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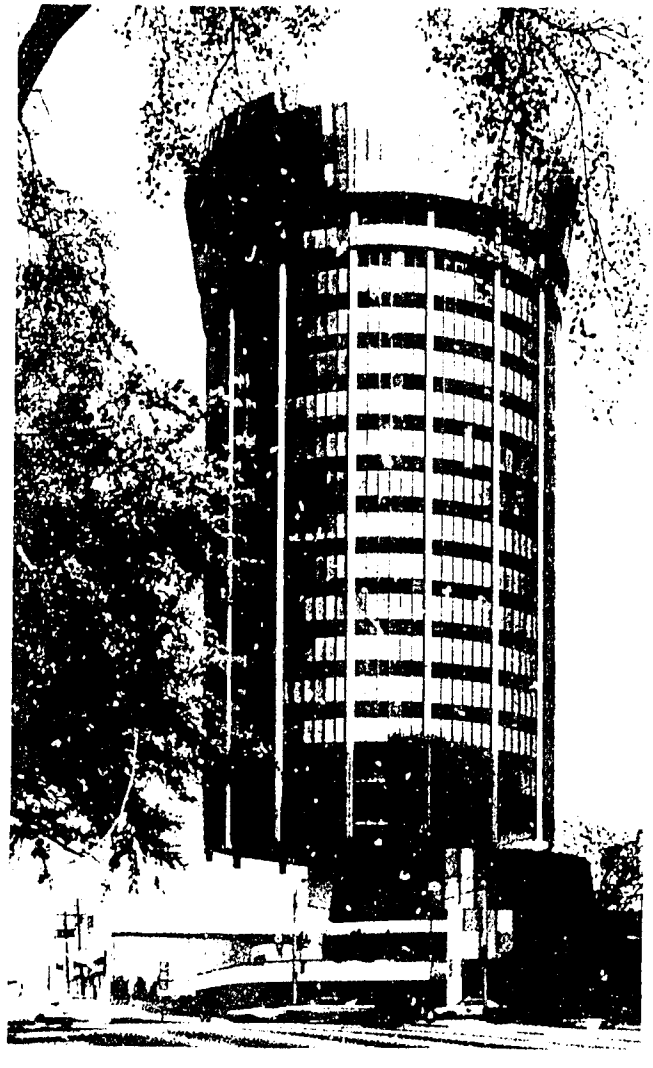
PN-AAK-914

CENTER FOR SMALL INDUSTRY AND RURAL DEVELOPMENT



(CONCEPT PAPER)

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CENTER FOR SMALL INDUSTRY AND RURAL DEVELOPMENT

CONCEPT PAPER

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Foreword

This concept paper has been prepared as a result of recommendations stemming from the fourth annual meeting of the External Advisory Committee, established under the AID 211(d) grant to the Georgia Institute of Technology. At this meeting, participants expressed concern about the future utilization of the Georgia Tech capabilities in which AID has a considerable investment, and the center concept was endorsed by the committee.

This committee is composed of prominent individuals involved in international development activities and includes representatives from developing country and domestic educational institutions, from the World Bank, the National Academy of Engineering, the East-West Center, and the Agency for International Development.

This paper is a preliminary document intended to outline in broad terms the need for such a center and what its goals, activities, and relationships to other organizations might be. The specifics contained herein are advanced as possible elements of the center and are not intended to inhibit consideration of other alternatives and approaches. Further consideration of this center concept will require more extensive documentation and expansion, as well as additional inputs from external sources.

Summary

It is proposed that the Georgia Institute of Technology establish, with AID funding, a Center for Small Industry and Rural Development for the developing countries.

The center will deal with the problems of establishing small industries and rural enterprises in developing countries, as well as assisting existing enterprises to expand and diversify, thereby increasing employment. It will concern itself with principles and methodologies for rural development. It will be primarily oriented to action programs and results, but will also focus on better understanding of industrial and rural development processes which over a period of time can alleviate the conditions of the "poor majority." It will work with and expand its present worldwide network of cooperating and communicating organizations.

The center will build on the 21-year experience of Georgia Tech in similar activities in Georgia and the United States and the 13-year-old activity in developing countries. The extensive resources of the institution (facilities, personnel, informational resources, etc.) provide an ideal intellectual and technological climate for this activity.

PROJECT BACKGROUND

Expanded small industry and enhanced rural development remain two of the most pervasive needs of the developing countries.

In most developing countries, small industries, including agro-industries, make up the bulk of the industrial enterprises. The magnitude of the small industry sector in any country can be measured in terms of number of small-scale plants, number of employees, capital investments, value added by manufacture, or by other criteria. In the Philippines, it is estimated that 90% of all industries fall in the small industry category;[1/] in Colombia, only 20% to 25% of workers are found in plants employing 100 or more workers;[2/] in Nigeria, the Industrial Research and Development Unit at the University of Ife surveyed more than 30,000 small enterprises in five states, which is an indication of the prevalence of small-scale industries in that country. In rural areas, the preponderance of these activities are closely related to the agricultural sector, including food processing, agro-industries, and supporting service industries.

Limited size and resources are two of the most common characteristics of agricultural enterprises and other industries in developing countries, and this is especially true in the rural areas where enterprises tend to be small.

These characteristics inhibit problem solving, growth, current awareness of changing market and price factors, new processes and procedures, technology advances, and many other factors on which enterprise success ultimately depends. Assistance must be provided from some external source if these barriers to growth and profits are to be overcome. The proposed center, working with similarly motivated in-country institutions, can provide a mechanism to overcome these barriers to growth, permitting industrial expansion and diversification, and employment generation.

1/ Institute for Small-Scale Industries, University of the Philippines.

2/ "The Relevance and Prospects of Small-Scale Industry in Colombia," Economic Growth Center, Yale University.

IDENTIFIED NEEDS -- AID CONCERNS

The Agency for International Development has specific identified activity foci -- agriculture, health, education, and population -- within an overall framework of assisting the "poor majority." While the LDC poor exist in both rural and urban environments, there seems little question that a majority of the poor live in rural areas where they eke out a minimal existence for as long as they can. They have few options, except perhaps to move to the urban centers in the hope of finding some sort of employment there.

How then to improve the lot of the poor majority in the rural areas of the LDCs? There are no simplistic answers which can be readily applied, for rural sectors are part of a complex economic system, with many interrelated problems and needs.

One basic approach to rural development should focus on the development of employment opportunities in that sector. With increased employment for people will come more income, better income distribution, more buying power, and the like. The rural areas are largely agricultural in nature and increased employment opportunities must stem largely from this agrarian base, along with the necessary corollary manufacturing, processing, repair, and trade and service activities which round out a rural economy.

The Center for Small Industry and Rural Development would focus primarily, but not exclusively, on the principles, processes, methodologies, and techniques for generating employment in rural areas. Such activities will consider other basic rural problems as well, such as relatively underdeveloped infrastructure, inadequate communications facilities, lack of mobility of rural poor people, inadequate rural education and training, lack of access to technology, rural energy constraints and deficiencies, limited local markets, inadequate distribution systems, and the specific cultural and social mores of the rural areas.

CENTER FOR SMALL INDUSTRY AND RURAL DEVELOPMENT

Objectives

1. To respond to the needs and interests of developing countries for small industry and rural development.
2. To support AID programs in LDCs through a flexible response mechanism.
3. To better understand the process of establishing and nurturing small industries through research and development and to establish a body of knowledge on the subject.
4. To provide continuity of programs to bring about substantial rural development and small industry sector growth.
5. To promote LDC employment generation and income distribution for the poor majority.
6. To continue to augment and make available a highly qualified, trained, motivated, and experienced staff and other consultant organizations as appropriate.
7. To accumulate, disseminate, and utilize technology for small industry and rural development.
8. To provide a focal point for cooperative applied research and development programs with developing country engineering institutions.
9. To initiate curriculum development and training programs utilizing experience gained at the center.
10. To protect the AID investment in the institution through utilization of the capabilities in small industry and rural development.

Organization

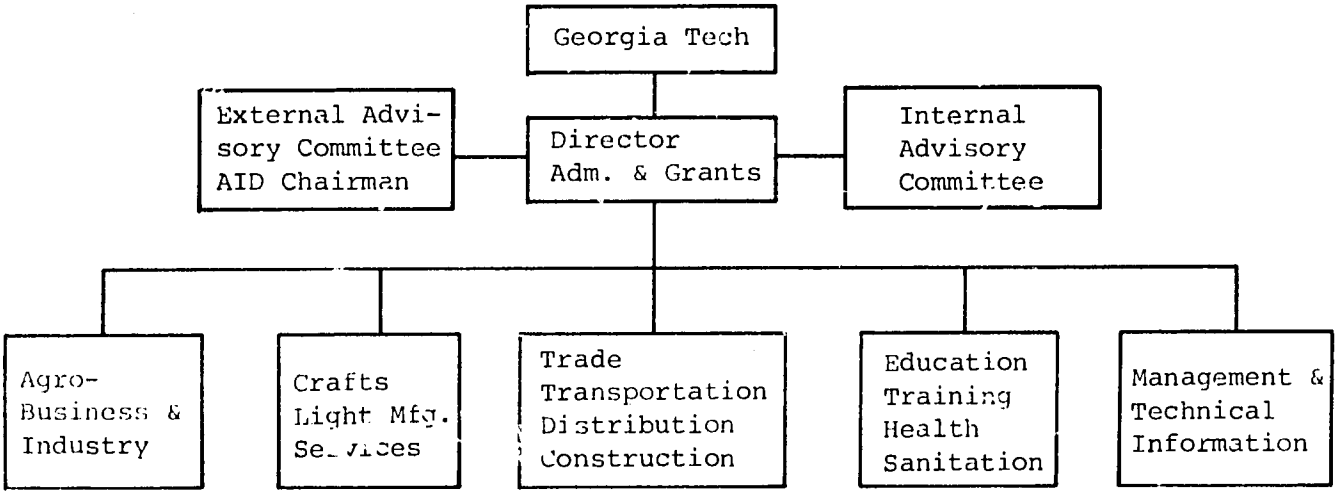
The Center for Small Industry and Rural Development can be organized in a number of ways. Two such possibilities follow.

Alternative No. 1 is organized in an industrial sector manner, focusing on agro-industry, manufacturing, other economic activities, education and training, and information.

Alternative No. 2 shows an organization along more functional lines, including organizational units concerned with research, technical assistance, education and training, information, policies and procedures

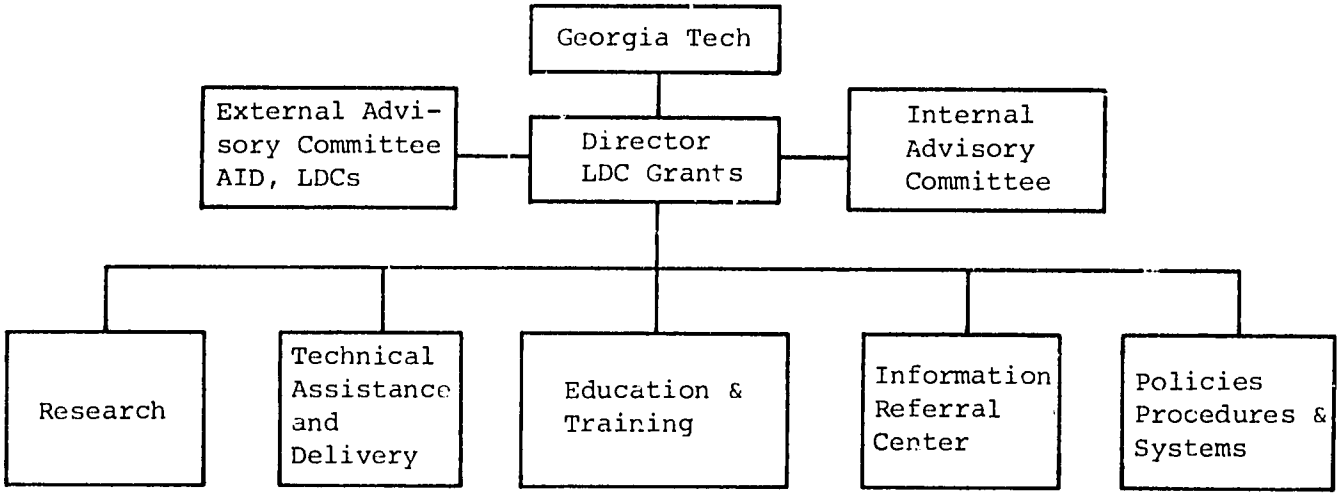
CENTER FOR SMALL INDUSTRY AND RURAL DEVELOPMENT

Organization Alternative No. 1



CENTER FOR SMALL INDUSTRY AND RURAL DEVELOPMENT

Organization Alternative No. 2



POSSIBLE ACTIVITY MATRIX

	Research 1	T.A. 2	Education and Training 3	Technology Information 4	Policies, Procedures & Systems 5
Marketing	X	X	X	X	X
Finance	X	X	X	X	X
Personnel/Training	X	X	X	X	X
Socioeconomics	X	X	X	X	X
Production	X	X	X	X	X
Sales & Distribution	X	X	X	X	X
Rural Development		X	X	X	X
Community Development		X	X	X	X
Resource Development		X	X	X	X

Activities and Programs

The following is an indication of the types of services and activities which could be provided by the center to developing country governments and industries:

Studies and Analyses

Rural development policies
Small industry policies
Resource studies
Manpower analyses
Transportation and infrastructure studies
Socioeconomic analyses
Economic impact analyses
Environmental impact studies
Manufacturing opportunity analyses

International Data Center

Response to inquiries
Technical information
Management information
Assistance in establishing information systems
Rural development case histories
Small industry case histories

Engineering

New process investigation
Quality controls
Evaluation of designs
Work flow
Manufacturing methods and procedures
Effluent and waste control
Material handling
Environmental impact studies
Technology assessment

Engineering (Cont'd)

Technology transfer

Energy management and conservation

Evaluation of computer applications

Occupational safety and health

Production

Sources of raw materials

Plant layout

Operation analysis

Equipment evaluation and selection

Quality control

Production control systems

Technical Assistance

Material testing

Product testing (destructive and nondestructive)

Selection of materials

Product design

Management Evaluation

Plant site location

Economic feasibility studies

Technical feasibility studies

Market analysis

Expansion and diversification

Product feasibility

New product search

New business ventures

Feasibility of export marketing

Divestitures

Cost-benefit analysis

Economic input-output models

Management Planning (Organization)

Management analysis

Organizational analysis

Financial Management and Planning

Sources of capital

Analysis of financial statements

Design or revision of accounting systems

Accounting controls

Inventory management

Cost analysis

Cost controls

Cash flow and pro forma financial statements

Credit procedures

Accounts receivable control

Evaluation of alternative investments and proposals

Financial planning

Reorganizations

Optimization of capital structure

Management (Personnel)

Employee training programs

Incentive programs

Personnel management

Job descriptions

Community Evaluation

Economic base analyses

Natural resource analysis

Evaluation of community assets

Identification of community liabilities

Manpower analysis

Skill analysis

Skill need assessments

Training facility requirements

Evaluation of training programs

Housing potentials

Cultural attractions

Tourism potentials

Economic Development Programs

Industry feasibility analyses

Market analyses

Analysis of existing programs

Identification of suitable/compatible industries

Brochure and advertising programs

Industrial contacts and negotiations

Long-Range Improvements

Overcoming liabilities

Industrial site identification

Industrial diversification

Industrial site/district layout

Utility expansions

Infrastructure requirements

Community attitude surveys

Intergovernmental relations

Other Types of Activity

Financial assistance programs

Cost-benefit analyses

Population and employment projections

Evaluation of development organizations

Use of incentive programs

Leadership identification

Training for community leaders

Environmental impacts

Land-use analyses

Community facilities planning

Housing standards

Plan implementation

Goal formulation studies

Education and Training

Curriculum development

Course development and presentation

Education and Training (Cont'd)

Training program design and presentation

Course and program materials

Analysis and evaluation of curricula and programs

Analysis and projection of training needs

Research assistantships for developing country students

Relationships

In large measure, the success of such a center would depend on relationships not only with AID and its various organizational units, but with international development organizations of all kinds, and with LDC governments and other organizations.

Georgia Tech's existing counterpart network and communications linkages would serve as an excellent base for continuous development of relationships for establishing contacts with additional sources of information and for directing inquiries and requests for assistance from LDCs and other sources to organizations with the appropriate expertise. In addition, the provision of small grants by the center to LDC organizations oriented to small industry and rural development, with AID approval, would materially strengthen such organizations while providing the motivation for accelerated activities.

In summary, the relationships would involve the following functional activities:

- o Broadened knowledge of principles, methodologies, case histories, etc.
- o Communication as to activities, successes and failures, and the reasons for these
- o Information transfer
- o Direct management and technical assistance to LDCs
- o Grants to LDC organizations as appropriate and approved by AID
- o Response to TDY requests by AID or other organizations
- o Other activities, as appropriate or requested by AID

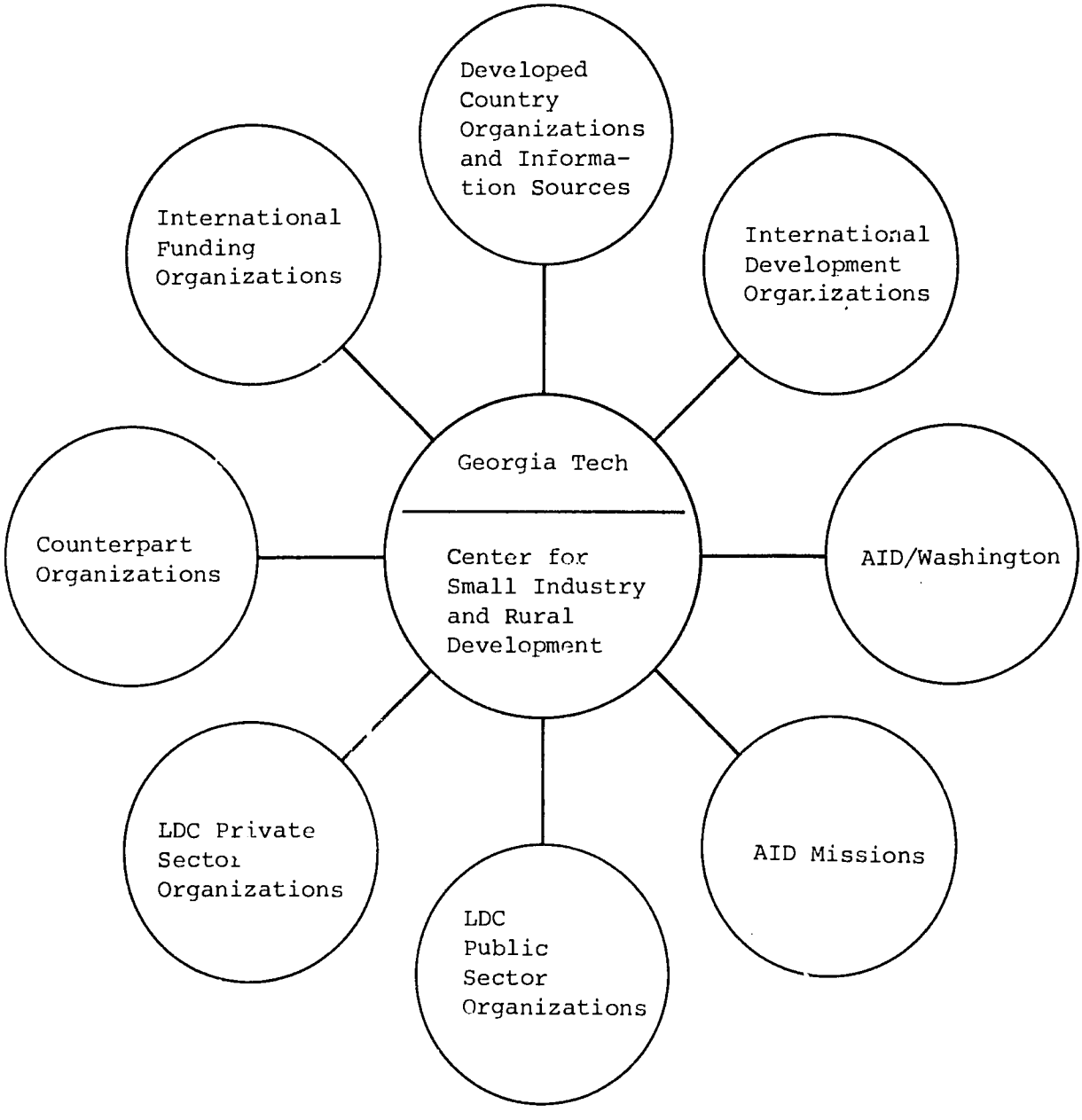
Staffing

The establishment of the center at Georgia Tech would insure that the AID investment in a center of competency would be protected. The present qualified and internationally experienced staff would be retained. In addition, the center would attract other qualified and dedicated individuals who are motivated and interested in small industry and rural development in the developing countries.

Facilities and Space

Georgia Tech, as a preeminent scientific and technological institution, is well endowed with physical facilities. The Price Gilbert Library is a

CENTER RELATIONSHIPS STRUCTURE



major technological resource, supplemented by other specialized libraries in the College of Architecture and the Engineering Experiment Station. There are many laboratories on campus with a wide range of equipment in various fields. Off-campus facilities of various sorts exist.

The Economic Development Laboratory is housed in a 19-story office tower close to the campus, which contains additional available space should expansion be required.

GEORGIA TECH'S INTEREST AND CAPABILITIES

The Georgia Institute of Technology is a member of the University System of Georgia. Both the University System and the Institute have policies to encourage international education and development activities. The Tech 211(d) grant, associated activities, and the proposed center are compatible with the international mission of the institution.

Georgia Tech pioneered several economic development firsts among U.S. educational institutions. In 1956, what is now the Economic Development Laboratory was initiated to assist in developing the state's economy. Subsequent Laboratory work in the Southeast and other states was followed by international development programs of some magnitude, initially in Latin America, but later in Asia and Africa as well.

In 1961, Georgia Tech became the first U.S. educational institution to establish an industrial extension field office system, modeled somewhat after the agricultural cooperative extension service. This industrial extension system is nationally and internationally known. Tech was the first U.S. institution to receive U.S. Department of Commerce grants to provide management and technical assistance to business and industry and served as a model for other EDA-funded University Centers which were later established. This government support has continued for 13 successive years. As a result of this and other funding, problem-solving assistance has been provided to more than 4,000 companies, primarily in rural areas, resulting in significant employment generation, new ventures, new plants, income betterment, and better resource utilization. A number of innovative rural community development programs have been initiated, some of which have served as models for activities elsewhere.

Extensive programs in applied economic development research, training, and technology transfer have been conducted continuously over the 21-year history of the Economic Development Laboratory.

Internationally, the Economic Development Laboratory has carried out approximately 35 AID contracts and grants since 1964, as well as activities funded by other organizations. A major thrust in "Employment Generation Through the Stimulation of Small-Scale Industries" has resulted from an AID 211(d) grant to Tech as well as other synergistic contracts.

Additionally, a number of faculty members and other Georgia Tech units have conducted development programs in a broad spectrum.