
Printing	800			800
TOTAL	$22,500	$20,500	$2,000	$45,000

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

[2/] The contract with the East-West Center was for a total of $2,000 for the preparation of audiovisual material.

SOONG JUN UNIVERSITY ACTIVITIES DURING PROGRAM YEAR I

Throughout the project year, the Soong Jun University staff carried out the bulk of the work programmed for the year. The following sections highlight some of the activities carried out by the SJU staff.

Description of Major Small-Scale Industries

During two quarters of the year, a study was prepared in an attempt to classify and describe the characteristics of Korean small-scale industries. The result of this activity was later incorporated into a separate report entitled Trends of Korean Small-Scale Industries During the Period 1974, which will be published by SJU early in 1975. A brief summary of some of the findings is presented as Appendix 1 of this report.

Small-Scale Industry Information Center

Once the information center was established, the SJU staff continued to operate it. They are at present increasing the collection while, at the same time, serving the needs of the SJU staff in the areas of management and technology. The collection has been classified into five major areas: (1) economic and statistical information, (2) professional material, (3) official material, (4) directory material, and (5) technical information.

Copies of catalog cards are presented in Figure 2 as examples of the classification presently being used. The collection is housed in a room in the Integrated Development Center (IDC) in Seoul. Pictures of the information center are shown in Figure 3.

Industrial Files

In order to achieve maximum effectiveness in the area of management and technical assistance, the IDC has developed a file system so that they may retain copies of all technical-management problems that are covered by the staff. At the time they request service, all companies must complete a standard form which is later filed for future usage. This allows the SJU staff to be able to answer questions instantly by phone or letter when they receive additional service requests from the registered enterprises. The forms are also being used in the basic research being conducted in the area of surveying the small-scale industries in Yongdung-po and Taejon.

Figure 2

SAMPLES OF CATALOG CARDS USED IN THE
SMALL-SCALE INDUSTRY INFORMATION CENTER

Sample 1. Author Card

B 0044	Norman K. Nicholson
	Panchayat Rai Rural Development and the Political Economy of village India Published jointly by the Rural Development Committee and South Asia Program, Cornell University, 1973

Sample 2. Title Card

B 0044	Panchayat Rai Rural Development & the Political Economy of village India
	Norman K. Nicholson Published jointly by the Rural Development Committee & South Asia Program, Cornell University, 1973

Figure 2
(Continued)

Sample 1. Author Card

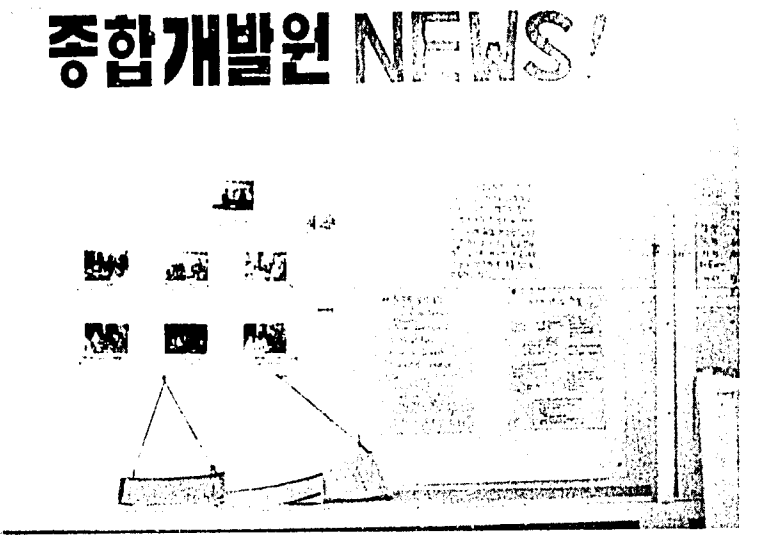
라 0019		중소기업 협동조합 중앙회
		중소기업의 기술지도대책과 적정규모화 지원 시책방안.(식료품공업편)
		SEI POONG CO. INC

Sample 2. Title Card

라 0019		중소기업의 기술지도대책과 적정규모화 지원 시책방안. (식료품 공업편)
		중소기업 협동조합 중앙회
		중소기업 협동조합 중앙회
		SEI POONG CO. INC

Figure 3

SMALL-SCALE INDUSTRY INFORMATION CENTER



BULLETIN BOARD IN INFORMATION CENTER

PART OF SSIIC COLLECTION

Technical Assistance to Small-Scale Industry

This has been the most demanding portion of the program. During the year, the SJU staff serviced 18 industries in either Yongdung-po or Taejon. This represented some 78 visits by staff teams, and about 183 persons were involved to provide well over 200 hours of technical assistance. A complete listing of companies serviced and a description of each case is presented as Appendix 2 of this report.

Development of Testing Equipment and Industrial Tools

In the process of providing the necessary technical assistance to the industries in Yongdung-po and Taejon, the SJU staff identified the need for certain testing machines and industrial tools. The staff took it upon itself to develop a low cost test machine to be used in determining the tensile strength of moulded metal parts. Figure 4 presents a simple diagram of the testing machine developed by the staff of SJU.

During the provision of technical assistance to a manufacturer of small metal parts for handbags, another problem was encountered which was solved by designing and fabricating a simple shaping die. This industrial tool was also developed by the SJU staff and given to the company being serviced.

Technical Training for Unskilled Workers

A program was established by the SJU staff to provide technical training for unskilled workers in small-scale industries in the Yongdung-po Industrial Complex. The first program was presented during the period of October 11 to October 19, 1974. Five staff members were responsible for the instructional material and 40 persons participated. In summary, the program was as follows:

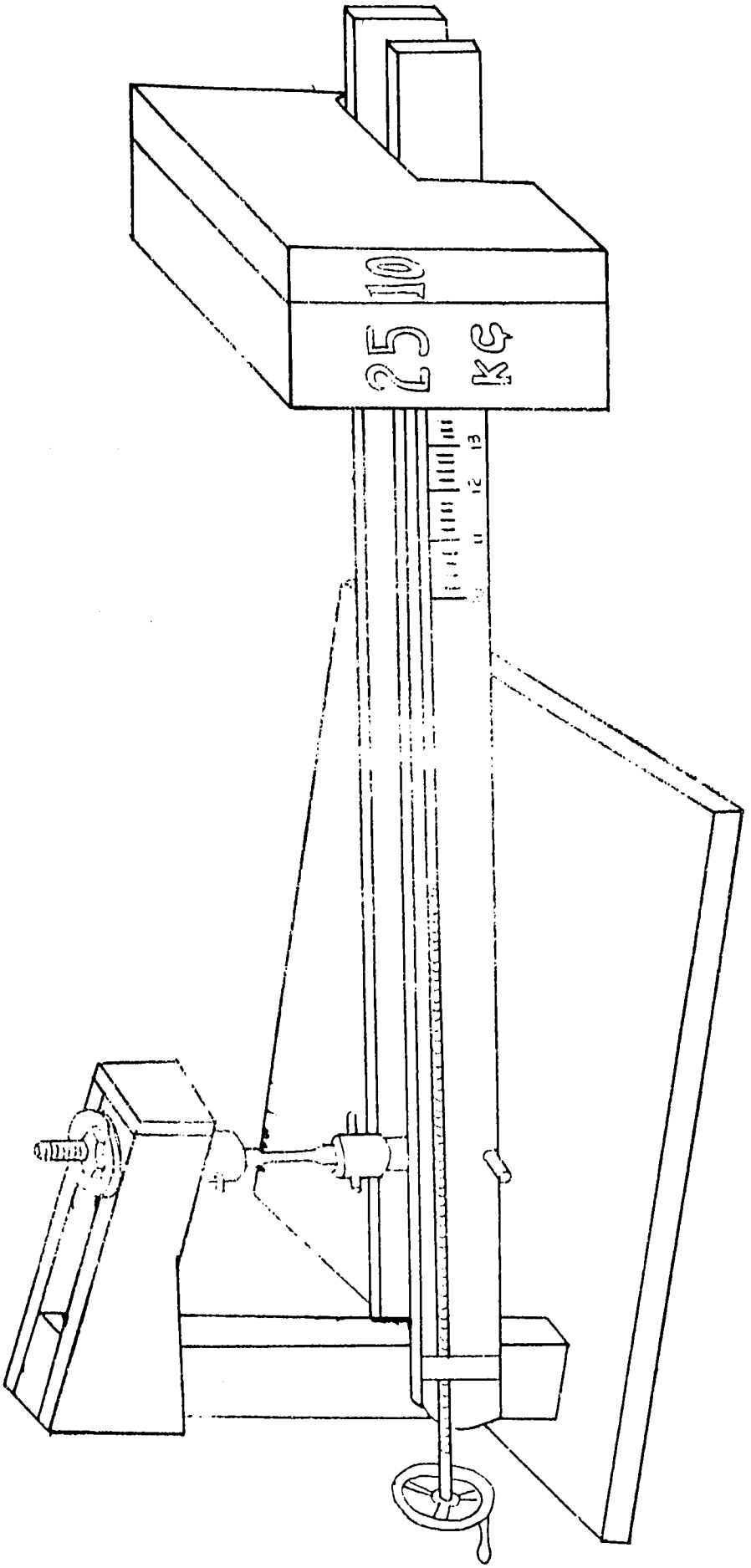
Day	Subject	Professor
Monday	Machine Material	Choe Yong-sik
Tuesday	Machine Tools	Yim Yong-ho
Wednesday	Electronics	Pak Chung-Kyu
Thursday	Production Management	Yun Jae-bok
Friday	Machine Tools	Yim Yong-ho
Saturday	Mechanical Drawings	Yun Jae-bok

Industry-University Cooperative Committee

In order to further unite the bonds between SJU and the companies that received technical assistance under this program, the Integrated Development

Figure 4

TENSILE STRENGTH TESTING MACHINE DEVELOPED BY SJU STAFF



Center created the Industry-University Cooperative Committee. Those companies that have implemented the recommendations made by the SJU staff and have achieved some success because of it are invited to join this committee. Membership cards are issued as well as certificates. At present, the following companies have been awarded the certificate:

Yongdung-po Mechanical Industrial Complex
Daega Steel Mill
Daewon Moulding Industrial Company
Jinhung Moulding Industrial Company
Samho Wood Manufacturing Company

A reduced copy of a blank certificate is shown in Figure 5.

Internal Organization

As indicated earlier in this report, an organization existed when this program was initiated and a diagram describing it was presented in Figure 1 of this report. During the year of operation, the Counterpart Project Director, Dr. Ouh, found it necessary to design a specific administrative unit to assume the responsibilities of research, training, education, information services, as well as industrial extension. The new organizational chart is shown in Figure 6.

Linkages

As a part of the project, it was anticipated that SJU would set up linkages with other institutions working in the same field of small-scale industry. By the end of 1974, a number of linkages had been established, as illustrated in Figure 7.

특별회원증서

숭종 호

기업체명 :

주 소 :

대표자명 :

위 업체는 숭전대학교와 미국 조지아 공과대학이 공동협력 하에 실시하고 있는 제 차년도 산학협동 업체로서 기술 및 경영분야 에서 본 대학과 긴밀한 협력을 하고 있는 산학협동 특별회원임을 증명함.

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숭전대학교 종합개발원

원장 어윤배

CERTIFICATE OF MEMBERSHIP

NO.

COMPANY NAME :

ADDRESS :

REPRESENTATIVE :

This is to cetify that the company named above has been designated a regular member of the Industry-University Cooperative Committee at Soong Jun University During the year of the Small-Scale Industry Technical Managerial Assistance Project, jointly conducted by Soong Jun University and the Georgia Institute of Technology with the support of the United States Agency for International Development.

CHIEF
INDUSTRIAL DEVELOPMANT DIVISION,
ENGINEERING EXPERIMENT STATION,
GEORGIA INSTITUTE OF TECHNOLOGY,
ATLANTA, GEORGIA

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Figure 5
CERTIFICATE OF MEMBERSHIP IN
INDUSTRY-UNIVERSITY COOPERATIVE COMMITTEE

Figure 6

ORGANIZATIONAL STRUCTURE OF
SOONG JUN UNIVERSITY
(January 1975)

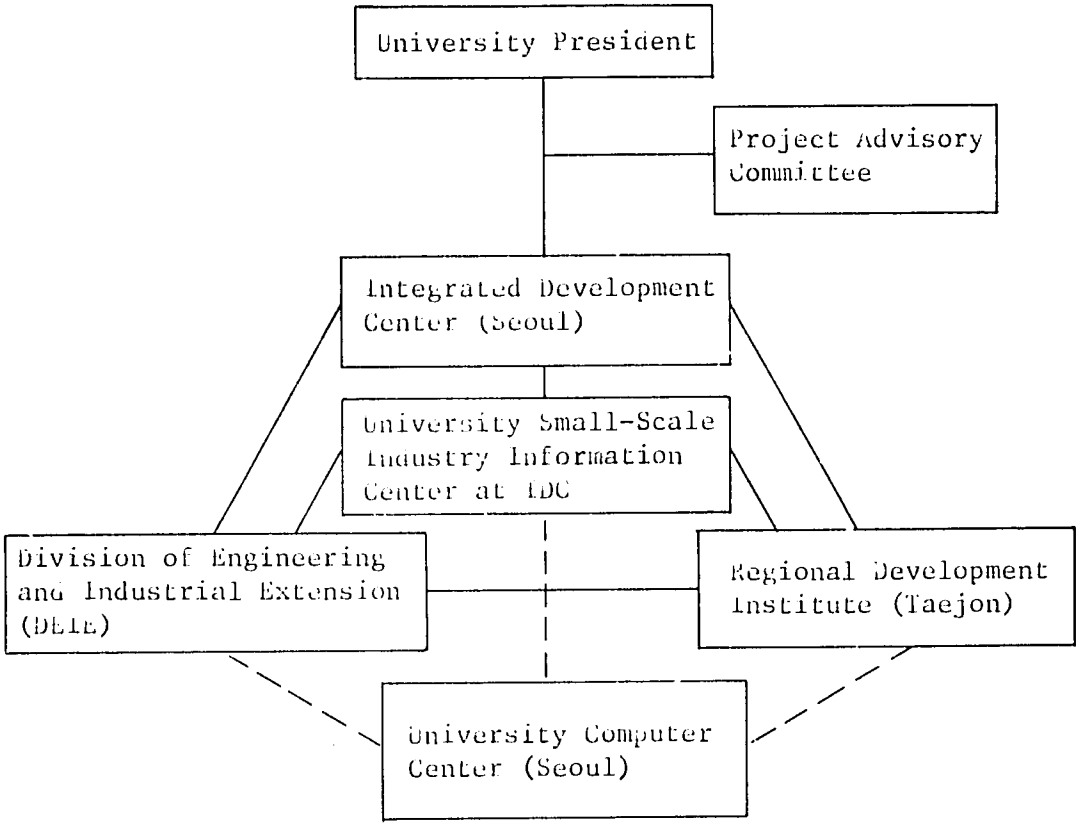
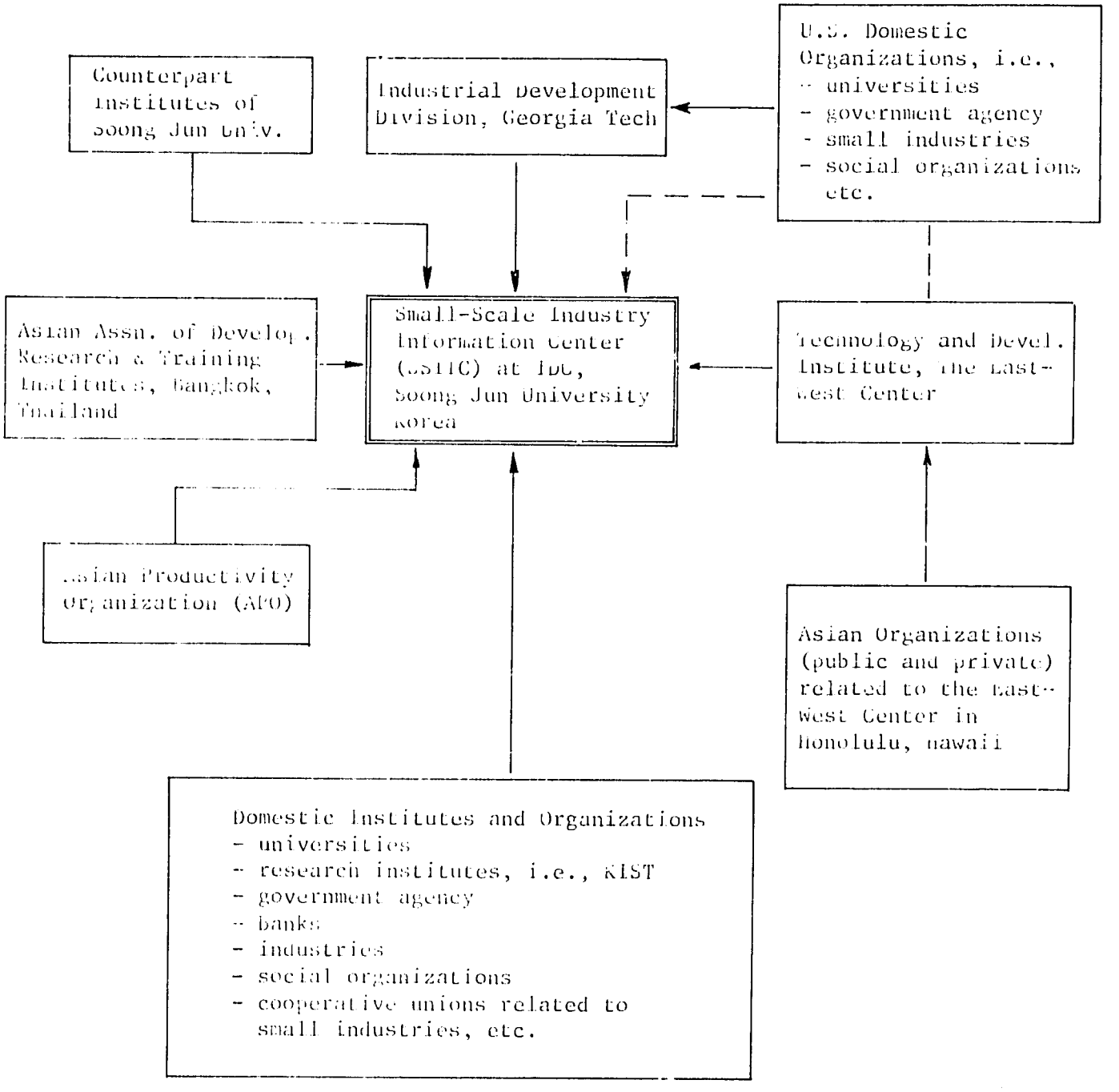


Figure 7

SJU LINKAGES WITH OTHER INSTITUTIONS



GEORGIA INSTITUTE OF TECHNOLOGY ACTIVITIES DURING PROGRAM YEAR I

The activities of the Georgia Institute of Technology for the program year were initiated by Mr. Nelson C. Wall, Project Director, on April 3, 1974, when he and Mr. Richard Johnston visited Soong Jun University to provide on-site assistance in the project. They were later followed by Mr. Herbert Eller, Mr. Ben James, Mr. William Studstill, Dr. Vernon Crawford, Mr. Ross Hammond, Dr. David Fyffe, Mr. Fred Burian, and, again, Mr. Nelson C. Wall late in December 1974. Each of these staff members had a specific task assigned to him within the total goals of the project. Each was funded by this project or by other AID-sponsored programs. A brief summary of the individual activities follows in chronological order.

April 3 - April 16 (Nelson C. Wall)

As Project Director, Mr. Wall had the responsibility of setting up the GIT program of work for the year. This was done in consultation with the grantee Project Director, Dr. Yoon Bae Ouh. The four major areas of work had been defined as follows:

1. Small-Scale Industry Information Center
2. Industrial Training and Education
3. University Training and Education
4. Industrial Extension and Research Activities

Different IDD staff members were tentatively assigned to carry out individual tasks, and SJU staff members were also assigned to the project at that time. The resulting Project Plan was prepared as shown in Figure 8. While in Korea, Mr. Wall also provided general consulting services to the SJU staff, assisted in the selection of candidates for the training program, discussed the proposed industrial engineering curriculum, and visited many small-scale industries in both Yongdung-po and Taejon.

April 3 - April 10 (Richard Johnston)

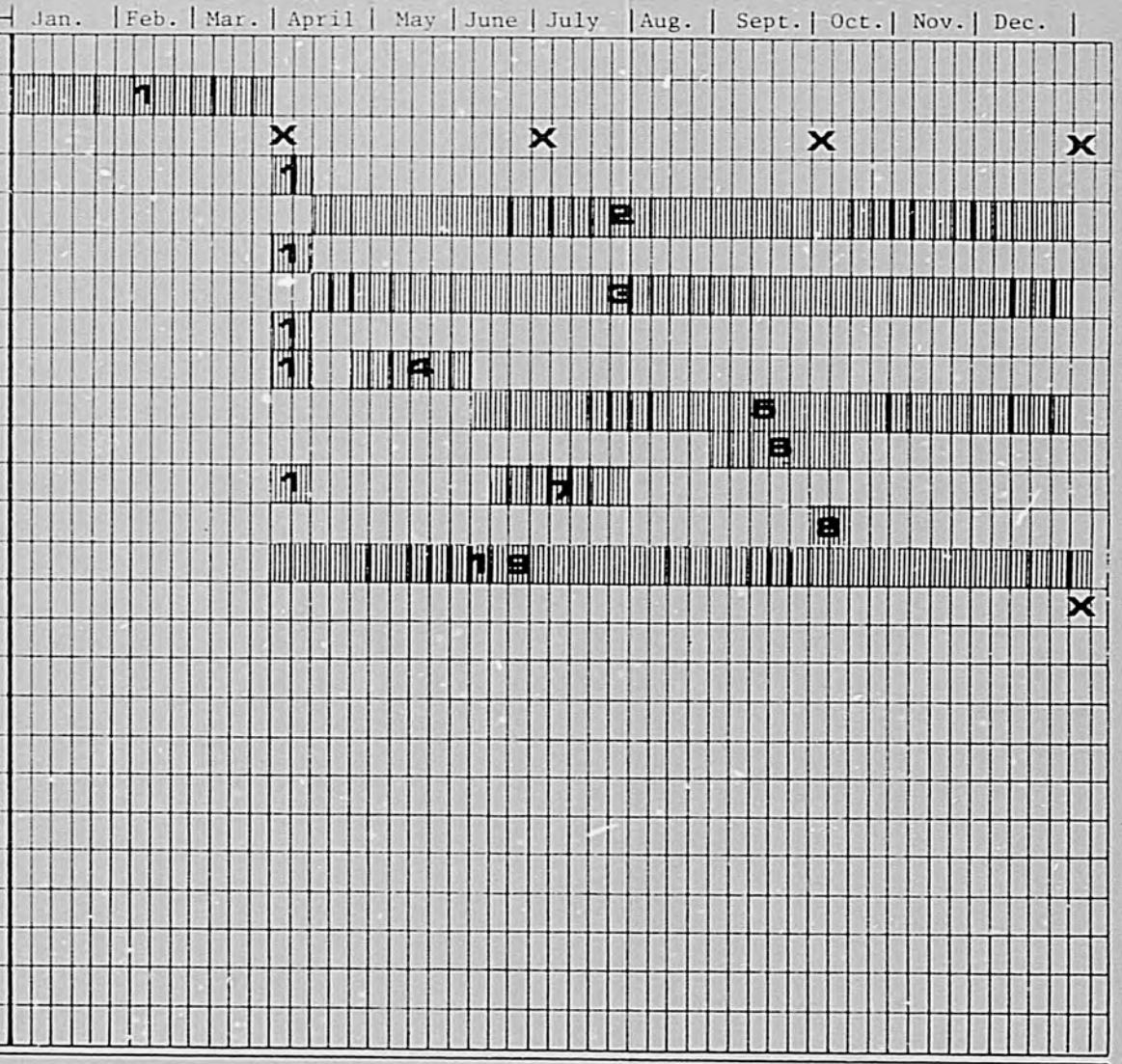
This member of the IDD staff was assigned the responsibility of providing guidance to the SJU counterpart in setting up the Small-Scale Industry Information Center. In carrying out his assignment, Mr. Johnston prepared a document entitled Provisional Procedures for the Operation of the Small-Scale Industry Information Center, which appears as Appendix 3 of this report.

Project No. B-426

Project Title SIG Soong Jun University

Project Director N. C. Wall

PROJECT PLAN



LEGEND: STAFF

1 N. C. Wall
2 Jang-Choon Lee
3 Dr. Prince & Staff
4 Ben James & Staff
5 Yoon, Lim, Koo, Prince, Lee
6 Studstill & Staff
7 IDD-Atlanta Staff
8 R Hammond & Staff
9 Y. B. Ouh

Figure 8

This document is a guideline prepared to assist the SJU staff in developing the data collection that will be required by the Integrated Development Center staff to achieve the objectives of the total program. Mr. Jang-Choon Lee, head of the SSIIC, worked with Mr. Johnston in developing a list of basic information that is available at IDD and which will be made available to SJU during the year.

April 21 - June 8 (Herbert Eller)

As a member of the staff of Southern Technical Institute, Mr. Eller was called to join the IDD staff under another AID program which was funded by an AID 211(d) grant. Although not directly assigned to this program, Mr. Eller assisted the SJU staff in researching the need for a curriculum in industrial engineering. His contribution to this project was published as a separate report under the title of Curricula Research and Development, as part of the AID 211(d) grant for this year. The SJU staff, under the leadership of Dr. Clarence E. Prince, Associate Dean, Engineering College, and Dr. Kyung Gap Yang, Dean of the Engineering College, continued to work with this concept and later prepared a complete "academic program" which was submitted to the Minister of Education, Republic of Korea, for approval. On December 17, 1974, the authorization was granted by the Ministry of Education for the establishment of a new Department of Industrial Engineering at SJU.

April 28 - June 14 (Ben James)

This member of the IDD staff had the responsibility of assisting the SJU staff in setting up the "industrial extension service" to serve the small-scale industries in both Yongdung-po and Taejon. In carrying out his assignment, Mr. James covered the following two major activities:

1. Illustrate, by on-site examples, methods and techniques used by IDD in its industrial extension activities in Georgia.

2. Through individual discussions and by providing actual examples and sample documents, illustrate the administrative procedures of IDD's industrial extension program.

During this period of time, Mr. James worked very closely with the SJU staff at the Regional Development Institute (RDI) in Taejon and the Industrial Technology Institute (ITI) in Seoul. A description of all the technical assistance provided for the year by the SJU/IDD staff is presented in Appendix 2.

July 1 -- August 2 (Counterpart Training)

Two senior members of the SJU staff were selected for training at IDD -- Mr. Hae Byung Lee, Associate Director of the Regional Development Institute (Taejon); and Mr. Jae Bok Yoon, Chairman of the Department of Mechanical Engineering (Seoul). In addition, Dr. Clarence Prince, Dean of Engineering (Seoul), attended part of the program in Atlanta. The training program, as designed by Mr. Robert Collier of the IDD staff, had various forms of training, including classroom activities, on-the-job situations, guidance and consultation, industrial tours, and several general contacts within the state of Georgia. The complete schedule of activities appears as Appendix 4 of this report.

September 8 - October 13 (William Studstill)

This portion of the program was a continuation of the work initiated by Mr. James earlier in the year. Mr. Studstill of the IDD staff had the responsibility of continuing the technical assistance services initiated by the SJU staff in the Yongdung-po and Taejon areas. A complete listing of industries served during this period, as well as a brief summary of each technical assistance case, is presented in Appendix 2. The small-scale industries served were attended by the SJU/IDD staff, and they are still being serviced by the SJU staff.

September 29 - October 13 (Dr. Vernon Crawford)

As Vice President for Academic Affairs of the Georgia Institute of Technology, Dr. Crawford made a project administration visit to Soong Jun University to further enhance the existing interaction between both institutions of higher learning. This activity was funded under Georgia Tech's AID 211(d) grant.

September 29 - October 13 (Ross W. Hammond)

During his stay, Mr. Hammond reviewed the status of the project and participated in planning the second-year grant activities. As part of his activity, Mr. Hammond provided administrative guidance to the counterpart staff and served as consultant to the project staff. He also was involved in the preparation of the audiovisual documentation that was being prepared at the time under a separate contract between SJU and the East-West Center.

October 7 - October 16 (Fred Burian)

Under a separate contract, SJU was able to obtain the services of the East-West Center in Hawaii to prepare an audiovisual history of the first year of activity. Mr. Burian of the East-West Center staff traveled to Korea and filmed an audiovisual tape presenting some of the most interesting cases of technical assistance service to small-scale industries. In the process, Mr. Burian also took several hundred still shots both in black and white and color film. Full details of this activity appear as part of the corresponding final report for Project A-1600. These audiovisual materials are available to interested organizations.

December 12 - December 18 (Nelson C. Wall)

This was considered the last on-site contact for the program year and, at that time, Mr. Wall and Dr. Ouh prepared the first draft of the final report which later evolved into this publication.

RESULTS AND CONCLUSIONS

As indicated in the introduction, many positive accomplishments have resulted during Year 1 of this program despite the very limited funding available. This section highlights the accomplishments for the year.

1. On May 9, 1974, there was a ceremony between Yongdung-po Industrial Complex companies and SJU. The purpose was to establish relationships between local industry and the SJU program. Later, on June 4, a similar ceremony took place at Taejon between the Taejon Chamber of Commerce and SJU. Both of these ceremonies were used as references at a later date by President Park as examples of university-industry interaction.

2. The staff at SJU was able to prepare a study entitled Trends of Korean Small-Scale Industries During the Period 1974. The study looks into the characteristics of Korean small-scale industries and attempts to classify and describe the different types of small-scale industries that were surveyed.

3. The Small-scale Industry Information Center (SSIIC) was created, established, and operated as a viable portion of the first-year program. The center, which is presently in operation, has initiated the first serious collection of relevant industrial data in Korea. Not only is the center a depository of industrial data, it is also attempting to generate information valuable to future small-scale industrial programs.

4. On-site consultation was provided to small-scale industries. The staff at SJU provided well over 200 man-hours of direct technical assistance service plus nearly 100 man-days of IDD staff time. As a result, 18 small-scale industries were serviced and their specific problems were resolved.

5. A simple testing machine and industrial tools were designed and developed. This activity would be classified as technology application or adaptive technology. Two main accomplishments should be mentioned: (a) the design, construction, and application of an inexpensive tensile tester; and (b) the design, construction, and application of a simple die or industrial tool.

6. A meaningful training program was especially designed for and presented to the senior staff at SJU. This was the first of a series of training programs to be offered during the life of this project.

7. Unskilled workers in Korea were trained. This was performed by the SJU staff, and they were successful in training about 40 unskilled laborers in the Yongdung-po Industrial Complex.

8. Consulting services were provided by the IDD staff. In addition to the time utilized in the provision of technical assistance to small-scale industries, the IDD staff had time available to provide on-site consultation in such areas as curriculum planning, project development, project administration, operations, logistics, report preparation, and many others.

9. An industrial engineering curriculum was developed. This capacity was funded under the related 211(d) grant program but, nevertheless, it was the first step toward the establishment of the Department of Industrial Engineering as part of the College of Engineering. As a direct result of this effort, the Ministry of Education authorized the establishment of the Industrial Engineering Department at SJU late in December 1974.

10. An audiovisual history of the program was prepared. Again, under a separate contract, SJU documented the case history of the first-year program through the efforts of staff members of the East-West Center. The resulting video tape and photographic collection provide a concise history of the highlights of the program of technical assistance to small-scale industries in both Yongdung-po and Taejon.

11. The staff at SJU spent much time compiling demographic and industrial data on selected areas of Korea, as well as conducting research studies on small-scale industries in the Yongdung-po area. These studies will be published by SJU at a later date.

12. During the program year, internal organization changes evolved and, as a result, a new organization structure had emerged by the end of the year. It is interesting to note how this was accomplished totally by the SJU staff, as they went further into the program year.

13. During the grant year, both the SJU staff and the IDD staff had the opportunity of working together and getting to know new problems which needed solution. 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.

During the year, not only have these achievements taken place, but also the small-scale industries in the target areas have been provided with

assistance previously unavailable to them. As the project progresses and more scientific methods are put into practice, it is expected that even more effective implementation will take place.

As a by-product, this program will be reflected in the student curricula at SJU, and the graduates of the "new" programs will be more effective in the progressive and harmonious development of small-scale industries in Korea.

Appendix 1

TRENDS OF KOREAN SMALL-SCALE INDUSTRIES DURING THE PERIOD 1974: SUMMARY OF FINDINGS

Appendix 1

TRENDS OF KOREAN SMALL-SCALE INDUSTRIES DURING THE PERIOD 1974

Summary of Findings

Definition of Small-Scale Industries

The concept of small-scale industries is not clear cut but rather relative. An enterprise is defined as a small or medium industry in accordance with its business scope, value of total assets, and number of employees.

These criteria, necessary for defining small-scale industry, vary in compliance with economic and social conditions of a country. The definition and classification of small-scale industries in Korea differ in the medium-industry basic law, medium-industry cooperative act, and medium-industry bank act.

The medium-industry cooperative act defines as medium industry a company which hires:

1. Below 200 permanent workers and holds total assets of less than 50 million won engaging in manufacturing industry as its main business, and
2. Below 300 permanent workers and holds total assets less than 50 million won engaging in mining.

Either one of these provisions is adopted as a medium number of firms, employees, production, and export which are introduced in the following page as Table 1.

Shift of Korean Small-Scale Industry Development

During the period 1960-1970, important changing features included number of companies, number of employees, production cost, and amount of additional value.

First, the general goal of small-scale industries is becoming bigger in scale, but its tempo is slower than that of large-scale industries. Thus, the industrial gravity decline of small-scale industries is gradually growing, as presented in Table 2 and Table 3.

Second, the gravity decline is getting bigger as shown by the number of companies, number of employees, production cost, and additional value. This phenomenon indicates the differences of managerial effect are most distinct by company scale.

Table 1

DEFINITION OF MEDIUM INDUSTRY

Law	Industry Group	Number of Employees	Total Assets (Won)
1. Medium Industry Basic Law	Manufacturing	Below 200	Less than 500 million
	Mining	Same	Same
	Transportation	Same	Same
	Comm. & Serv.	Below 200	Less than 10 million
2. Medium Industry Cooperative Act	Manufacturing	Below 200	Less than 50 million
	Mining	Below 300	Same
3. Medium Industry Bank Act	Manufacturing	Below 200	Less than 30 million
	Mining	Below 300	Same
	Transportation	Same	Same

Note: Either one, number of employees or total assets of these three provisions, is criteria in the medium industry basic law, the medium industry cooperative act, and the medium industry bank act.

Table 2

SHIFT OF SMALL-SCALE INDUSTRY GRAVITY
(As of 1960)

Division	Entire Operations(a)	Small-Scale Industry(b)	b/a (%)
1. Number of companies	15,024	15,067	99.1
2. Number of employees	275,254	215,077	78.1
3. Production Cost (million won)	59,735	39,899	66.8
4. Additional Value (million won)	22,295	14,789	66.3

Table 3

SHIFT OF SMALL-SCALE INDUSTRY GRANT
(As of 1970)

Division	Entire Operations(a)	Small Scale Industries(b)	b/a (%)
Number of companies	24,114	23,406	97.1
Number of employees	861,041	421,558	49.0
Production cost (million won)	1,334,514	403,734	29.5
Additional value	549,793	156,626	28.5

Source: Tendencies Toward a Rational Industrial System in Korea, published by the Small-Scale Industry Bank.

Third, considering industry fields, the gravity decline of small-scale industries shows a slow-motioned shift condition in light industry, while remarkable decline phenomenon appears in heavy industry. Meanwhile, the labor productivity of small-scale industries during the period 1960-1970 showed a remarkable increase.

Table 4

SHIFT OF LABOR PRODUCTIVITY
OF SMALL-SCALE INDUSTRY

Division	Yearly Production Amount per Employee	Additional Value Per Employee
1960(a)	354.7	131.5
1970(b)	669.9	268.1
(b-a)/a(%)	88.9	103.9

(unit: 1,000 won)

Note: Based on stable price of 1965 by producers' sales price.

The market share ratio of industries by type of product is shown in Table 5. Superior field of the small-scale industries with over 50 percent of market share ratio are mostly light industries depending on labor such as shoes, clothes, accessories, furniture, printing, publication, and leather.

Meanwhile, in heavy industry non-metal minerals and metal machine equipment show an increasing trend in manufacturing forward goods, while in light industries textile and clothes show an expansion of market share.

Table 5

SHIFT OF PRODUCTIVITY DIFFERENCE
BETWEEN SMALL-SCALE INDUSTRY AND
HEAVY INDUSTRY BY INDUSTRIAL FIELD

Division	Light Industry		Heavy Industry	
	1960	1970	1960	1970
Production Amount per Employee	60.2	51.3	85.4	39.1
Additional Value per Employee	56.8	43.8	123.5	43.4
Wages	71.7	68.4	76.4	62.4

Note: Large-scale industry is 100.

Source: Tendencies Toward a Rational Industrial System in Korea (published by the Small-Scale Industry Bank).

The export achievement of small and medium industries reached less than 23 million dollars in 1964, and 448 million dollars in 1971. The gravity of small-scale industrial goods is 37.3 percent of the total amount of export during the period January to October 1970, and it occupies 42.6 percent of total industrial goods in exports.

Despite the fact that the entire share of market of small and medium industries shows a tendency of loss, this contrasting phenomenon of expanding export amount proves small and medium industries could occupy a superior place in competitiveness in overseas markets which consist of different capital structure. Essential prices of small-scale industries are different from domestic large-scale industries.

Table 6

SHIFT OF FORWARD GOODS OF SMALL-SCALE INDUSTRIES BY KINDS OF MANUFACTURING
Unit: Million Won
(US$1 = 400 Won)

Classification	1963 Amount	1963 Ratio (%)	1970 Amount	1970 Ratio (%)
Food and Beverage	23,751	24.8	90,534	22.7
Textiles and Wearing	17,938	18.8	87,447	21.9
Wood and Furniture	5,496	5.8	19,438	4.9
Paper and Printing	7,176	7.5	28,352	7.2
Chemicals	16,654	17.5	58,383	14.6
Non-Metallic Minerals	3,907	4.1	26,474	6.6
Basic Metal	5,746	6.0	14,398	3.6
Machinery and Equipment	12,057	12.6	63,147	15.8
Others	2,701	2.8	10,888	2.7
Manufacturing	95,427	100.0	399,061	100.0

Source: Bank of Small and Medium Industries.

Table 7

SHIFT OF EXPORT ACCOMPLISHMENT OF SMALL-SCALE INDUSTRY
Unit: US$1,000

Classification	1964	1965	1966	1967	1968
Total Export (a)	120,851	180,450	255,251	366,753	500,408
Manufacturing Export (b)	62,322	112,372	159,684	251,175	386,940
Export by Small-Medium Industry (c)	23,683	41,597	71,207	101,559	157,082
c/a (%)	19.0	23.0	27.8	30.2	31.4
c/b (%)	36.0	37.0	44.5	44.4	40.6

Source: Bank of Small and Medium Industries.

Appendix 2

SUMMARY OF TECHNICAL ASSISTANCE CASES

Appendix 2

SUMMARY OF TECHNICAL ASSISTANCE CASES

Area	Company	Number of Visits
Seoul	Yeong Dung Po Industrial Site	4
Seoul	Tae Won Cast Iron Company	9
Seoul	Tae Ga Ironworks Company	7
Seoul	Sam Ho Wood Machine Company	8
Seoul	Sam Jin Industrial Company	4
Seoul	Jim Hung Cast Iron Company	9
Seoul	Jung Poong Industrial Company	1
Seoul	Sam Sin Sewing Machine Company	5
Taejon	Shin Sung Paper Mill Company	14
Taejon	Kook-Ri Machinery Company	3
Taejon	Doong-Mi Chemistry Company	1
Taejon	Shin-Kwang TenTile Company	2
Taejon	Nam-Ii Machinery	3
Taejon	Hae-Ryuk Machinery Works	3
Taejon	Moon-Kwang Towel Company	2
Taejon	Dae-Won Paper Mill	1
Taejon	Nam-Sum Machinery	1
Taejon	Anjon Bicycle Manufacturing	1
	Total	78

Case No. 1 Main Product: Casting Moulds

Municipality: Puchon City

Brief Description of Problem: In producing moulds, the company has encountered the following problems:

1. Inferior end-product
2. Poor production management
3. Desire to expand sales and, if possible, enter export market

Applied Solution: The manufacturing process was studied and an analysis was made of the sands used, pouring procedures, cupola temperature, and other important factors. Once completed, the study provided the company with information on how to run test analyses and other manufacturing procedures to improve the final product. As a result, rejects have been reduced from 15 percent to about 5 percent.

Case No. 2 Main Product: Hammer Mill

Municipality: Seoul

Brief Description of Problem: This manufacturer wishes to export his products and wishes to obtain more modern technology for his process.

Applied Solution: As a result of the study, it was determined that the company must improve the quality of its product if it is to enter the export field. It was suggested to company management that they also change some of their manufacturing procedures and, at present, the company is implementing the recommendations. Assistance is still being provided.

Case No. 3 Main Product: Machine Manufacturer

Municipality: Seoul

Brief Description of Problem: This manufacturer of woodworking machines was having problems with the quality of his products.

Applied Solution: A technical team examined the manufacturing procedures and has made a series of recommendations to assure better quality control. It is anticipated that the company will be able to export in the near future, once it has implemented all of the recommendations.

Case No. 4 Main Product: Machine Parts

Municipality: Puchon City

Brief Description of Problem: Much as in previous cases, this manufacturer also was in dire need of improving his product quality.

Applied Solution: The technical team determined that jigs were needed and these were designed for the company. Quality control recommendations were also made, as well as the establishment of standard time. As a result, quality has improved and the technical team will continue to work with the company.

Case No. 5 Main Product: Mouldings

Municipality: Puchon City

Brief Description of Problem: The company recognized the need to improve the quality of its moulds and were also interested in the possibility of reducing rejects.

Applied Solution: Moulding sands were examined and cast pieces were tested for tensile strength. As a result of the study, suggestions have been made and implemented which have reduced losses or rejects to under 8 percent of production. Technical assistance is still needed and is being provided by the staff.

Case No. 6 Main Product: Automotive Shock Absorbers

Municipality: Seoul

Brief Description of Problem: The company has been having problems in determining oil pressure within the shock absorbers and in controlling quality.

Applied Solution: The assigned team found that the company lacked complete manufacturing drawing of all parts, as well as appropriate testing equipment and testing methods. During the study, it was also determined that simple tools were needed in the operation, such as jigs and fixtures. Recommendations were made to the manufacturer, and these are being implemented to resolve the above problems. It is anticipated that the quality of the shock absorbers will be improved through these recommendations.

Case No. 7 Main Product: Sewing Machines

Municipality: Puchon City

Brief Description of Problem: The manufacturer wished to establish a system whereby he could test incoming raw materials and components. He also wanted to improve the manufacturing of the frames of the sewing machines.

Applied Solution: A complete study of the plant was carried out and, in the process, three alternatives for manufacturing of the frames of the sewing machines were established. As part of the project, a system was established to test the incoming components. As a result, productivity has been increased and the quality has been enhanced.

Case No. 8 Main Product: Paper

Municipality: Taejon

Brief Description of Problem: Several problems plagued this company:

1. Poor operation of the brush rollers
2. Loss of up to 15 percent of the fibers in the water
3. Poor distribution of the wet material
4. Technical problems with the hot water

Applied Solution: A study was made of the company and the problems indicated. A solution was given to the brush roller problem by changing the dimensions of both the shaft and the roller. The loss of fiber was also resolved by a cam or link system. A study was made of the distribution roller and this too was solved. In relation to the hot water problem, it was determined that the boiler was insufficient for the demand and it was recommended that this be changed.

Case No. 9 Main Product: Milling Machines

Municipality: Taejon City

Brief Description of Problem: The company wanted to improve its quality control and wanted to establish testing procedures for the milling machines.

Applied Solution: The technical team studied the operation and made recommendations for a testing procedure, as well as testing of manufactured parts. Recommendations were also made for standardization of operations, materials handling, and quality control. The company has now implemented all of the recommendations.

Case No. 10 Main Product: Milling Machines

Municipality: Taejon City

Brief Description of Problem: This small company was having manufacturing problems in the process of making their milling machines.

Applied Solution: Standard manufacturing drawings were made of all parts and components of the milling machines, and these were classified and numbered. Testing procedures were established and recommendations were made for jigs and test tools. The company has now implemented testing procedures and the problem appears to be solved.

Case No. 11 Main Product: Milling Machines

Municipality: Taejon City

Brief Description of Problem: The manufacturer was having a problem with the surface hardening of the gears and shafts used as components of the milling machines.

Applied Solution: A study was made of the heat treatment process and changes were recommended. At present, tests are being conducted on parts that have been heat treated under the new process.

Case No. 12 Main Product: Farming Machines

Municipality: Taejon City

Brief Description of Problem: This manufacturer of threshing machines was having a problem in his production line in the process of assembling his equipment.

Applied Solution: The study team analyzed the operation and suggested changes in the flow system. It was also suggested that parts be numbered and stored in that manner, as well as development of jigs and test tools. The recommendations have been implemented by the company and production has improved substantially.

Case No. 13 Main Product: Bicycle Gears

Municipality: Taejon City

Brief Description of Problem: This manufacturer has been having a problem with quality control.

Applied Solution: After studying the operation, recommendations were made to improve manufacturing procedures relating to sizes, surfaces, and die forgings. In the process, jigs were also recommended as well as testing equipment and possible redesign of the gear track. The company has implemented the recommendations and testing procedures are now being performed.

Case No. 14 Main Product: Textiles

Municipality: Taejon

Brief Description of Problem: This small manufacturer was having problems in dyeing his fabrics.

Applied Solution: A study was made and a suitable catalytic surface agent was recommended to activate the dyeing process of the fibers. Recommendations have been implemented and they have improved the process.

Case No. 15 Main Product: Plastic Containers

Municipality: Taejon

Brief Description of Problem: The manufacturer was interested in coloring materials for his plastic containers.

Applied Solution: The case is still under study.

Case No. 16 Main Product: Towels

Municipality: Taejon

Brief Description of Problem: This company wished to improve the surface and smoothness of its towels.

Applied Solution: It was determined by the technical team that an emulsion of liquid parafin will be a suitable surface agent during the dyeing process which would improve the surface of the towels. The recommendations were implemented and have proven successful.

Case No. 17 Main Product: Paper

Municipality: Taejon

Brief Description of Problem: The company was facing two basic problems:

1. Manufacturing of chemical pulp from broad-leave trees
2. Improving the wetting strength of the paper

Applied Solution: The first problem is still under study. The second was resolved by the addition of melamine resident to the pulp.

Case No. 18 Main Product: Industrial District

Municipality: Yongdung-po

Brief Description of Problem: The administration of the industrial district wished to provide technical assistance to the small-scale industries located there.

Applied Solution: The technical staff at SJU started working with the industries at Yongdung-po and have assisted many of them during this year. The Industry-University Cooperative Committee has been established.

Appendix 3

PROVISIONAL PROCEDURES FOR THE OPERATION OF THE SMALL-SCALE INDUSTRY INFORMATION CENTER

PROVISIONAL PROCEDURES FOR THE OPERATION OF THE SMALL-SCALE INDUSTRY INFORMATION CENTER

INTEGRATED DEVELOPMENT CENTER
SOONG JUN UNIVERSITY
SEOUL, KOREA

by

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Industrial Development Division
ENGINEERING EXPERIMENT STATION
Georgia Institute of Technology

PREFACE

These procedures are written to provide guidelines of a basic nature for the establishment and operation of the Small-Scale Industry Information Center (SSIIC) at Soong Jun University (SJU), Seoul, Korea. Since these procedures are expected to be adjusted from time to time, the addition of the word "Provisional" in the title is appropriate because only after a suitable period of operation will the faults of these procedures be revealed requiring changes for better performance.

Many of these procedures were developed from the publication of the Basic Data Branch entitled INFORMATION SUPPORT FOR DEVELOPMENT AGENCIES and from the LIST OF SUBJECT HEADINGS FOR INDEXING AND FILING INDUSTRIAL DEVELOPMENT COLLECTIONS, published by the American Industrial Development Council.

OBJECTIVES

The objectives of the Integrated Development Center (IDC) are to achieve the effective performance between the Georgia Institute of Technology (GIT) and Soong Jun University (SJU) of the common project, "Employment Generation Through Stimulation of Small-Scale Industry." This performance will be achieved by delivering mental and material services and facilities to businessmen of small industries situated in the area surrounding the Seoul and Taejon campus. The purpose of this delivery is to generate productive interaction between the university and the community.

The objective of the Small-Scale Industry Information Center (SSIIC) will be to provide the information required by the staff of IDC to achieve the objectives of IDC.

TYPES OF INFORMATION

The types of information required by the staff of IDC to achieve their objectives are as follows:

1. Economic and Statistical Measures
2. Professional Material
3. Official Material
4. Directory Information
5. Technical Information

The Basic Data publication INFORMATION SUPPORT FOR DEVELOPING AGENCIES on page 8 and 9 describes these publications in the following manner:

ECONOMIC AND STATISTICAL MEASURES

This category covers measures of income, population, education, and other characteristics of the area and of economic activity. Up-to-date information is essential. Trends have to be identified, however, so that a series of data should be available. Moreover appropriate data must be accessible to enable the developer to make comparison between the community and the state, the region, and the nation.

PROFESSIONAL MATERIALS

This group encompasses those works concerning the principles, theory, methods, and techniques underlying the various phases of community development. It includes, for example, monographs and reports relating to site selection, capital budgeting, plant location, and leadership involvement. Publications concerning local problems and local characteristics must be available; waterfront development has great importance, for example, to a port town or a river town. Access must be provided to basic works, the so-called landmark studies. In addition, there must be some means whereby the individual developer is informed of significant new studies.

OFFICIAL MATERIAL

Appropriate regulations, laws, and ordinances of local, state, and federal agencies belong in this classification. Local records such as those concerning

building permits, taxation, and the school system are particularly significant. On occasion the need occurs for copies of standards and codes adopted by national associations and agencies. It is important that the current version of an official document be available as well as an indication of pending changes.

DIRECTORY INFORMATION

Directories or files that will identify people, agencies, associations, companies, and products are covered here. Again, the information must be up-to-date, and in some cases it must be extensive enough to provide such data as balance sheet detail for a company or specifics of the program of a federal agency.

TECHNICAL MATERIAL

Reports and studies of a scientific and technical nature are included in this classification. Developers seek information on soil analysis, water quality, and similar topics.

In its physical appearance this information varies as much as it does in subject content. It is found in books, technical reports, pamphlets, journal articles, newspapers, maps, dealers' catalogs, correspondence, minutes, interview notes, questionnaire returns, and other miscellaneous forms. It is published by commercial firms, by academic institutions, and by government agencies. Much of it is unpublished, however, and extremely difficult to identify. Even worse, some of it is not presently available and can be obtained only by a specially designed survey or study.

Reviewing quickly and somewhat superficially the five subject categories of material, the physical format is characteristically as follows: Economic and statistical measures are found in both published and unpublished forms with most of the local, up-to-date material being unpublished. Professional materials usually are published. Official materials pertaining to the locality may be unpublished, but the state and national ones are usually published. Although directory information is usually published, it is kept current by handwritten notes. Technical information is usually published although it is often obtained by consultation with a specialist.

LIBRARIANS AND PROGRAMMERS

The proper operation of a data center is not a simple matter. The philosophy of librarianship and the techniques of selection, acquisition, classification, and reference are not generally known. Librarians are trained in these concepts and have experience in implementing library management philosophy and techniques. To insure the success of SSIIC, a university trained librarian should be on the staff to provide professional advice. Having a librarian available for consultation for some period each day or for a few hours each week is necessary to achieve the objectives of SSIIC.

If computer facilities are to be available in the future, and it is desired that the publications be registered therein, it is necessary to have a programmer involved from the beginning of the operation of SSIIC so that proper forms and procedures can be devised to insure compatibility between the data center and computer center.

SOURCES OF INFORMATION

Since no one library can possibly supply all of the publications required by its patrons, it will be necessary for the person in charge of SSIIC to go forth into the community to identify and locate publications useful to users of the SSIIC. Possible sources are such organizations as KIST, the Chambers of Commerce (Korean Chamber of Commerce and Korean Junior Chamber of Commerce), banks (Korea Exchange Bank, Korean Medium Industry Bank), other college and university libraries in Korea, and the commercial attaché in foreign embassies and consulates.

The SSIIC should acquire only those publications which are unavailable on a reasonable basis and which are vital and necessary to the staff. Duplication of available publications is costly and needs to be avoided. The person in charge of SSIIC should most carefully choose publications to determine suitability, usefulness, timeliness, and possible duplication.

Although publications will be acquired from many sources, primary sources will be from the Public Documents Center, from other colleges and universities, from development organizations, from international groups such as UNIDO, OECD, and ILO, and from GIT. The person in charge of SSIIC will select publications to acquire by examining bibliographies, by reading relevant publications and noting pertinent publications that quite likely can be obtained at no or little cost, by talking to staff members and others who may know of useful publications, and by being constantly alert to potentially useful publications.

A record of the location at other organizations of publications highly useful to SSIIC should be compiled and made available to the staff.

OPERATIONAL PROCEDURES

OBJECTIVE

The objective of these procedures is to arrive at a method to place all publications on the shelves in a systematic and orderly manner so that each publication has one definite shelf location.

RETRIEVAL OF PUBLICATIONS

To locate a publication on the shelves, follow these procedures:

1. If you know the author, find the author card in the card catalog. Read the number in the upper right corner. This number (0001, 0142, or some such number) will be the shelf location number, and the publication will be on the shelf at its numerical series location.

2. If you know the title, find the title card in the card catalog. Read the number in the upper right corner and follow procedures outlined above.

3. If you know neither the author nor the title, look at the cards in the subject card section of the card catalog. Each publication will appear on one or more subject cards. Look at subject cards until you find a publication fitting your needs. Read the number in the upper right corner and follow procedures outlined above.

LOCATION ON SHELVES

Since only a relatively small number of publications will be acquired by SSIIC, only a simple system is required. This system needs a few cards for each publication -- an author card, a title card, one or more subject cards, and one card for GIT.

Pamphlets, books, and directories will be assigned an accession number which will indicate the shelf location for the publication.

Periodicals will be arranged on the shelves alphabetically according to their titles.

Maps will be housed in verticle files or other suitable place and arranged by titles in alphabetical order.

Periodicals will be housed in pamphlet boxes and arranged on the shelves by titles in alphabetical order and eventually according to its Cutter-Sanborn number.

Pamphlets, books, and directories will be housed in pamphlet boxes and arranged on the shelves in order of accession number.

PROCESSING PUBLICATIONS

1. If the publication is a periodical, fill out cards for the card catalog. File one card in the title section according to its alphabetical order. File a second card in a separate file that lists all periodicals. When the need arises for Cutter-Sanborn numbers, place it in the upper right corner of the title page of the publication. Send the third card to GIT.

2. If the publication is a pamphlet, book, or directory, fill out cards for the card catalog. File one card in the author catalog according to its alphabetical order. File one card in the title catalog according to its alphabetical order.

3. For all publications determine in what subject category the publication falls. Determine the subject category from one or more subject headings chosen from the master list of subject headings used by SSIIC. File these subject cards in the subject file of the card catalog according to their alphabetical order.

For sample cards see following pages

AUTHOR CARD

Author

Title

Publisher Place

Date Pages

Subjects

TITLE CARD

TITLE

Author

Title

Publisher Place

Date Pages

Subjects

SUBJECT CARD

Subject

Author

Title

Publisher Place

Date Pages

Subjects

Whitlatch, George I 0001

Industrial Sites

Industrial Development Division, Georgia Institute of Technology, Atlanta, Georgia, U.S.A.

1970 72 p.

Industrial Sites

INDUSTRIAL SITES 0001

Whitlatch, George I

Industrial Sites

Industrial Development Division, Georgia Institute of Technology, Atlanta, Georgia, U.S.A.

1970 72 p.

Industrial Sites

PERIODICAL CARD

Title

Publisher Place

Frequency Cost

Renewal Date

Subjects

KOREA TODAY

Department of Commerce, Republic of Korea, Seoul, Korea
Monthly 400 Won January

Economic Conditions

ECONOMIC CONDITIONS

KOREA TODAY

Department of Commerce, Republic of Korea, Seoul, Korea
Monthly 400 Won January

Economic Conditions

PERIODICAL CARD-SUBJECT

SUBJECT

Title

Publisher Place

Frequency Costs

Renewal Date

Subjects

FILING CARDS

Pamphlets - Books - Directories

1. One card to author file.
2. One card to title file.
3. One or more cards to subject file.
4. One card to GIT.

Periodicals

1. One card to periodical file.
2. One card to title file.
3. One or more cards to subject file.
4. One card to GIT.

SUBJECT HEADINGS ASSIGNMENT

To begin assignment of subject headings, a basic list of terms has been selected for use. These terms come from the AIDC's LIST OF SUBJECT HEADINGS FOR AN INDUSTRIAL DEVELOPMENT ORGANIZATION. As the collection grows, additional headings may be chosen from the larger list identified as "Headings for General Material" in the AIDC list. The subject headings chosen for the first year, however, should be selected from the list provided. Rules for the selection of headings are listed in the first part of the appended AIDC list. See pages 1, 2, and 33.

GIT CARDS

To assist SSIIC in developing its card catalog, one author card will be sent to Richard Johnston at Georgia Tech. This card can be examined at Georgia Tech, and, if required, suggestions can be made to change the card to make it more effective. These cards will be filed at GIT so that IDC personnel in training at GIT can be aware of the collection at SJU and so that GIT personnel going to Korea can better plan on their informational requirements needed at IDC. Persons from other counterpart countries can also see the types of information being collected by fellow counterpart organizations.

ACCESSION NUMBER SCHEDULE

0001	0029	0057	0085	0113
0002	0030	0058	0086	0114
0003	0031	0059	0087	0115
0004	0032	0060	0088	0116
0005	0033	0061	0089	0117
0006	0034	0062	0090	0118
0007	0035	0063	0091	0119
0008	0036	0064	0092	0120
0009	0037	0065	0093	0121
0010	0038	0066	0094	0122
0011	0039	0067	0095	0123
0012	0040	0068	0096	0124
0013	0041	0069	0097	0125
0014	0042	0070	0098	0126
0015	0043	0071	0099	0127
0016	0044	0072	0100	0128
0017	0045	0073	0101	0129
0018	0046	0074	0102	0130
0019	0047	0075	0103	0131
0020	0048	0076	0104	0132
0021	0049	0077	0105	0133
0022	0050	0078	0106	0134
0023	0051	0079	0107	0135
0024	0052	0080	0108	0136
0025	0053	0081	0109	0137
0026	0054	0082	0110	0138
0027	0055	0083	0111	0139
0028	0056	0084	0112	0140

To use the accession number schedule, select the first available number and assign it to the publication in hand. Place this number in the upper right corner of the publication. Draw a line through the number chosen from the accession number schedule, and use the next number for the next publication.

Example

~~0001~~
~~0002~~
~~0003~~
0004

If the first three publications were assigned numbers 0001, 0002, 0003, then the fourth and next publication would receive the number 0004.

SUBJECT HEADING
USED BY THE SMALL-SCALE
INDUSTRY INFORMATION CENTER

Advertising

Agriculture

Biographical Sketches

Climate

Communication Media: Radio, Television, Press Facilities

Community Attitudes

Company Information

Consolidations and Mergers

Construction

Cost of Living

Cultured Facilities and Programs

Directories

Economic Conditions and Economic Industry

Educational Facilities

Employment and Unemployment

Financial Data

Financial Institutions

Forecasts and Trends

Geography: Characteristics and Distinctive Features of An Area

Government: Farm Organization

Government Regulations

Government Services

Health Facilities and Services

Highways and Sheets

History

Housing and Residential Areas

Income

Industrial Buildings

Industrial Districts

Industrial Sites

International Aspects

Labor Force

Labor Relations

Labor Unions

Land Use

Manufacturing

Market Surveys

Medical Facilities and Services

New Plants and Expansions

Organizations and Associations

Plant Layout

Population

Products

Public Utilities

Raw Materials

Realtors

Recreation

Research

Resources

Retail Trade

Service Industries

Shopping Centers

Statistics

Taxation

Technology and Processes

Tourism

Traffic

Transportation

Urban Renewal

Wages

Warehouses

Wholesale Trade

Appendix 4

TRAINING PROGRAM FOR SJU STAFF

Appendix 4

TRAINING PROGRAM FOR SJU STAFF

Schedule

Date/Time	Activity	Staff Responsibility
FIRST WEEK		
Monday, July 1		
9:00 - 11:00	Administrative Time	Collier
1:30 - 4:00	IDD-EES Briefing	Hammond
Tuesday, July 2		
9:00 - 11:30	Discussion of Small-Scale Industry Trends in Developed and Developing Countries	Logan
1:30 - 4:00	Georgia Tech Data and Information Sources	Johnston
Wednesday, July 3		
9:00 - 11:00	Discussion of the Entrepreneur and Appropriate Technologies	Hammond
1:30 - 4:00	Individual Project (Time reserved for individual research, special visits to campus activities, etc., to be scheduled)	
Thursday, July 4	Holiday	
Friday, July 5		
9:00 - 11:30	Generation and Evaluation of Venture Ideas	Collier/ Nelson
PM	Individual Project	
SECOND WEEK		
Monday, July 8		
9:00 - 11:30	Analysis of Project Alternatives: Overview of Process for Analysis and Evaluation of Industrial Projects	Clifton
1:30 - 4:00	Discussion of Market Analysis, Pricing and Costing, and Site Selections	Fyffe
Tuesday, July 9	Field Trip	James

Date/Time	Activity	Staff Responsibility
SECOND WEEK		
Wednesday, July 10	Field Trip	James
Thursday, July 11	Field Trip	James
Friday, July 12	Field Trip	James
THIRD WEEK		
Monday, July 15		
9:00 - 11:30	Resource and Technical Analysis of Project Alternatives	Morelos
PM	Individual Project	
Tuesday, July 16		
9:00 - 11:30	Financial Analysis of Small-Scale Project Proposals	To be designated
PM	Individual Project	
Wednesday, July 17		
9:00 - 11:00	Evaluation of Actual Proposed Projects - FHA	Taylor
PM	Individual Project	
Thursday, July 18		
9:00 - 11:00	Industrial Engineering Application in Small-Scale Industry	James
PM	Individual Project	
Friday, July 19		
9:00 - 11:00	Review of IDD Wood Market Study	Chiang
PM	Individual Project	
FOURTH WEEK		
Monday, July 22	Field Trip	James
Tuesday, July 23	Field Trip	James
Wednesday, July 24	Field Trip	James
Thursday, July 25	Field Trip	James
Friday, July 26	Field Trip	James

Date/Time	Activity	Staff Responsibility
FIFTH WEEK		
Monday, July 29		
9:00 - 11:00	FHA Project Analysis	Taylor
PM	Individual Project	
Tuesday, July 30		
9:00 - 11:00	Management Problems of Small-Scale Industry	Lewis/ Nelson
PM	Individual Project	
Wednesday, July 31		
9:00 - 11:00	Review of IDD Agri-Industry Feasibility Study	Chiang
1:00 - 5:00	Visit to Southern Technical Institute	Logan
Thursday, August 1		
9:00 - 11:30	Curriculum Development: Analysis and Evaluation of Academic Courses	Fyffe
2:00 - 3:00	Involvement of Students in Industrial Development	Nelson
Friday, August 2	Final Discussions	Hammond