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Analytical Case Study
of the
Korean Educational Development Institute

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Second Interim Report

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SECOND INTERIM REPORT

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The Analytical Case Study of the Korean Educational Development Institute is being conducted by the American Association of Colleges for Teacher Education in cooperation with the University of Pittsburgh under the terms of a Basic Ordering Agreement with the United States Agency for International Development (AID/ta-BOA-1084, T.A. #6) under the direction of the Educational Technology Group, Bureau for Technical Assistance, and the Bureau for Asia/AID.

October

1977

This Second Interim Report: An Analytical Case Study of the Korean Educational Development Institute is the second in a series of reports to be issued during the period July, 1975 - August, 1978. The report has been prepared cooperatively by members of the study team. However, the responsibility for the final form and substance of the report is that of the team leader who has served as editor.

The observations and recommendations of the team which are included in this volume were presented orally to the KEDI administrative officers and senior staff on July 10, 1976 prior to the conclusion of the team visit and were recorded on tape for the immediate KEDI use.

Paul H. Masoner

TABLE OF CONTENTS

CHAPTER I	INTRODUCTION	1
CHAPTER II	ORGANIZATION, MANAGEMENT, AND OPERATIONS	11
CHAPTER III	THE ELEMENTARY-MIDDLE SCHOOL DEVELOPMENT PROJECT	37
CHAPTER IV	EDUCATIONAL BROADCASTING	69
CHAPTER V	THE EXPANDING ROLE OF KEDI	92
	APPENDIX -- PUBLICATIONS	120

I. INTRODUCTION

The Analytical Case Study

On June 30, 1975 contractual arrangements were completed between the Agency for International Development and the American Association of Colleges for Teacher Education for an Analytical Case Study of the Korean Educational Development (KEDI). The agreement stated that the "Contractor will in the course of this study document the development of KEDI, assess its progress, and provide consultative resources for the continued development of KEDI and its operations." It was understood that the contractual arrangements covered by the Basic Ordering Agreement (AID/ta-BOA-1034) for the period June 30, 1975 to March 31, 1977 were to be amended to extend the project to August 30, 1978. It was further understood that case study activities would involve both AACTE and the University of Pittsburgh staff as well as other consultants as needed including Korean educational specialists.

Korean Educational Development Institute

The Korean Educational Development Institute, founded in 1972 by the Ministry of Education as its external research and development component, is an independent, autonomous, and government-funded educational research and development center. Its primary mission at the present time is "to undertake comprehensive and systematic reform programs for the schools in Korea." However, once KEDI came into existence, the

Ministry of Education and the nation looked to KEDI to assume a broader and more comprehensive role in Korean educational research and development. Thus, in the few short years of its existence, KEDI has assumed responsibility not only for the Elementary-Middle School Development Project which focused on the primary mission of comprehensive and systematic reform of Korean education in the first nine grades of the schools, but also for a number of other significant educational areas of concern. Included among these are the following: population education, air and correspondence studies at the secondary school level, teacher training research, industrial arts and skill learning, long range educational planning, Saemaul education (New Community Movement), informal and non-formal education programs, instructional and educational radio and television, women's studies, and educational policy studies. With the assumption of these significant tasks, KEDI has emerged as a major force for educational change in Korea.

Purposes of the Analytical Case Study

In view of the significant role which KEDI has assumed in the field of education, its progress and accomplishments are of considerable interest and concern to many individuals and groups in Korea - the Ministry of Education, universities and colleges, administrators and teachers in the public and private schools, the education community generally, the national government, and the public. In addition, the U.S.

Agency for International Development, in view of its close relationships and involvement with KEDI since its founding, is particularly concerned about the role of the Analytical Case Study in assessing KEDI's progress and providing consultative resources for its continued development. Further, it is believed that the international community of educators in both developed and developing nations will find useful a careful and detailed documentation of a major educational reform effort which may have implications far beyond the borders of Korea.

Initial Project Tasks

Prior to the formal undertaking of the case study by a team of educators from the United States and Korea, the team leader, Dr. Paul H. Masoner, completed two planning documents on the basis of on-site visits to KEDI, conferences with KEDI staff, and discussions with external educational leaders and with AID staff. These two reports, which serve as a basis for the project plan and its development, are:

Report of Preliminary Planning Project for an Analytical Case Study of the Korean Educational Development Institute, April, 1975

Planning Information: Initial Team/Consultant Visit to Korea for Analytical Case Study of KEDI, July, 1975

First Interim Report

In November of 1975, the Analytical Case Study team began the comprehensive study of the Korean Educational Development Institute during a three-week period of residence in Korea.

Included in the team were five educators from the United States and two educators from Korea. In addition, a consultant group which provided assistance and support to the team included one educator from the United States and four educators from Korea.

The outcome of the initial team study has been reported in a 227 page publication entitled First Interim Report: Analytical Case Study of the Korean Educational Development Institute (1976).

Second Interim Report

During June-July of 1976, the Analytical Case Study Team continued its comprehensive study of KEDI during a second three-week period of residence in Korea. Team members continued to focus their attention on certain major concerns: KEDI organization, management, and operations; the Elementary-Middle School Development Project; instructional and educational radio and television; and the expanding role of KEDI. Along with this focus on substantive responsibilities of KEDI, the team continued to look at KEDI's development as an institutional entity on the Korean educational scene. This process is described in the First Interim Report under the heading "criteria of success categories."

The report of the team is included in this present volume, the Second Interim Report: Analytical Case Study of the Korean Educational Development Institute (1977).

It is important to point out that the observations and recommendations contained in the Second Interim Report were presented orally to the administration and entire professional staff of KEDI on July 9, 1976 prior to team departure. The presentation which was taped for further use by KEDI staff was followed by an active discussion in which KEDI staff and the team members participated.

External Conferences

During the first period of residence in Korea, the case study team spent a major portion of the time in conferences and discussions with KEDI staff and in the study and analysis of documents relating to KEDI's founding, organization, and research efforts. However, even during this initial period of study, the members of the team began to establish contacts with external individuals, groups, organizations, and institutions. It was clear that external perceptions of KEDI and its role in Korean education were important to its colleges, to educational organizations, and to the Ministry of Education for in depth discussions of KEDI. These provided the team with valuable insights into KEDI's perceived role in the development and improvement of education.

During the second period of residence, the members of the team expanded their efforts to talk with leaders in the education community of Korea. Conferences were held with many leaders - from the schools, the provincial boards of education, the teachers colleges, the universities, government

and private research organizations, educational associations, international agencies with offices in Korea, and the Ministry of Education. A list of these conferences follows:

CONFERENCES/DISCUSSIONS/OBSERVATIONS

BY MEMBERS OF A.C.S. TEAM

June 21 - July 9, 1976

(Note: Does not include conferences at KEDI)

<u>Date</u>	<u>ORGANIZATION/INSTITUTION/PURPOSE</u>	<u>Persons visited</u>
June 25	<u>Chang Kyung Elementary School (Seoul)</u> To visit KEDI demonstration school, to observe KEDI program, and to meet with principal and teachers for discussions in depth concerning program	Principal and Staff
June 26	<u>National Central Library</u> To discuss early developments leading to establishment of KEDI	Dr. Oh Sung Chick Director
June 27	<u>Kyung-Ju Office of Education</u> To discuss Saemaul activities in district and to explore KEDI role in movement	Mr. Son Sung Mock, Director
June 28	<u>Provincial Board of Education in Gyong Bug Province (Taegu)</u> To discuss population education, KEDI try-out programs, and other KEDI activities	Mr. Lee Sung Jo, Superintendent
June 28	<u>Research Bureau in Gyong Bug Province (Taegu)</u> To review and discuss relationships of Research Bureau with KEDI	Mr. An Byun Tae and Staff

June 28	<u>Gyung Hae Girls Middle School</u>	Principal
	To review and discuss pilot use of population education materials	
June 28	<u>Jong Ro Elementary School</u>	Cha Mu Chin, Principal and Staff
	To discuss experience of staff with KEDI population education materials and to consider recommendations	
June 30	<u>Center for Study of Educational Administration (SNU)</u>	
	To meet with the 200 participants in the in-service training program in order to solicit their reactions, opinions, and recommendations concerning KEDI	
June 30	<u>Seoul National University</u>	Dr. Chung Bom Mo Dr. Kim Jong Chol Dr. Park Dong Suh
	To discuss ACS interim report and to explore important future tasks of KEDI, particularly in pre-service and in-service teacher education	
June 30	<u>Ewha Women's University</u>	Dr. Kang Woochul
	To explore role of four-year institutions in pre-service and in-service teacher education and possible cooperative relationships of KEDI in such a role.	
July 2	<u>Chung-Ju Junior Teachers College</u>	Dean and Staff
	To discuss the pre-service and in-service curriculum for elementary school teachers and to consider the present and potential future role and relationship of junior teachers colleges and KEDI.	
July 3	<u>Provincial Board of Education (Choong Buk)</u>	Superintendent
	(1) To review experience of the Provincial Board of Education with KEDI program and to gain further insights into possible improvements in KEDI program	

- (2) To study the role of the Provincial Educational Research Center, its relationship with KEDI, and possible expansion of that relationship Director
- July 3 Songrisan
Seminar with top KEDI staff to discuss total KEDI program
- July 6 UNESCO/UNICEF Mr. Jeffry Kirby, Adviser Science Education
To study present and potential relationships of science equipment program with KEDI program
- July 6 Korean Institute of Science and Technology Dr. Yang Jae Hyun, Vice President
Dr. Pack, H.W. Technology Transfer
To understand role of KIST in Korea, and to explore potential KIST-KEDI relationships and cooperative activities
- July 7 Dae Woo Industrial Co. Ltd. Dr. Kim Duk-Choong, President and staff
To observe manufacturing activities in modern Korean factory, to discuss needs of industry for trained workers, and to explore potential relationships of schools with industry and KEDI's possible role.
- June 29 Ewha Women's University Dr. Kim Dong Chul Professor Journalism
and (1) To discuss communication problems related to KEDI's instructional model and its implementation
July 7 (2) To review and study special problems relating to ITV and IR in KEDI program
- July 7 United Nations Development Project Mr. Andrew Gear, Deputy Research Representative
To discuss UNDP and UNICEF activities related to educational development and to KEDI program
- July 7 United Nations Fund for Population Activities Mr. Richard Moore
To discuss MOE and KEDI population education responsibilities and activities

- | | | |
|--------|---|---|
| July 7 | <u>Korean Institute for Research in
the Behavioral Sciences</u> | Dr. Lee Sun Jin
Director
Dr. Kim Sang Ho
Dep. Director |
| | To understand KIRBS perception of
KEDI, to review the activities of
KIRBS, and to explore present and
potential relationships of KEDI
and KIRBS | |
| July 7 | <u>Korean Development Institute</u> | Dr. Kim Mahu Jo
President
Dr. Kim Sookou
Manpower Policy
and Others |
| | To understand the role of KDI, to
review relationships of KDI with
KEDI, and to explore potential
future relationships | |
| July 7 | <u>Korean Federation of Teacher
Associations</u> | Mr. Hong Soon Bum
Dir. Res. Divison |
| | To discuss in-service teacher education
goals of KFEA and relationships with
KEDI, its program, its present and
future plans | |

Team/Consultant Membership

Members of the team involved in the June-July, 1976
study were as follows:

Dr. John O. Bolvin
Associate Dean and Professor of Educational Research
School of Education
University of Pittsburgh

Dr. William F. Grady
Professor and Chairman
Division of Educational Communications
College of Education
Temple University

Dr. Ran Soo Kim
Professor of Education
Graduate School of Education
Yonsei University

Dr. Sang Joo Lee
Professor of Education
College of Education
Seoul National University

Dr. Betty Schantz
Assistant Dean and Professor of Education
College of Education
Temple University

Dr. Seth Spaulding
Professor of International & Development Education
School of Education
University of Pittsburgh

Dr. Paul E. Watson
Professor of Education
Co-Director
University Center for International Studies
University of Pittsburgh

Dr. Paul H. Masoner (Team Leader)
Professor of Education
Dean Emeritus
School of Education
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Consultants to the team included the following:

Dr. Chung Bom Mo
Professor
College of Education
Seoul National University

Professor Kang Woochul
Professor
College of Education
Ewha Women's University

Dr. Kim Jong Chol
Professor
College of Education
Seoul National University

Professor Kim Dong Chul
Professor
College of Education
Ewha Women's University

Dr. Lee Hahn Been
President
Song Jun University

Dr. Park Dong Suh
Dean and Professor
Graduate School of Public Administration
Seoul National University

II. ORGANIZATION, MANAGEMENT, AND OPERATIONS

A. MISSION OF KEDI

The mission of KEDI and the purposes related to that mission as described in the First Interim Report continue to give direction to KEDI operations. The mission statement, as derived from various sources, is stated as follows:

The Korean Educational Development Institute serves the Ministry of Education in the analysis of educational need in Korea and in the invention and trial of effective and efficient programs and structures for the improvement of the educational system.

Related to this mission statement are a number of purposes which guide KEDI programs and activities. These purposes are listed as follows:

1. To determine educational ideals and objectives which reflect the cultural heritage, social reality, and future direction of Korean society
2. To reformulate and systematize educational content to correspond to educational objectives
3. To develop and utilize modern educational methods, facilities, and materials to achieve an effective and economically efficient program of education
4. To establish a comprehensive research and development agency to assist the Ministry of Education in formulating educational policy for the nation

In the task of achieving the objectives explicit and implicit in both the mission statement and the statement of purposes, KEDI has been involved, since its founding in 1972, in an increasing number

of important educational enterprises. Central to KEDI activities since the beginning has been the Elementary-Middle School Development Project. This project, initially expected to require five years for completion, was designed to develop a new system of elementary and middle schools with more efficient, more effective, and higher quality educational programs. This project, which continues to be KEDI's major responsibility, has made remarkable progress toward the achievement of improved educational programs for the children and youth of Korea.

However, in addition to the E-M Project, KEDI has assumed many other responsibilities as the external research and development component of the Ministry of Education. Among these are responsibilities in the following areas: educational policy and planning; increasing demands for study in higher education institutions; industrial arts, vocational, and technical education; community education; population education; teacher education; high school of air and correspondence; women's education; international education programs; and publications.

It is clear that KEDI continues to focus its efforts and resources upon the task of improving education and educational opportunities for the people of Korea. The structural and organizational changes described in the pages that follow clearly were made in order to improve organization, to focus upon original purposes, and to make operations more supportive of KEDI programs.

B. THE NEW KEDI ORGANIZATION

Formal Organization

Figure I shows the organization chart which became effective January 1, 1976. Figure II breaks out the Planning and Coordination Office for further description and Figure III further describes the Research and Development Department. Figure IV represents an attempt to create a chart which is more functionally accurate than the chart shown in Figure I.

Board of Trustees. The Board of Trustees continues to be the policy body for KEDI. Only two changes have been made in membership since November, 1975, both in the ex-officio category:

Additional Ex-Officio member -
Mr. Jae Kyu Park, Director, Office of Supervision, MOE

Replacement -
Mr. Il Jae Park, Director, Science Education Bureau, MOE, replaced Mr. Koh Kwang Dug

Internal Structure. As of January, 1976, KEDI made organizational changes calculated to meet the following criteria:

1. Improve control and coordination of E-M Project
2. Reduce the number of high-level administrators and attendant criticism from within MOE
3. Adjust to personnel changes and competencies

The new structure, as shown in Figure I and further described in Figures II, III, IV, is a logical extension of the thinking which went into the structure proposed in

late 1975. (See Figure III, p.44, of the First Interim Report) Instead of separating the E-M Project related activities and individual and ad hoc research and program activities as was proposed at that time, those activities are now combined in one Research and Development Department. Although formal structures do not guarantee improved coordination, it is reasonable to assume that ad hoc programs and research will have greater pay-off to the E-M Project if there is common direction. Since much of the activity of the Department is in curriculum development, it is important that the topical content generated in such activities as Saemaul Education and Population Education be reflected in subject matter and material developed for the E-M Project.

In general terms, organizational structure follows organizational function. Thus, the KEDI programs and products are the foci of structure and, as budgetary data show, receive the greatest attention. In order to show that program departments are the important KEDI components, the proposed organizational chart shown in Figure IV removes the Administration Bureau from the same organizational line as the programs and puts it at the same level as the Planning and Coordination Office.

This proposed chart (Figure IV) attempts to depict a functional separation of four components:

1. General Managers - Board, Director, Deputy Director
2. Management Services - Planning and Coordination and Administration Bureau functions

3. Program Management - Research and Development and Educational Broadcasting

4. Specific programs

It appeared to the visiting team that KEDI clearly attempts to function in the manner described in Figure IV.

Although the new structure is clearly more rational than the one operational in 1975, it is limited in implementation by manpower considerations. Because of prior roles and work demands, the heads of the two major departments perform many tasks somewhat outside current role designations. The Planning and Coordination Office seems to be so busy with day-to-day requirements that its potential to develop planning and evaluation aids to both management and programs is not realized.

Planning for in-service training, evaluation of administrative practices, task analysis, and the like are not systematically approached. This is not criticism of current staff members. It is intended to encourage KEDI to be as attentive to the training and information needs of its management service personnel as it tries to be for those working on research tasks or in the E-M Project.

FIGURE I
KEDI ORGANIZATION - 1976

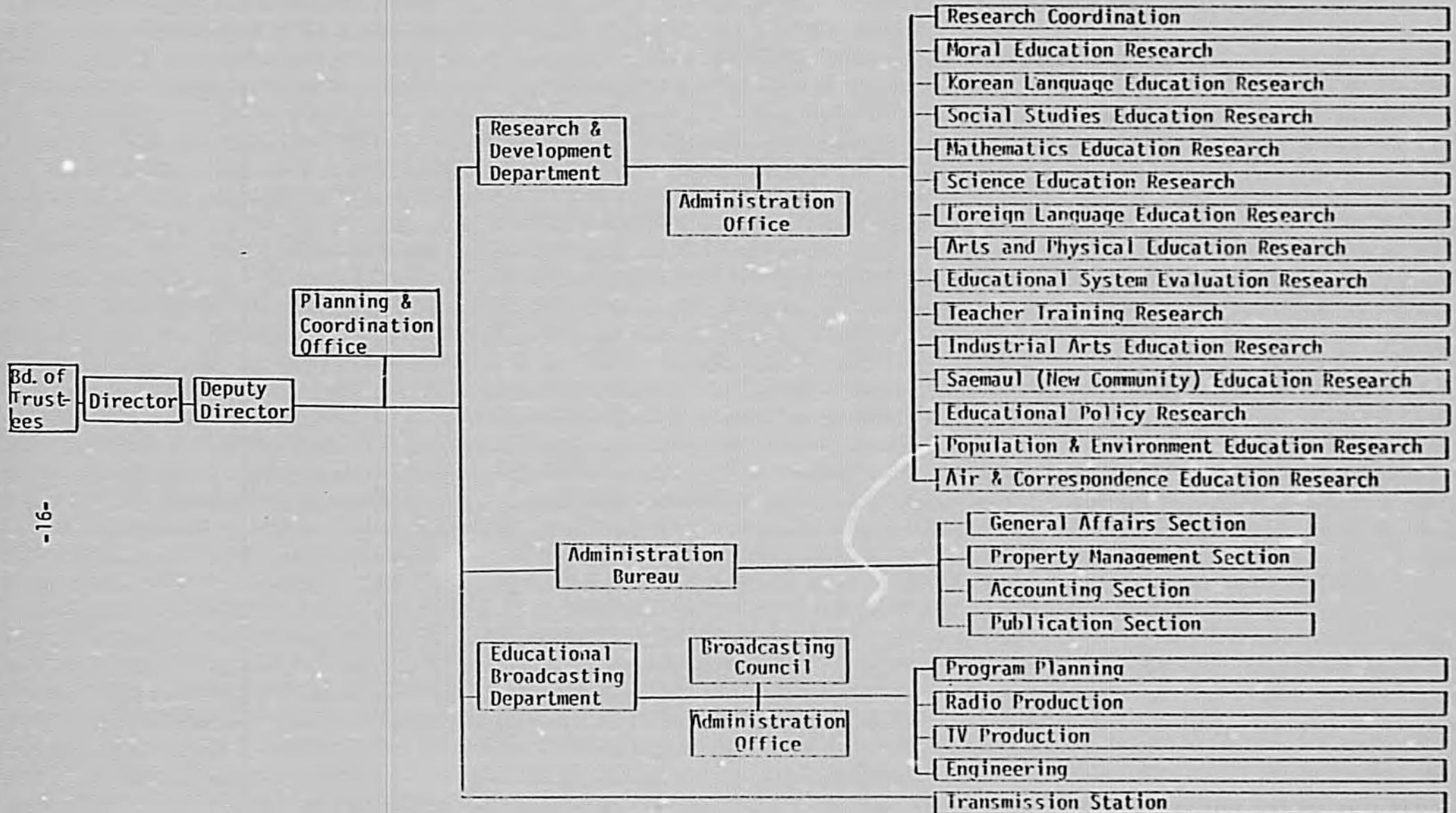


FIGURE II
PLANNING AND COORDINATION OFFICE

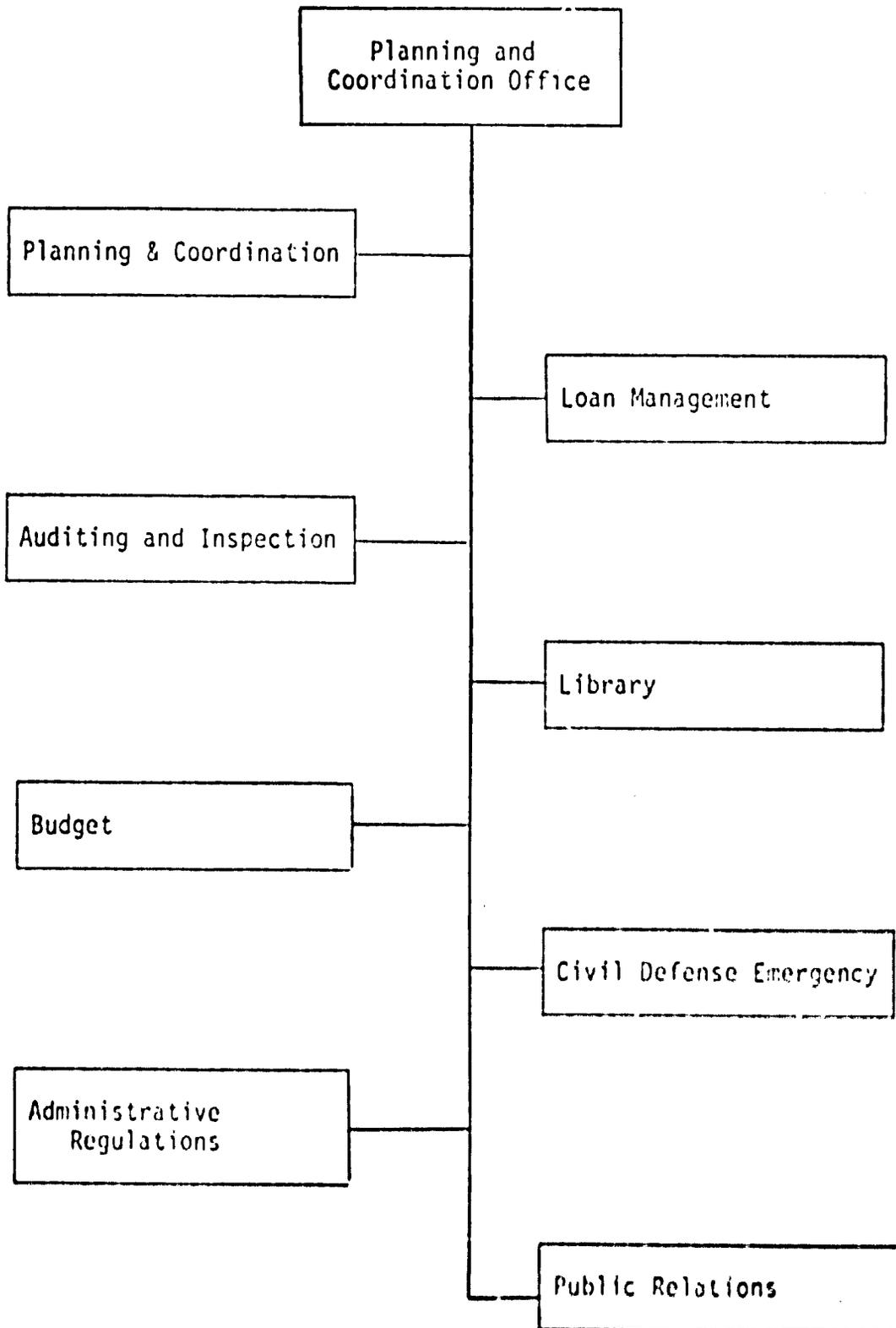
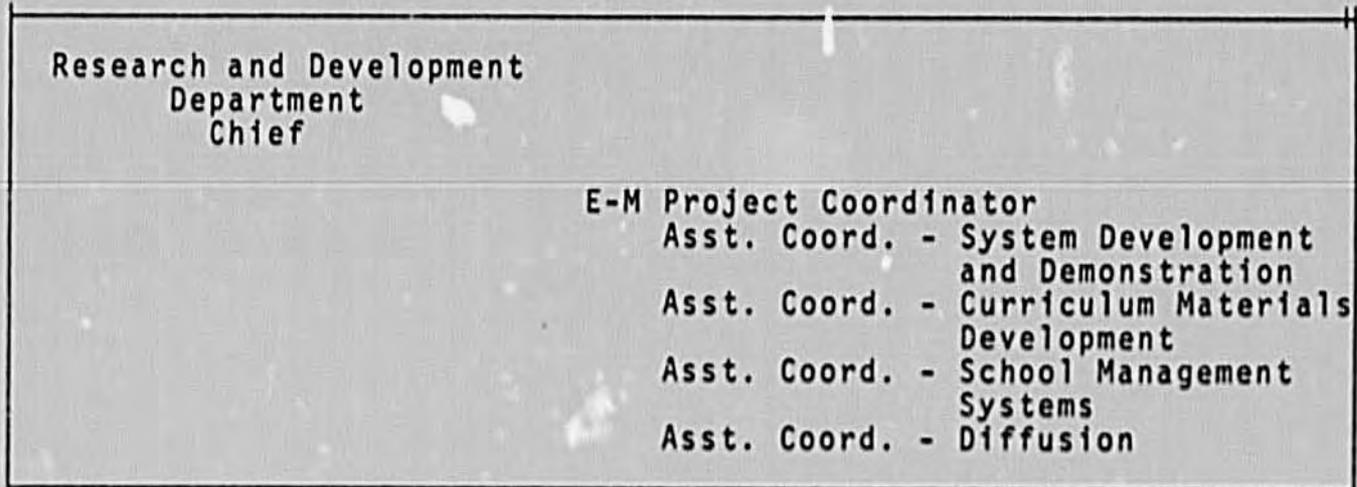


FIGURE III

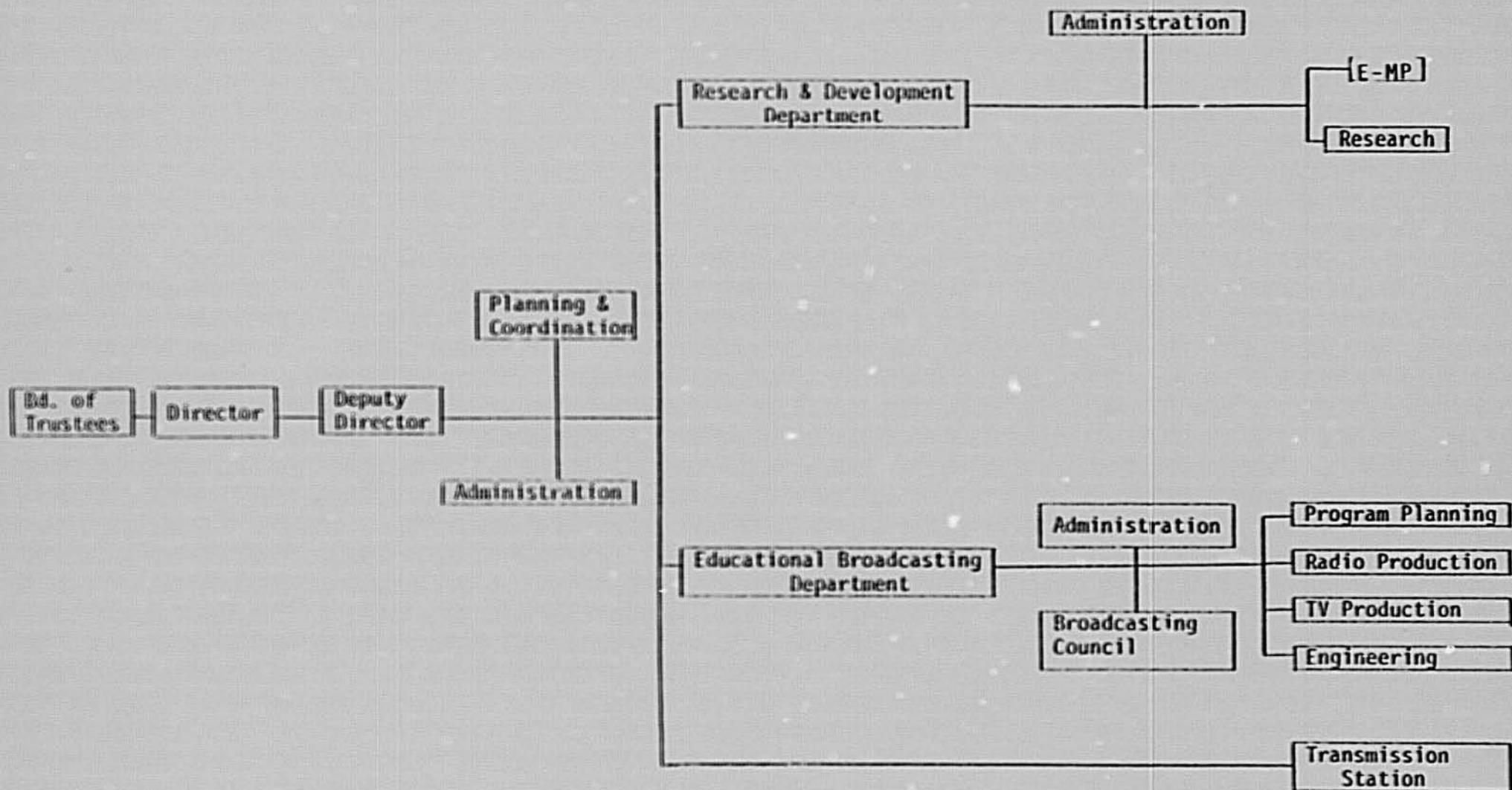
RESEARCH AND DEVELOPMENT DEPARTMENT



<u>Research Projects/Policy Studies</u>	<u>E-M Project Subject Matter Groups</u>
Saemaul Education -----	--- Moral Education
Educational Policy -----	--- Korean Language
Population Education ----	--- Social Studies
Air and Correspondence ----	--- Mathematics
*Women Sex Roles -----	--- Science
*Repeaters -----	--- Foreign Language
Teacher Training Research -----	--- Arts and Physical Ed.
Industrial Arts and Skill Learning -----	--- Educ. System Evaluation
	--- Teacher Training

* = New Projects

FIGURE IV
KEDI ORGANIZATION-FUNCTIONAL



C. MANAGEMENT AND OPERATIONS

KEDI continues to progress as an organization. Its structure is adequate and as rational as any other might be. There is no present need to be concerned about continuous restructuring of the organization.

For the next two years concentration should be upon strengthening the capability of the Planning and Coordination Office to serve both management and programs. That Office should be encouraged, through training of personnel and release from some immediate responsibilities, to begin to work directly with program departments in the resolution of planning, communications, and coordination problems identified within those departments. The Office must not be forced or allowed to become largely a monitoring operation which uses certain planning techniques. If it is to be of long term use to KEDI, it must become more and more sophisticated in internal data collection and analysis and assume a "helping" stance wherever that sophistication is needed in the organization.

Beyond changes already made structurally, the major task is now a matter of getting people in roles which are most compatible with their skills and interests. In a young and rapid-growth institution people will outgrow roles and roles will outgrow people. Therefore it is necessary to retrain incumbent personnel if they are expected to fulfill functions different from those for which they were originally employed.

There remains considerable pressure on key people. While their dedication is admirable, it is unreasonable to expect that dedication to continue indefinitely to produce both quantitative and qualitative results.

Financial and Budgeting Management. KEDI operates on a "cash" basis. That is, budgets are built each year from requirements for operating expenditures, debt retirement and interest payments, and capital costs in buildings and long-life equipment. There is no fund for the amortization of space and equipment costs.

Since KEDI is supported primarily from public funds there is no pressure to establish procedures to create and maintain construction and equipment replacement funds which accumulate each year according to an amortization schedule. Indeed, it is unlikely that the ROKG would agree to an annual allocation of monies to be applied to long-term future costs.

Financial and budget management is vested in three units of the Planning and Coordination Office--Budget, Loan Management, and Auditing and Inspection (see Figure II). Disbursement and Accounting are handled in the Administration Bureau.

The Deputy Director of KEDI has direct jurisdiction over fiscal matters, and he is the central figure in the clarification and statement of fiscal policy. Internally, fiscal policy is developed by top management.

There is no need to complicate fiscal procedures beyond the level required by law and ROKG regulations. It is important, however, that KEDI anticipate dramatic increases in resource needs in the areas of debt retirement and capital expenditures well in advance of need. Otherwise, it may appear, in a given year, that KEDI is presenting an inflated budget request. For the same reasons, a point made in the First Interim Report is repeated here: The separation of operating expenses from long-term expenditures makes it much easier to explain budget needs in program terms.

Financial Resources and Distribution

Table I reports budgeted income for 1976 and the percentage of the total from each source. The ROKG support level shows an increase in Won (+511,590,000) and in percent of total budget (+2.92%) when compared with 1975 figures. Interest income, maintained at a steady amount, yields a smaller percentage of the total than in 1975 (+149,584 Won and +4.45%) and other income dropped in 1976 (-45,923 Won and -2.06%).

Overall, 1976 projected support shows a 22.19% increase over 1975. In years 1972-73 and again 1975, KEDI had to borrow money to equate income and expenditure levels. The 1976 budget presents a balanced picture.

Table II shows the 1976 expenditure budget by major departments and divisions. Tables III and IV present further summaries of Table II comparable to data in the First Interim Report.

The tables are presented, as they were in the First Interim Report, in order to begin to clarify the actual costs of the various KEDI programs and to identify direct costs and indirect costs.

TABLE I
KEDI Financial Support 1976

In 1,000 Won	<u>Source</u>	<u>Amount</u>	<u>%</u>
	Government Subsidy	2,428,894	82.43
	Interest Income	264,000	8.96
	Project Income	231,456	7.85
	Other Income	22,271	.76
	TOTAL	2,946,621	100.00

The First Interim Report, because data supplied did not differentiate between interest payments and principal reduction, did not provide an accurate picture of indirect/direct cost figures. An attempt is made here to be much more precise. Presentation of data in Tables III and IV are based on three assumptions: (a) that all costs of the Broadcasting and Transmission Departments should be charged to the E-M Project, (b) that all interest payments, except those related to the

local bank loan, should be charged to E-M Project costs, and (c) that because KEDI operates on a cash basis, equipment costs may be included in current operating expenditures. The only budget item omitted from current operating expenditures is that related to debt principal retirement. Thus, it is possible to approximate the true costs of the E-M Project and to clarify direct/indirect cost differentiation.

If the above statements are acceptable to KEDI, it is possible to make the following conclusions as of July, 1976:

1. The E-M Project continues to be the prime program of KEDI, requiring 88.65% of direct costs and 76.15% of the total operating expenditures for 1976.
2. Income from contract projects appears to meet contract costs.
3. Indirect (overhead) costs of 14.1% are sufficiently clear and reasonable, and the 14% rate could be applied to any program or proposed program in order to more nearly arrive at true costs.

It is important that further analysis be made to determine the exact proportion of costs of broadcasting and transmission that are directly and indirectly attributable to the E-M Project. At the present time the technical difficulties of T-Com make it impossible for the E-M Project to use ITV and ETV programs that are being produced. Yet, costs of broadcast production and maintenance of transmission equipment logically must be charged to the E-M Project.

TABLE II

KEDI BUDGET SUMMARY--1976

in 1,000 Men	Personnel	Other	Total
Research and Development Department			
E-M Project	89,442	64,075	153,517
Materials Dev. and Demonstration System Evaluation	<u>10,363</u>	<u>2,373</u>	<u>12,736</u>
Sub-total	<u>99,805</u>	<u>66,448</u>	<u>166,253</u>
Policy Studies			
Educational Planning	6,218	1,787	8,005
Teacher Education	8,290	2,946	11,236
Saemaul Education	4,145	2,054	6,199
Technical Education	<u>8,291</u>	<u>2,177</u>	<u>10,468</u>
Sub-total	<u>26,944</u>	<u>8,964</u>	<u>35,908</u>
Contract Projects			
H.S. of the Air & Correspondence Population Education	24,300	128,826	153,126
Sub-total	<u>31,835</u>	<u>22,495</u>	<u>54,330</u>
Department Total	<u>56,135</u>	<u>151,321</u>	<u>207,456</u>
Planning and Coordination Office	182,884	226,733	409,617
Research Planning & Coordination Diffusion of Innovation International Cooperation Organization Development Plan	35,436	8,699	44,135
	--	6,623	6,623
	--	231	231
	--	264	264
Office Total	35,436	15,817	51,252

	Personnel	Other	Total
Educational Broadcasting Department			
Broadcasting	197,529	742,559	940,088
Property	<u>--</u>	<u>230,223</u>	<u>230,223</u>
Department Total	197,529	972,782	1,170,311
Broadcasting Transmission			
Transmission	84,397	84,897	169,294
Property	<u>--</u>	<u>16,080</u>	<u>16,080</u>
Total	84,397	100,977	185,374
Operations and Management			
Operations and Maintenance	131,729	66,611	198,340
Equipment and Library	--	20,100	20,100
Property	<u>--</u>	<u>9,218</u>	<u>9,218</u>
Total	131,729	95,929	227,658
Interest Expense			
Government Loan	--	48,500	48,500
USAID Loan	--	23,069	23,069
EXIM Bank	--	307,041	307,041
Local Bank Loan	<u>--</u>	<u>26,285</u>	<u>26,285</u>
Total	--	404,895	404,895
Debt Retirement-Principal			
EXIM Bank Loan	--	450,656	450,656
Miscellaneous Expenses			
	--	23,297	23,297
Contingency Fund			
	--	23,561	23,561
<u>Total KEDI Budget</u>	631,975	2,314,647+	2,946,621

TABLE III
KEDI BUDGET SUMMARY--OPERATIONAL CATEGORIES

In 1,000 Won		Personnel	Other	Total
Policy Studies		26,944	8,964	35,908
Contract Projects		56,135	151,321	207,456
E-M Project				
From R&D Department	99,805	66,448		
Educ. Broadcasting Dept.	197,529	972,782		
Broadcasting Transmission	84,397	100,977		
Interest Expense	--	<u>378,610</u> (1)		
Total E-M Project		381,731	1,518,817	1,900,548
Total Direct Program Expenditures		<u>464,810</u>	<u>1,679,102</u>	<u>2,143,912</u>
Planning and Coordination		35,436	15,817	51,252
Operations and Mangement		131,729	95,929	227,658
Interest Exp. (Local Bank Loan)		--	26,285	26,285
Miscellaneous Expense		--	23,297	23,297
Contingency Fund		--	23,561	23,561
Total Indirect Costs		<u>167,165</u>	<u>184,889</u>	<u>352,054</u>
Total Operating Expenses		631,975	1,863,991	2,495,966
Debt Retirement: Principal (Proof Check)		--	450,656	450,656
Total KEDI Budget		631,975	2,314,647	2,946,621

Note: Since KEDI operates on a cash basis, equipment costs are included in operational expenses

(1) Includes all interest expense except local bank loan costs (26,285,000)

TABLE IV
OPERATING EXPENDITURES: OPERATIONAL CATEGORY PERCENTAGES

	Direct Costs	Indirect Costs	Total
Policy Studies	1.67	--	1.44
Contract Projects	9.68	--	8.31
E-M Project	88.65	--	76.15
Planning and Coordination	--	14.56	2.05
Operations and Management	--	64.66	9.12
General Interest Expense	--	7.47	1.06
Miscellaneous Expense	--	6.62	.93
Contingency Fund	--	6.69	.94
	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>
Direct			85.90
Indirect			14.10
			<u>100.00</u>

Human Resources

Since the First Interim Report there have been some personnel changes and some additional training has taken place. Table V presents data from the First Interim Report with changes and additions related to KEDI Trainees.

Among those trained under KEDI auspices, the following changes have taken place:

1. One Producer-director was employed by private industry.
2. Two researchers left KEDI; one to private industry and one to the United States through immigration.
3. One producer, who recently underwent a training program in Singapore, left KEDI for a university position.
4. Three Florida State University trainees returned to KEDI in research categories.
5. Three researchers received short-term training in population education.
6. Four producers received short-term training.
7. Three broadcast technicians were sent abroad for training.

One newly trained Ph.D. from the University of Pittsburgh accepted a role in teacher training at KEDI. Since November of 1975 three Ph.D. staff members accepted positions in Universities but continued to serve KEDI on a part-time basis. However, during that same period two new staff members with Ph.D. degrees joined KEDI.

As noted in the First Interim Report, there is deep concern about KEDI's continuing ability to attract and hold qualified personnel. Recent increases in MOE personnel salaries further jeopardize KEDI's competitive position although salaries have been increased in KEDI. The major

threat will surely come from universities which offer professional incentives which KEDI must match.

It is important that KEDI continue to make and expand formal arrangements with universities and other institutions to share resources on a rotating basis and that care be taken to utilize the expertise and products of other organizations to avoid duplication of effort.

As mentioned earlier, administrative and management services personnel should receive training attention. This is particularly important for those who are expected to develop and direct planning and evaluation activities.

TABLE VI
KEDI TRAINEES

Name	Title	Current Role	Training	Period of Training	Institution
Park Do Sun	Researcher	Planning	Instructional Design	1973-June 19 - Dec. 21	Florida State Univ.
Byun Yung Ke	Researcher	Curric - Population Ed.	Instructional Design	1973-June 19 - Dec. 21	Florida State Univ.
Hong Sun Jung	Researcher	Teacher Educ. - Syst. Dev.	Instructional Design	1973-June 19 - Dec. 21	Florida State Univ.
Cho Won Ho	Researcher	Inst. Materials	Instructional Design	1973-June 19 - Dec. 21	Florida State Univ.
Kim Dai Hyun	Producer-Director	(1)	ETV Production	1973-June 19 - Dec. 21	Florida State Univ.
Kim Jin Sung	Producer-Director	Production	ETV Production	1973-June 19 - Dec. 21	Florida State Univ.
Han Jung Sun	Producer-Director	(2)	ETV Production	1973-June 19 - Dec. 21	Florida State Univ.
Son Hong	Producer-Director	(3)	ETV Production	1973-June 19 - Dec. 21	Florida State Univ.
Kim Yoon Tai	Researcher	Planning	Management Systems	Sept. 1973 - Dec. 1974	Florida State Univ.
Chang Un Ilyo	Researcher	Inst. Materials	Instruction & Learning	Sept. 1973 - Dec. 1974	Florida State Univ.
Yoo An Jin	Researcher	Curriculum & Testing	Instruction & Curriculum	Sept. 1973 - Dec. 1974	Florida State Univ.

- (1) Left KEDI-Private Corporation
 (2) Left KEDI - Working in Trade Corporation
 (3) Left KEDI - Unemployed

Name	Title	Current Role	Training	Period of Training	Institution
Park Jai Mun	Researcher	Inst. Design - Syst. Div.	Instructional Systems	June 1974 - Dec. 1974	Florida State Univ.
Choi Jong Jin	Researcher	(4)	Research School Management	June 1974 - Dec. 1974	Florida State Univ.
Koo Hwak Bong	Researcher	Teacher Educ.	Teacher Educ.	June 1974 - Dec. 1974	Florida State Univ.
Kwak Byong Sum	Researcher	Systems Evaluation	Educ. Technology	June 1974 - Dec. 1974	Florida State Univ.
Oh Jin Suk	Researcher	Inst. Materials (Math)	Math Educ.	Sept. 1974 - Dec. 1974	Florida State Univ.
Ham Jong Ha	Researcher		Science Educ.	Sept. 1974 - Aug. 1976	Florida State Univ.
Suh Chung Hwa	Researcher	Management Systems	School Management	Sept. 1974 - March 1976	Florida State Univ.
Kim Dai Hyum	Producer-Director	(5)	Radio Program Production	August 1974 - Sept. 1974	Australia
Ham Jung Sun	Producer	(2)	ETV Production	May 1974 - Sept. 1974	Japan (NHK)
Kim Jim Sung	Producer	Production	ETV Production	July 1975 - Sept. 1975	Japan (NHK)
Lee Iye Hak	Researcher	(6)	TV Prog. - Adult Educ.	Sept. 1974 - Dec. 1974	Singapore
Lee Yong Soo	Researcher	Production	TV Prog. - Adult Educ.	Sept. 1974 - Dec. 1974	Singapore

- (2) Left KEDI - Working in Trade Corporation
(4) Immigrated to USA
(5) Left KEDI - Private Corporation
(6) Left KEDI - Dong Duk University

Name	Title	Current Role	Training	Period of Training	Institution
Lee Yung Ja	Researcher	Inst. Materials Dev.	Broadcasting	Sept. 1975 - Dec. 1975	West Germany
Ila Sung A	Producer	Production	Broadcasting	Sept. 1975 - Nov. 1975	West Germany
Chung Tae Bum	Researcher		International-Systems Managem.	Aug. 1975 - Sept. 1976	Florida State Univ.
Park Moon Tae	Researcher	Program Planning	Production	Aug. 1975 - Feb. 1976	Florida State Univ.
Cha Joon Lak	Producer	Program Planning	Production	Aug. 1975 - Feb. 1976	Florida State Univ.
Lee Jeung Kuem	Researcher		Industrial Educ.	Sept. 1975 - Dec. 1976	Ohio State Univ.
Lee Yung Soo	Researcher		Communications Tech. Educ.	Sept. 1975 - Dec. 1976	Indiana University
Ilhong Sah Myung	Researcher	Off. of Planning & Coordination	Population Education	June 1976	South East Asian Countries (UNFPA)
Shim Koon Ja	Researcher	Pop. Ed. Project	Population Education	June 1976	South East Asian Countries (UNFPA)
Song Young Illee	Researcher	Inst. Materials Soc. Stud.	Population Education	June, 1975- July, 1975	Bangkok
Chung Ilhoon Sang	Producer	Off. of Planning & Coordination	Ed. Media	Aug. 1975 - Nov. 1975	Malaysia
Ilhong Dong Shik	Researcher	Inst. Mat. Ind. Arts	Production	Oct., 1975 - Dec., 1975	Singapore
Song Im Duk	Producer	Broadcasting	Production	Oct., 1975 - Dec., 1975	Singapore
Ko Young Illee	Producer	(7)	Production	Oct., 1975 - Dec., 1975	Singapore

Name	Title	Current Role	Training	Period of Training	Institution
Yang Sung Won	Technician	Broadcasting	Installation & Maintenance	May, 1975 - July, 1975	AMPEX Corporation
Park Myung Hla	Technician	Broadcasting	Installation & Maintenance	May, 1975 - July, 1975	AMPEX Corporation
Kim Suck Kwam	Technician	Broadcasting	Installation & Maintenance	May, 1975 - July, 1975	AMPEX Corporation

(7) Left KEDI - Chosun University

D. EXTERNAL RELATIONSHIPS

Those concerns dealing with external relationships expressed in the First Interim Report continue to be important. KEDI is rapidly becoming highly visible nationally and internationally as is witnessed by the constant flow of visitors and observers within the country and from elsewhere around the world.

KEDI administration and staff are fully aware of the importance of developing and maintaining cooperative and viable relationships, especially with various institutions and organizations in Korea. Visits made by team members to selected private and public research organizations, to educational organizations, to government agencies, to universities and colleges, and to municipal and provincial schools made it clear that that the development of improved communication with such institutions and organizations and the establishment, where feasible, of cooperative working relationships will be most important to KEDI in the accomplishment of its goals.

A number of suggestions were made during discussions with representatives of these external institutions and organizations: seminars for the exploration of cooperative relationships, joint research and development projects, exchange and/or sharing of personnel, exchange of publications and other documents reporting research and development projects.

One potentially powerful link is represented by the Center for the Study of Educational Administration of Seoul National University. In the team visit to the Center it was clear that the principals-in-training were greatly interested in KEDI programs. KEDI might well explore the possibility of packaging its school management system as a teaching-learning module for possible adoption in the curriculum of the Center.

III. THE ELEMENTARY-MIDDLE SCHOOL DEVELOPMENT PROJECT

A. INTRODUCTION

The report on the E-M Project that appeared in the First Interim Report described the background, purpose, design, and development of the E-M Project through the period of the small scale tryouts.

This report focuses on the major accomplishments of the E-M Project through June, 1976, highlighting those aspects of the project that: (1) seem to facilitate progress, (2) indicate adherence to the original goals and design, (3) indicate deviation from the original goals and design, and (4) indicate need for special attention on the part of the KEDI staff. In addition, a special section discusses the critical importance of teacher education in the E-M Project, accomplishments thus far, and tasks still to be undertaken.

B. FACTORS FACILITATING PROGRESS

A New Organization Plan

As the Korean Educational Development Institute has grown and gained increasing acceptance as an educational research institute, it has expanded its research capabilities and research and development projects to include educational concerns beyond the elementary-middle school level and beyond the E-M Project. As might be expected, this growth and expansion has necessitated changes in the organization and management of the institute causing, in some instances, a shift in personnel and, in other instances, changes in functions for a number of key directors and administrators.

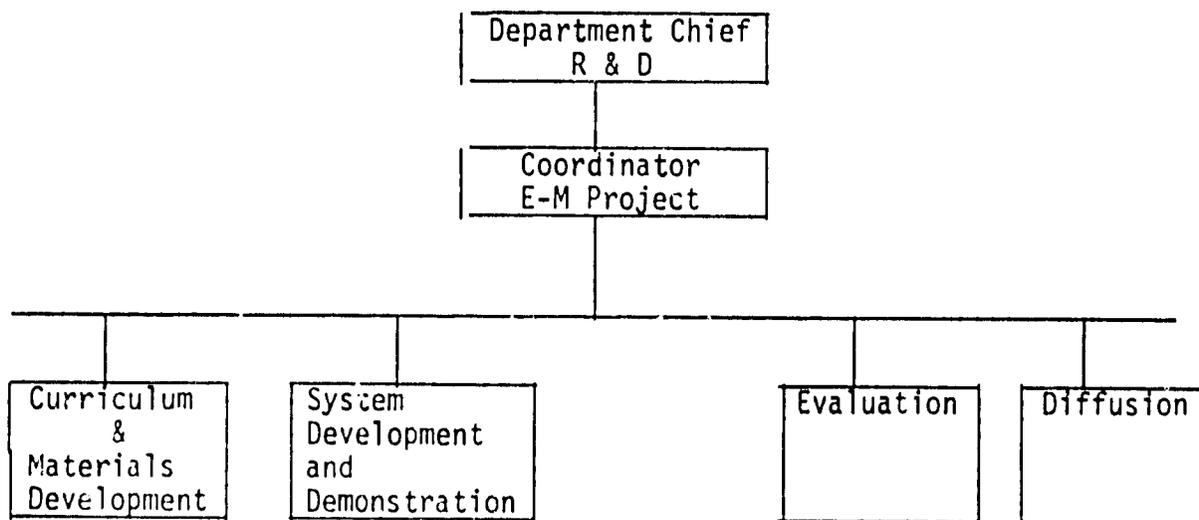
Paralleling the institutional changes is the change in emphasis of the E-M Project from initial development and small scale field

tryouts to large scale demonstration and implementation. This change in emphasis of the E-M Project requires greater coordination among subject matter specialists, the school management team, teacher in-service training, evaluation efforts, and general support services. To facilitate this coordination need within the E-M Project and to meet the growing needs of the entire institute, KEDI implemented a revised organizational plan in January, 1976.¹

Within KEDI, all of the components of the E-M Project (except ITV and IR production and broadcasting) were reorganized under the Department Chief responsible for the Research and Development Department. However, since this department includes several other projects in addition to the E-M Project, an assistant to the Department Chief has been assigned the coordinating functions for the E-M Project. This reorganizational change has facilitated communication and coordination within the E-M Project staff and has facilitated the decision-making process. Graphically, the organization of the E-M Project might be pictured as follows:

¹ This organization change is described more completely in an early chapter of this report.

Research and Development Department



Cooperation with Other Institutions and Organizations

Another factor that has facilitated progress of the E-M Project is the receptivity to the ideas of KEDI and the corresponding support for these ideas given by agencies and organizations outside of KEDI. Included among the outside agencies that have provided such support are the research and development centers of the provinces and of the local districts, the province administrators and Boards of Education, and the local schools' staff and administrators. From the completion of the fourth small scale tryout of the E-M Project to the first half of the second large scale demonstration, the E-M Project staff supported by the more comprehensive staff of KEDI has continued its involvement with the various research and development centers that relate directly to the public schools. In preparation for the large scale demonstration, KEDI involved nine of these centers in the development of the student materials and teacher guide books for each of the nine subject areas to be included in the elementary school curriculum. This effort brought the center personnel into close collaboration with the E-M Project staff

and, in most cases, provided a liaison for future interaction with these various agencies. As KEDI has moved into the large scale demonstrations, it has continued to involve personnel from the provincial research and development in ways that would facilitate the implementation of the elementary program. Staff members from these centers have been invited to participate in teacher workshops, in visitations to the schools by the evaluation and management teams, and to work in other similar ways. In several instances, at least, the centers have modified their own research and development projects in order to facilitate and encourage the implementation of the E-M Project into the local schools.

In addition to the research and development centers, the local school boards and local superintendents, through KEDI published materials and through KEDI sponsored discussions, have become more knowledgeable about and more supportive of the E-M Project. Individuals in this group have helped to identify the schools to be used as demonstration schools. They have helped to identify teachers to be involved in the project, and they have attempted to identify school administrators who would support and encourage the proper implementation of a developmental effort such as E-M Project. One indication of this support by the local school boards and local school superintendents is the financial support provided for the demonstration schools to participate in the E-M Project. However, in addition to this financial support, these boards, through the recommendations of the superintendents, have also provided additional funds for other schools to participate in the E-M Project as members of a group of schools referred to by KEDI as the cooperating schools. This latter group of schools has become

involved in the project because of a local need for the improvement of schools even though it is realized that the support for this type of involvement is not the same type of support as that given by KEDI to the demonstration schools. In general, this wider involvement does reflect the interest in, the identified need for, and the support for a modification of the total elementary school program throughout Korea.

Still another group of outside organizations is composed of local teachers and administrators from each of the demonstration schools. Through continued discussion and interaction with the teachers and administrators of each of the demonstration schools, the E-M Project staff has identified several areas of concern of these teachers that relate to the E-M Project as well as concerns that relate to the more general needs and interests of the teachers in these schools. For instance, the teachers involved in the demonstration of the E-M Project initially did not receive the same recognition as teachers from the demonstration schools of the provincial research and development centers. Teachers in this latter group of demonstration schools were given recognition for promotion and in-service credits that would lead to advanced levels of certification. These provincial research and development demonstration schools also received additional support services, additional materials for the classroom, and additional equipment because the school was a demonstration school. E-M Project demonstration schools initially received materials for the E-M Project only. When these matters of concern were brought to the KEDI administrators through the E-M Project staff, efforts were made by the KEDI administrators to obtain additional recognition for the E-M Project demonstration teachers and to provide additional resource materials. Although not all of the

additional support items have been provided up to this time, the sincere effort in behalf of the demonstration schools by KEDI has been recognized and appreciated by the teachers and the administration in these schools. This total effort of KEDI to help define and clarify the roles and functions of demonstration school teachers has been a facilitating factor in the continued progress of the E-M Project. Discussions with the local school teachers indicate that these teachers are willing to continue to work with the implementation of the E-M Project since they feel that their suggestions and recommendations are not only solicited but are seriously attended to by each of the project leaders within the E-M Project. These project leaders include individuals involved in materials development, in systems management, in development of teacher guidebooks, and in the evaluation of the implementation itself.

KEDI Involvement in a Wide Range of Programs

Another facilitating factor that has helped KEDI to progress with the E-M Project is KEDI's involvement with other projects related to educational research and development. These include the population study, the new community movement program, the high school of the air, the learning resource center project, and the college entrance test repeaters project. Through KEDI's involvement in these activities, educators at all levels throughout Korea have become more knowledgeable about the purpose and function of the Korean Educational Development Institute and have also become acquainted with the KEDI staff members involved in the various projects. This involvement has moved KEDI, in the minds of many professionals, from merely the name of an institution to the identification of individuals who represent this institution.

In general, these activities have helped to establish the legitimacy of KEDI as the major education research and development operation in Korea.

C. ADHERENCE TO ORIGINAL GOALS AND DESIGN

As the E-M Project has moved from the small scale tryouts to the large scale demonstrations, the staff has attempted to adhere to the original goals and objectives as set forth in the original proposal for the E-M Project. This attempt to stay within the original goals is exemplified by two documents developed by the E-M Project staff during 1976. The first of these documents, The Plan of the Elementary-Middle School Development Project for 1976, outlines briefly the directions of the E-M Project for 1976. The project goals were restated and, in some cases, clarified but in all cases the intent of the original goals was protected. The expected outcomes, as stated, are in agreement with the original plan and design of the E-M Project and include, as one addition, the first mention of the development of a new textbook model for the elementary school. This addition helps move the E-M Project toward the inclusion of one of the basic original goals of the project - the modification and updating of the total elementary school curriculum.

The second document, The Outline of the Elementary and Middle School Development Project - Current Status and Draft Plan for the Future, provides, among other features, a time line of activities of the E-M Project for the years 1976 to 1983. This time line with the supporting rationale is in keeping with the original intent, purpose, and scope of the E-M Project.

In addition to the written statements of the planned accomplishments to date, current activities, and plans for the immediate future, all discussions with individuals involved in the E-M Project indicate an awareness of the original goals and a desire to develop a system with supporting materials to support those goals. The curriculum developers and materials writers in each of the subject areas are still attempting to provide learning activities that relate to the higher mental thought processes, including problem solving, inquiry, and creative thinking. As might be expected, feedback from the schools indicates that the materials in teaching strategies related to the higher mental thought processes are difficult to implement and pose problems for the teachers in the classroom situation. However, most of the materials developers and curriculum writers have attempted to modify the strategies and the materials to meet the needs of the teachers but without deviating from this central concern.

The school management team which is responsible for the design of the new instructional system has been moving ahead with its work in developing a management system for the classroom and for the school which will facilitate the new materials and the new technology under development at KEDI. This effort is described in a KEDI publication entitled, Guidelines for Operation of the Second Comprehensive Demonstration.

The major work to date of the management team has been to examine the operation of the classroom and to recommend procedures that would modify ongoing classroom activities to provide more time for the teacher for instructional purposes by utilizing the strengths of each of the teachers across the entire school and by suggesting alternative

classroom strategies that would free the teacher from some of the non-instructional activities. The E-M Project staff, through the teacher training programs, has attempted to familiarize teachers in each of the schools with the modified instructional system. These teacher training activities, though related to identified problems of implementation of the E-M Project, include philosophical and psychological principles related to the new instructional program.

Another of the original goals, that of reducing the inequality of education between the urban and the rural communities, is still of major concern to the E-M Project staff. The formal data, collected through the summary tests as well as informal information provided through teacher comments and suggestions, is providing valuable data to the E-M Project staff which can assist in the identification of alternative solutions to this major problem.

The progress of the E-M Project through 1976 has also indicated that the project staff is still adhering to the original specifications for the design of materials for students and for teachers. The deviations from the original plan in some subject areas, though evident, would have to be classified as minor.

There is still the adherence to the original time line for the project within limitations of factors controlled by the E-M Project and KEDI staff. There is still the desire, as evidenced through the ongoing activities of the E-M Project staff, to actively involve the teachers and administrators in the project development, implementation, and revision or modification. And, finally, the desire to inform all constituents - academicians, teacher educators, public school administrators and teachers, school boards, and the general public - concerning the

need for a new educational system and the role of KEDI in developing such a system is a continuing one. The written materials developed by KEDI describing the E-M Project, the many conferences and seminars held to discuss specifics, the general nature of the project, and the activities of KEDI mentioned earlier that relate to other educational needs of Korea have all helped the E-M Project staff to move toward the accomplishment of this goal.

D. CHANGES FROM ORIGINAL GOALS AND DESIGN

Prior to a consideration of specific areas of change from the original design and intent of the E-M Project, a few comments are in order. In general, KEDI has attempted to follow the original plan and design for the E-M Project. However, as in most instructional change projects, there are deviations from the original plans within the E-M Project which have come about either as a result of factors that were outside the control of KEDI or as a result of a lack of coordination within KEDI, or because of a realization by KEDI that the original plans were not infallible. The following discussion of changes from the original plan give instances of deviations that may fall within any one of these reasons. It is clear that KEDI has been involved in studying the progress of the E-M Project to determine accomplishments as well as lack of accomplishments through the internal evaluation procedures. It is intended that the following identification of deviations during the past year assist KEDI in this review and analysis.

One area of change in the transition from the first to the second

demonstration phase of the E-M Project has arisen from a need to eliminate some schools that were involved in the first demonstration and to substitute different schools to be involved in the second demonstration. The original plan called for a continuation of all schools from the first to the second demonstration with the addition of new schools in the second demonstration. The elimination of some of the schools in the first demonstration and the substitution of other schools from the same province was based in some cases on inadequate T-Com coverage and was made for other reasons by local boards or provincial boards and provincial administrators. Therefore, KEDI has had to adapt its original evaluation plan to take this change of schools into account. This modification of the plan may seem on the surface to be minor; however, if the data is not analyzed considering this variable, then the findings of the study could be misleading.

Related to this substitution of demonstration schools is also a change relative to the individual teachers involved in the project. In some instances, in the schools which were involved in the first demonstration and which continued into the second demonstration, there were transfers of teachers and employment of new teachers. This change in school staff is to be documented and thus will avoid misleading conclusions to the description of the outcomes of the second demonstration phase of the E-M Project.

A second area of change from the original plan relates to the involvement of instructional television. The original plan of the E-M Project called for the use of instructional television in each of the subject areas during the first and second demonstration periods. To date, because of technical and engineering problems, there has been very

limited if any real use of instructional television in the E-M Project. This lack of an important instructional resource is due to conditions outside of the control of KEDI. However, as KEDI moves into the second half of the second demonstration phase, it is imperative that adequate provision must be made for the incorporation of ITV into the instructional program. Since the materials for the students and the instructional materials for teachers were developed with the assumption that the television programs would be available, it is necessary to utilize this instructional resource in the demonstration schools in order to determine modifications necessary within the student learning materials and teaching strategies. In a later section of this report, there is further discussion of this matter.

The third area of change is related to the lack of instructional television, but is also related to a more general feeling of administrators and teachers concerning the purpose and function of the E-M Project. This deviation can best be described as a movement from an attempt to develop an instructional system to an attempt to develop instructional materials and teaching strategies. Throughout KEDI most of the staff and all of the administrators realize that KEDI is attempting to develop an entire instructional system with the necessary instructional materials for teachers and students as a part of this system. However, and it may be because of the lack of some components of this system such as ITV, many of the teachers and administrators in the field seem to equate the instructional system on a one-to-one correspondence with the student learning materials. This deviation is probably closely related to communications and coordination within the project. To date,

most of the value of the KEDI project to the users is probably closely related to the student learning materials and thus, the E-M Project is equated with the materials. Now, however, as KEDI moves into the second half of the second demonstration and prepares for the third demonstration, it is essential that all persons within the E-M Project begin to look at and understand the total system for instruction and to work with each of the teachers in the various schools in interpreting the role of the materials within the total instruction system. The E-M Project staff must begin to examine the results of the first large scale demonstration as well as the results of the first half of the second large scale demonstration to determine the usefulness of the "special teacher" concept. They must begin to look at the purpose and function of the large group, small group, and individual learning components of the program. If significant deviations in the strategies for instruction are permitted to vary, then the importance of these strategies to the total instructional system would be and should be questioned by the individual schools. If KEDI is interested in maintaining the purpose and function of these strategies, then certain controls must be incorporated into the system similar to those controls provided by the learning materials and the teacher's guides. The purpose of these controls would be to encourage cooperating teachers to work within these controls and, when deviations become necessary, to document such deviations so that they can be analyzed in a systematic way.

Still another change is one that comes to light through observing the activities of teachers and students in the classrooms. As mentioned

earlier, most of the E-M Project staff still hold as a goal the emphasis on the higher mental thought processes. However, in the schools observed, there were many instances of teachers deviating from the suggested use of student materials as outlined in the teacher's guides. It was clear that these deviations were modifying the intended outcomes of the lessons. These deviations in some instances seemed to come about because of the teacher's lack of understanding of what students must do if they are to be actively involved in problem solving, critical thinking, or inquiry approach to learning. This problem should be examined by the E-M Project subject matter specialists in order to determine teacher training strategies that might assist the teachers in better understanding the purpose of some of the learning activities that appear in the student learning guide. In fairness to the teachers, however, it is possible that the instructional time presently allocated within the teacher's schedule to concentrate on these learning outcomes is insufficient and, since there is a concern to adhere to the proposed schedule, teachers may be emphasizing the schedule over outcomes. If this is so, the total schedule for the E-M Project for each subject area should be examined and, if necessary, modified.

Another seeming change from the original plan is the incorporation of cooperating schools into the E-M Project. It is recognized that the pressure by the local schools and by the provincial school districts and the growing interest in the KEDI instructional system and materials have contributed to the decision to expand the number of participating schools. However, it is important that KEDI recognize that this decision does modify the original development and implementation design and that efforts be made to document the effect of this decision. It may be that the

cooperating schools, if properly coordinated and minimally serviced could be a valuable addition to the development process. If so, this is an important factor for similar projects elsewhere in the world to consider. There is almost no evidence in the literature to suggest when a project like the E-M Project is ready for dissemination, and KEDI's findings here may be of real significance. For this reason it is important that the evaluation team, as well as the decision makers, watch carefully the kinds of human resources needed to support this effort and that this effort be translated into dollars/won when possible.

The next area of change is internal to some of the subject areas within the E-M Project and not common across all subjects. This is a deviation from the original intent to apply the most up-to-date learning theory and instructional theory in the development and implementation of the learning system for the E-M Project. As the project has moved from the small scale tryouts to the first large scale demonstration and now into the second large scale demonstration, there have been revisions within the instructional materials, both for students and for teachers, that have not been systematically examined to determine the effect of these modification on the total learning outcomes. Nor has there been an examination of these revisions to determine whether the outcomes are in agreement with learning and instructional theories. This deviation is understandable because of the time press imposed by the predetermined implementation schedule. However, lack of attention to this matter now may cost more in time and effort later. Prior to the development of the materials for both students and teachers, the current, 1973 revised, curriculum and textbooks

were systematically analyzed and documented for the materials writers, specifying the goals, objectives, and where appropriate, the learning hierarchies relative to each curricular area. In the process of revising the materials based upon teacher feedback and the first large scale demonstration, modifications have been made that may or may not have changed the intent of the original objectives. It is important, where the original goals and objectives and hierarchies were not appropriate and not instructionally sound, that this be documented and reviewed by academicians and professionals, both within KEDI and within other agencies, colleges, and universities. The updating of the original documents will be essential if KEDI is to be involved in the curriculum revision for the next cycle of revisions for the elementary school curriculum and textbooks when scheduled by the Ministry of Education of the Republic of Korea.

A final change from the original plan is not as pressing as the others above; however, if attended to now it may facilitate KEDI's total growth and development over the next several years. This is the involvement of researchers and professionals from outside KEDI in the various aspects of the E-M Project. KEDI has done a fine job in informing and, to a limited degree, involving academicians and researchers in the work of the E-M Project. However, there is a need to constantly look for tasks needed to support the E-M Project that could be better done by persons outside of the E-M Project. There are areas for which teacher trainers might be involved in helping with the in-service programs for the teachers involved in the demonstration schools. There are development tasks related to each of the subject areas for which outside research persons and outside professionals, including academicians,

could provide valuable input. In the area of school management, classroom management and systems management, principals and other administrators could be more heavily involved in the design of the management system than they have been in the past. KEDI should periodically review the project needs for purposes of identifying components and tasks that could properly utilize the resources of other researchers and scholars.

E. AREAS OF SPECIAL CONCERN

Prior to a discussion of some general observations and concerns about the E-M Project, it is important to stress the overall accomplishments of the project to date since they are significant. It is only in this context that the remarks to follow will have meaning.

In general, the E-M Project was undertaken to provide a more meaningful educational program for the elementary and middle school students of Korea. The basic intent is to develop a system which will provide a "curriculum which emphasizes educational goals more relevant to both national and individual needs;" provide instructional methods and materials more closely related to the major educational objectives; employ different methods of grouping students and organizing the school; develop evaluation methods to determine the effectiveness of the instructional methods and materials; and develop in-service and pre-service teacher training programs to correspond to the new educational system. KEDI has successfully been moving toward these ends. The remarkable degree of progress attained thus far is a result of the commitment, dedication, and hard work on the part of the entire KEDI organization.

It is a tribute to the Director and his staff for the excellent leadership and support provided. The progress is also related to the confidence and support given to KEDI by the Ministry of Education, by the professional educators of Korea, and by leaders from many fields of influence throughout Korea. It is clear that the KEDI staff has taken its work seriously and that this seriousness and commitment has won them the respect of others and has facilitated progress toward the desired ends. With this thought in mind, the following observations and concerns are set forth for consideration by the KEDI staff.

Over the past four years KEDI has developed an instructional system with the essential features of instructional design, materials, methods, evaluational feedback, and revision procedures. This system is recognized as total system concept with each component related to and dependent upon the other. Now, it is imperative that everyone - teachers, principals, supervisors, administrators, teacher educators and the entire staff of KEDI - realize this and understand the concept. Currently, this does not seem to be the case. Various groups and individuals working within the system seem to have different interpretations of the program. One major misconception that seems to exist is that of equating "the system" to the learning materials - those materials developed by KEDI for both teachers and students. It is not difficult to see why this misconception has come about, and at the same time it should be pointed out that this phenomenon is not unique to KEDI and the E-M Project. System users throughout the world have often mistaken the tools of the system for the system itself. However, it is imperative that KEDI take steps to help all involved understand the total system

and the role of each component within that system. To this end the following suggestions might be considered.

1. That KEDI review the total in-service teacher training program including the special days before school opens as well as the weekly planning meetings, the ongoing visitations by KEDI staff, and the seminars conducted throughout the year to determine when, what, and how to emphasize each of the components of the system. The student learning guides by their very nature provide certain controls and emphasis. KEDI should examine other components such as grouping, teaching strategies, and management features to determine how similar controls can be worked into the system and how to assure compliance with these controls.
2. That KEDI investigate alternative procedures for incorporating ITV into the demonstration schools. Since ITV and IR are an integral part of the system, it is necessary that these components be included so that all aspects of the system can be evaluated in total and not some components evaluated and modified without an understanding of what the missing component may have contributed to the cause for revision.
3. That consideration be given to the role and function of the management team within the KEDI E-M Project staff organization. The function of the management team is to provide the overall organizational system that permits the incorporation of each of the components into the system. Because of this overall system responsibility, the management team might best be utilized as a resource reporting directly to the overall coordinator for the E-M Project, providing information to this coordinator as to where and how modifications within each of the subject areas should be made so that the total outcome is a result of the combination of all of the subject areas working together and not a result of the combination of individual subjects working in isolation.

Another area of concern to be considered by the KEDI staff relates to the methods and procedures used in establishing priorities for revisions and modifications of the instructional program. As KEDI moves into the second half of the second large scale demonstration, additional data will be gathered and will be added to that collected during the first large scale demonstration and the first half of the second large scale demonstration. This information will suggest a

variety of changes, some minor, some major, for consideration by the E-M Project staff. It is important that procedures and processes be established to set priorities based upon the interpretation of the information collected. For instance, there will be many suggestions for revision of the student materials. However, KEDI may want to delay some of these revisions until the teachers have had additional experience in the use of the materials as a part of the total system including the use of the IR and ITV as learning resources. There is nothing necessarily wrong with letting some things wait while more important things get done properly, provided that the teachers, administrators, and E-M Project staff understand why the suggestions and changes are not being attended to at this time.

Somewhat related to this concern is the suggestion that KEDI examine its relationship to other educational organizations and institutions to determine methods of involving those institutions in the ongoing work of the E-M Project. KEDI has begun to work successfully with the provincial and local research and development centers. This cooperative effort should be continued and expanded to draw on the strengths of both KEDI and the centers. There are some functions now being undertaken by each of the centers that may not be necessary when the E-M Educational System is incorporated into each of the provinces. Through joint discussions and analysis it may be determined that some of these functions can be discontinued or at least delayed while the efforts of the staff of the research and development centers contribute to the developmental work of the E-M Project.

In similar fashion, KEDI should examine its needs to determine if

there are some functions that can be better provided through the colleges and universities. One obvious area in which the teacher training colleges may be helpful is the in-service training program for the teachers. It may be, in order to incorporate some of the components of the system of KEDI, that the teachers will need the assistance of the college and university faculties to understand the purpose and the rationale for incorporating suggested strategies, groupings, and adaptation of the instructional process to individual students.

A third group of institutions or organizations that might be of valuable assistance to the developmental work of KEDI as it relates to the E-M Project are those institutions and organizations that have been involved in educational development or systems development for other areas within the Korean society. These agencies and organizations include the bureaus within the Ministry of Education as well as research institutes such as the Korean Development Institute and the Korean Institute for Research in the Behavioral Sciences. There are many similarities in the work and experience of institutes like these and the ongoing efforts of KEDI. Their experiences, including successes and failures, may be of great assistance to the KEDI staff.

As KEDI has grown and has become recognized throughout Korea as a viable educational force for change, KEDI has become involved in other educational endeavors that in different ways relate to the work of the E-M Project. These include such areas as the population studies, the new community education, the materials resource center, and the high school of the air and correspondence. Over the past year, KEDI has taken steps to remove the isolation of each of these projects from the E-M Project. Now it is important that these efforts be continued

and expanded so that relevant aspects of the original programs and the findings to date can be incorporated into the curriculum and into the instructional materials for the E-M Project.

Another area of concern is that which relates to the achievement outcomes of the students. The preliminary results of the first large scale demonstration would indicate that the E-M Project does, on the average, improve achievement. However, a closer inspection of the data seems to indicate that the group referred to as the "non-mastery group" during the diagnostic phase is not improving to the same degree as the "mastery group." It is suggested that this below mastery group be reclassified into upper and lower divisions and that different instructional techniques and materials be identified for each. It is further suggested that all revisions of student materials that are now in use be revised to meet the instructional needs of the upper division of the non-mastery group. The revising of present materials to meet the needs of this group of students will necessitate more coordination and collaboration among all of the subject areas since the general weaknesses of these students in language, mathematics, problem solving, and other fundamental tasks may be affecting their growth in each of the specific areas.

Next, KEDI should begin now to develop plans for the wide scale diffusion of the E-M Project. Based on its experience with the demonstration and diffusion efforts to date KEDI would be able to predict the extent and type of resources needed for this purpose. The distribution of materials including printing, warehousing, and shipping should be examined to determine not only how this can be done but who is best able to do it. The nature and extent of teacher training are major

concerns, and again, attention should be given to the locus of responsibility and the methods to be used. The functions of diffusion are different than those of development and demonstration and will probably require individuals with different expertise than those who now staff the E-M Project. Should present staff be retrained? Should new staff be hired by KEDI? Or, should other institutions be responsible for these activities? These are but a few of the questions that should be of concern to KEDI at this time.

Finally, the evaluation design and the evaluation procedures for intrinsic evaluation should be continuously reexamined to identify strengths and weaknesses in the information system. Since the major function of intrinsic evaluation is to provide information for decision making relative to the improvement of the program, all decision makers within KEDI must be involved in the generation of the questions to be attended to at any given time. Currently, there are several important questions that should be considered that may or may not change the evaluation design and procedures.

1. What difference is there in student attitude and achievement in classrooms where the teachers are actually implementing the total system and in classrooms where teachers are not? (This question assumes that there is complete agreement within KEDI as to what the total system is.)
2. What effect does the varying school year (by even a few days) of different schools have on the achievement outcomes?
3. What is the difference in achievement in classrooms that utilize sub-grouping procedures and in those that do not?
4. What is the difference in attitudes and achievement of students and teachers in schools that utilize the "specialist teacher" concept and in those that do not?

These are all systems questions and should be examined from a systems point of view and not just from an individual subject matter perspective.

In summary, the concerns expressed in this section all relate to the coordination and implementation of the total system for E-M Project. In the early stages of development and implementation it was probably necessary for the E-M Project staff to be deeply concerned with and involved in the development of each of the pieces. Now, attention must be focused on the overall concept and the overall program. From this point on, modification of any one piece, regardless of how minor, should be reviewed for its effect on other pieces and its effect upon the total system.

The progress of the E-M Project to date is commendable. The careful attention to the original plans, the receptivity of the research and development staff to suggestions and criticisms from the field, and the knowledge and commitment of each of the staff members have all contributed to this progress. However, with the involvement of hundreds of teachers and thousands of students, the real work of the E-M Project is just beginning.

KEDI will now be involved in the full spectrum of research and development activities including research, development, demonstration, broad scale diffusion, and continuous revision. Basic research and development will continue for the middle school portion of the project. The demonstrations will be continued for the elementary portion of the project with the middle school demonstrations being added in the near future, and the diffusion activities which have just begun will be expanded. This spectrum of activities will require either more staff at KEDI or its equivalent in staff hours through involvement of professionals outside of KEDI. There will be no simple solutions to the complex problems ahead. Yet, one factor is certain - regardless of

the nature of the proposed solutions, they will all require additional financial resources in order to be accomplished within the proposed time line.

F. TEACHER EDUCATION

Pre-Service Education

Pre-service teacher education institutions in Korea are deeply concerned with a national oversupply of teacher education graduates. Junior teacher colleges and universities with teacher education programs are facing a placement problem of graduates. In June 1976, over 90% of the graduates at the elementary level had not been placed in teaching positions. At the present time, fewer students are enrolling in teacher education programs. As a result, college staffs have reduced class size and are initiating a greater thrust toward in-service education.

KEDI has involved higher education personnel in its planning efforts from the very beginning. Formally and informally, data has been gathered that has provided direction to curriculum development.

Individual professors and administrators have been invited to participate in field visitations, training sessions, radio programming, research planning, and to serve as consultants in various curricular areas.

Limited financial resources have not permitted wide distribution of curricular materials to college personnel. Cognizant of financial constraints, KEDI has provided college and university libraries with materials to be circulated among staff. This has not been adequate to meet the requests from staff interested in utilizing materials to familiarize students with the KEDI movement.

Also, on a limited basis, individual professors have been invited to the KEDI Center in Seoul to participate in training sessions in special projects such as Saemaul and Population Education. It is a goal of KEDI that these professors will return to their institutions incorporating their learning into pre-service and in-service education courses. Currently, however, there is a prescribed curriculum which makes it difficult to incorporate the KEDI program within the time allotment of 250 hours of instruction.

In order to implement the KEDI goals and provide instruction in appropriate curricular areas, it is essential that the Ministry of Education provide support to present efforts of KEDI and teacher educators. Currently, pre-service professors can deal only minimally with the KEDI program through course work in school and community or by establishing clubs outside the prescribed curriculum that provide extra-curricular experiences for students.

Teacher training staffs are aware that currently they do not have a clinically trained staff. To date, professors have been largely institution-based, with subject matter expertise as a strength and have not engaged in formal field-based problem-solving roles with classroom teachers. However, in the very near future, as there is an increasing use of KEDI materials, and as KEDI is sensitive to the need of providing broader participation in the development of teacher training materials, faculties will need to gear themselves to field problems.

Strategies will need to be developed that will deal with KEDI objectives within the current prescribed teacher education curriculum rather than superimposed as a separate entity. Teaching behaviors

and skill development need to be incorporated into both pre- and in-service professional education courses at all levels.

Colleges and universities can provide an invaluable flow of information that will strengthen teacher training materials. KEDI will have the facility to serve as a focal distribution center for specific research projects sub-contracted to teacher training institutions interested in pursuing a particular area of expertise. Thus, colleges and universities, research and development centers and school systems working in concert can provide a strength to the Korean educational system that would be impossible otherwise.

In-Service Education

The success of the program of educational reform at the elementary and middle school levels is dependent on the development of a strong in-service and pre-service component of teacher education.

The E-M Project has concentrated its efforts on the improvement of teaching-learning practices in the elementary and secondary schools in Korea and, accordingly, has developed a new educational system that includes instructional materials in the several subject matter areas. Soon, the system is to be implemented in elementary schools all over the nation. This movement necessitates the immediate initiation of an in-service education program that will reach all school personnel at all levels.

It is evident from evaluations, both written and oral, that there is a broad-based support for the KEDI educational system. College and university administrators, school administrators, professors, classroom teachers, parents, and children who are involved in the KEDI demonstrations

are enthusiastic in their views. Those who are not yet involved, but knowledgeable about the project, wish to become a part of the system. Many speak highly about the KEDI materials and training program. The teachers' guides and student learning guides are considered valuable tools. Teachers comment that students in the program show a greater enthusiasm to learn. In addition, they say they can observe an increased gain in children's written expression.

As can be expected when materials are field tested, teachers have constructive criticism concerning some facets of the materials. For example, teachers find some exercises too difficult for children. In the attempt to maintain a somewhat homogeneous classroom, teachers spend up to ten hours a week with children who are low achievers. This makes lesson and class cohesiveness scheduling difficult. KEDI has systematized this feedback and has recognized that there is a need to develop a training program for teachers that will provide the knowledge and skills necessary for implementing instructional materials.

Teachers and school administrators are aware of the in-service needs and wish to see an in-service training arm of KEDI developed that will provide classroom demonstration and problem solving in the field. In concert with KEDI, schools have identified master teachers, and would like to utilize them in a more systematic clinical manner for in-service instruction.

A real constraint in implementing any system rests with the strength of the financial support. School budgetary constraints, classroom size, lack of supplementary materials, and additional time required of teachers for training with no merit or certification consideration, all will adversely affect the implementation process.

The development of a series of radio and television programs, both as a training facilitator for teachers and as supplementary instructional material for children, has been slow. Hindered by technical difficulties and restrictive time-scheduling, few teachers are utilizing what is currently available. KEDI's Office of Teacher Training Research is developing a feedback mechanism to aid in future program planning, instructional series are planned for every level, and skill sessions will be developed for in-service teachers. Currently, the responsibility for this plan is with the staffs of the nine curriculum development sections who will recommend specific skills that teachers will need to teach effectively in a specific subject area. These skills will then undergo a field test.

An important area of exploration for in-service education is the need to have direct contact with the professors and with national and regional educational offices that currently provide inservice education. KEDI has in the past involved various facets of the educational community in planning with institute personnel. In addition, KEDI has worked with professionals, influential in research and development centers throughout the country, in order to share with them KEDI materials and research and to hear their problems and concerns.

Efforts like these will continue to have a positive effect on the dissemination of information about KEDI objectives and hopefully will influence in a constructive manner both pre-service and in-service education. This strategy of involvement should also encourage a nationwide network of contacts that will provide valuable information and research data for future KEDI projects.

Dissemination of KEDI goals and materials is in direct proportion to the amount of financial support allotted. At the present time, one-sixth of the teachers in Korea each year are selected by the Ministry to participate in in-service education. Maximum effort, assuming a focus on the KEDI system, would still mean a minimum six-year period to reach all teachers.

One training effort currently in process is a series of film slides with a teacher workbook being translated into Korean (Introduction to Educational Technology, UNESCO, Bangkok, Thailand). These film slide series will be used not only for in-service training for the demonstration school teacher but also in pre-service education programs as well.

These materials will be used by the KEDI teams in their workshop training for demonstration school faculties. One of the criticisms of teacher inservice training has been the presentation of too much content in a limited time period. Utilizing these units, the teams hope to more adequately cover material with a clearer understanding on the part of participating teachers.

Units of instruction will include:

1. Problems to be solved.
2. Conditions which facilitate learning.
3. Selection of methods and media.
4. Development of instructional material.
5. Systems approach to education.
6. Applications of educational technology.

A critical effort being undertaken by the Office of Teacher Training Research is the establishment of a representative Advisory Committee to develop teacher training programs. This Committee, utilizing members' personal expertise and resources at hand (from their local schools,

research and development centers, college and universities), will be given the task of suggesting content, sequences, and types of programs to be offered. Further, some members of the Committee may participate in actual production of units of study.

KEDI's effort to reach out and utilize the resources already developed within the profession should prove advantageous. The Korean Federation of Education Associations has expressed an interest in involving KEDI at a variety of levels. Also involved in in-service education, the Federation is eager to involve KEDI staff in future programs. The Federation publishes a vacation workbook for children for use at home. Approximately 1,500,000 copies of each issue (summer and winter) is published. A cooperative input to this publication would benefit both the Federation and the KEDI mission by greatly increasing the exposure of KEDI at a most critical level.

Research and development centers are also focal points for instructional dissemination purposes. Already localized in a network, research and development centers have direct contact with local professionals and can target problem areas. Centers function as an in-service training facility as well as field test research and diffuse materials. With KEDI as the hub, a strong network could be developed that would instruct, as well as monitor, in-service education efforts

A National Priority

It is indeed clear that the eventual success of KEDI in developing and implementing a new educational system for elementary and middle schools of Korea will depend upon the interest, willingness, and ability of the teachers of the nation to undertake the task of implementation.

Their success in the task will require a massive program of in-service education as well as a major revision of programs of pre-service education. For both efforts KEDI can provide appropriate plans and guidelines. However, the task itself should not be the sole responsibility of KEDI. It is a national effort which will require the coordinated participation of the Ministry of Education, KEDI, the provincial boards of education, the junior teachers colleges, and the universities. It is imperative that the Ministry of Education make this responsibility a national priority and provide the appropriate direction and support.

IV. EDUCATIONAL BROADCASTING

A. INTRODUCTION

During the period since the completion of the First Interim Report, KEDI's former Bureau of Technical Support Services has been reorganized into what is now called the Educational Broadcasting Department, one of three administrative units in KEDI's new administrative organization. The Educational Broadcasting Department is further divided into five sections: (1) broadcasting council (2) program planning (3) radio production (4) TV production (5) engineering. The relative effectiveness of this new organization will appear with the passage of time.

Due to technical difficulties with the T-COM transmission system described in Chapter II, KEDI has been unable to utilize instructional radio (IR) and instructional television (ITV) lessons according to the original plan called for by the KEDI instructional model. This delay has been of some 20 months duration, and in the summer of 1976 it appeared likely that another 12 months or more may pass before the T-COM system is fully operational. In spite of this problem KEDI has continued to produce IR/ITV programs. A cooperative arrangement with KBS/MBC/CBS has been secured in order to broadcast the High School of Air and Correspondence programs. The utilization of ITV was limited in the small scale tryouts. The ITV lessons were broadcast via a closed circuit system which placed a Sony half-inch VTR and monitor in the classroom at the scheduled time.

KEDI is currently producing and broadcasting, via KBS, three hours of radio lessons per day. The objectives of these broadcasts can be classified as (1) instructional and (2) educational. The instructional

broadcasts are specifically designed and produced according to the KEDI model of instruction totalling 167 programs for 1976. The educational broadcast concerns topics of a general educational nature and are not designed and produced according to the KEDI model; that is, they are not designed to fit a particular unit of study as it may be scheduled on a particular day in school. These educational broadcasts account for two hours and fifteen minutes of the three hour broadcast time.

The instructional radio schedule presents lessons of 15 minutes each for third, fourth, and fifth grade students. The subjects covered are Korean language, social studies, science, moral education, and music.

Since the class schedule of local schools may or may not match precisely the KEDI broadcast time of IR programs, problems occur in some schools. In one instance the school coped with this problem by purchasing a tape recorder and using it to record the KEDI radio program to hold for a later playback. The problem of scheduling appears to occur in at least two areas: (1) the starting time for lessons, and (2) the number of weeks in a semester. The Ministry of Education has established a minimum of 18 weeks per semester, but some schools have up to 22 weeks.

KEDI is striving to define the role of television and radio in the KEDI instructional model. There appear to be three roles emerging. One is referred to as Instructional Television (ITV) and Instructional Radio (IR); another is referred to as curriculum related television and radio; and a third is referred to as general education television and radio. The ITV and IR programs are those that are specifically related to the lesson and unit in the curriculum as determined by the Ministry of Education and based on KEDI's instructional model and must

occur on a pre-established teaching schedule at a specific place in the unit. Rigid control of the school schedule during the day and throughout the semester is required for nationwide implementation of KEDI's ITV and IR programs. The curriculum related television and radio is, in a general sense, related to the lesson and unit as established by the Ministry of Education and its curriculum, but it is not based on the KEDI instructional model and it is not necessary for the broadcast to occur at a specific time in the school day or at a specific time during the school semester. Nationwide implementation of curriculum related TV and radio does not depend upon a rigid control of the school schedule. The use of general educational television and radio as envisioned by KEDI are those programs that are generally good for everyone, and may or may not relate to the Ministry of Education's curriculum or KEDI's instructional model or the school schedule. Whether KEDI selects one of these roles or continues to utilize a combination of the three in some fashion apparently has not yet been determined.

B. PROBLEMS IN THE COMMUNICATIONS TECHNOLOGY

Selection of T-COM

A major problem that has seriously impeded the full utilization of ITV in the E-M Project and in other KEDI activities has been the delay to date of T-COM to become fully operational.

The decision to utilize T-COM as the technology for the delivery of instructional and educational television programs was made relatively early in KEDI's history. Korea had utilized educational radio since 1960 and limited educational television programming since 1968. The Korean Broadcasting Service was utilized for the early delivery of educational programs. Apparently it was originally intended that further development of educational radio and television would be made in conjunction with KBS facilities and would utilize the KBS channel during the day for school broadcasts.

Three alternatives emerged as discussions went forward in 1970-71 about the establishment of some permanent arrangement to implement the E-M Project. They were:

1. Use KBS facilities
2. Use the Armed Forces Korean Network facilities
3. Build an independent system

In late 1971 the government decided that an independent system was most compatible with the concept of an independent KEDI. There was concern that a massive ITV effort would overload the channels available to existing systems as well as existing production studio space. Too, the limited geographic coverage of Korea by KBS at that time was seen as inadequate for MOE purposes.

At about the same time, the T-COM Corporation proposed to the ROKG that its multi-purpose tethered satellite system be built. That system was claimed to be an all-weather system with the technological capability needed. Since the cost was less expensive than that of other independent systems and since the system could serve communication purposes of several ministries, the multi-purpose T-COM system emerged as the leading contender.

A formal proposal was made by T-COM Corporation on November 15, 1972, and on December 28, 1972, an agreement was signed for the construction and development of the multi-purpose tethered satellite system for the broadcasting of both radio and television programs for instructional and educational purposes as well as for other government communications purposes. With the decision made concerning the appropriate technology, KEDI intensified its efforts in the development of both radio and television programs for use during both the experimental and demonstration stages and ultimately in the implementation stage of the E-11 Project.

Delays were encountered by T-COM Corporation during the period of construction that in turn made it necessary to change plans for the use of the tethered satellite system during the small scale tryouts. However, a more serious problem arose still later that has made it impossible to utilize television broadcasts in either the small scale tryouts or in the large scale demonstrations. Engineering problems and inability of T-COM to live up to the promise of being an all-weather system made broadcasting inoperative. Another problem also emerged - the inability of T-COM to achieve the geographic land coverage that had been anticipated.

Instructional and educational radio programs have been broadcast via KBS. Some small use has been made of portable VTRs for tryout and demonstration purposes. However, it is clear that the problems encountered by T-COM have resulted in a significant delay in the experimental and demonstration utilization of television in the E-11 Project.

As of the summer of 1976, negotiations with T-COM Corporation and with the parent company, Westinghouse Electric Corporation, have resulted in an agreement by T-COM to make major improvements in the equipment and the effectiveness of transmission capabilities. KEDI has been given assurances that the all-weather capability of the balloons will be realized and that adequate geographic land coverage of the television signal will be achieved. According to the negotiated agreement, T-COM is to be fully operational by June, 1977.

Impact on KEDI

The significance of the delay of operation of T-COM upon KEDI delivery of programs is noted elsewhere. Here, the concern is with the impact the delay may have upon the attitudes of KEDI's clientele - the schools, the higher education community, the public - and the relationships with that clientele.

Much was made of the coming of color ITV to Korea. Now, more than three years have passed and there is no ITV in the schools, not even in the pilot schools. In no way can KEDI leadership be held responsible for the problems encountered. Clearly, the problems have been the responsibility of T-COM Corporation. It is important that various public groups interested in ITV and ETV clearly understand

what has occurred and where the responsibility lies.

There may, indeed, be advantages to the delay - better scripts, time to train staff, improved instructional materials, and others. However, the loss of experimental use of ITV and ETV during the small scale tryouts and the demonstrations must be compensated for in the development of new and revised plans by KEDI. In any event, the manner in which KEDI is perceived as responding to the delay and its attendant problems, its alternative planning and programming, and its public and internal statements - these will be important to KEDI's public and professional image and its subsequent levels of support.

KEDI's mission is still on track even if technological problems have slowed implementation. That fact needs to be communicated to the public decision-makers, to the public, and to the schools KEDI will ultimately serve.

C. PROGRAM PLANNING AND PRODUCTION FOR ITV/IR

KEDI has implemented to the degree possible its step by step procedure for IR/ITV program production for (1) the E-M Project, (2) the High School of Air and Correspondence, (3) teacher in-service and pre-service training programs, and (4) the development of social education programs with cultural significance. Because of technical difficulties with T-COM, KEDI has been restricted to the broadcast of radio programs for the E-M Project and for the High School of Air and Correspondence. It is anticipated that KEDI will move ahead with further development of the remainder of the High School of Air and Correspondence programs, with teacher in-service and pre-service education programs, and with social education programs when full transmission facilities are available.

The process for the development of ITV/IR programs is somewhat cumbersome and disjointed. The scripts for the programs are developed by curriculum materials staff based on the Ministry of Education's curriculum. Upon completion of the script development process, the script is given to production staff for production and broadcast. The production team does not have sufficient opportunity to provide input into the script development process prior to the finalized form of the script as determined by the materials staff. In many cases this procedure requires rewriting the script partially or totally. This occurs because original scripts may call for some production activity to be performed that is very expensive or technically impossible. This information is not known until the formal and finalized script is given to the production staff. Then it must go back to the materials staff and scriptwriters for revision.

D. SYSTEMS COST

An analysis of the cost factors related to IR/ITV/print resources of KEDI has been developed by Jamison, Dean T., Klees, Stephen J., and Wells, Stuart J., and reported in a research document supported by USAID entitled Cost Analysis for Educational Planning and Evaluation: Methodology and Application to Instructional Technology. Jamison et al divided the KEDI broadcast system into four major sections for cost consideration: (1) systems development and start up costs, (2) production costs, (3) transmission costs and (4) reception site costs.

According to the above report the systems development and start up costs totaled \$3,111,200 or \$304,800 per year annualized at 7.5% for 20 years.

Total program production costs, (capital costs plus recurrent costs) annualized at 7.5%, are \$568 per TV lesson, assuming each TV lesson to be 20 minutes in length and the capacity of the TV studio to be 1,860 programs per year. The cost for radio is \$24 per program, assuming each radio lesson to be 15 minutes in length and the capacity of the studio to be 9,620 programs per year.

The transmission costs (capital costs plus site preparation and construction costs, plus recurrent costs) per hour are reported to be \$93 for UHF television and \$50 for FM radio. These costs are based on an annualized rate of 7.5% and on the assumption that the channels will transmit for 8 hours a day, 6 days a week, or 2,500 per year.

Reception site costs (including purchase, installation and maintenance of the TV and radio receivers, and the purchase of printed materials) are reported to be \$3.20 per student per year based on an

annualized rate of 7.5%. Of this total cost, radio accounts for 2%, TV for 33%, and printed materials for 65%. These figures are based on the assumption that three classes of 60 students each (180 total) will share the reception equipment.

As stated earlier in this report, KEDI, due to technical difficulties, has not been able to utilize the T-COM transmission system for the full implementation of its instructional model as planned. Therefore, the actual cost figures may deviate from the projected figures if and when KEDI begins to utilize its T-COM system as originally planned.

E. ITV AND IR IN THE E-M PROJECT

To date the utilization of ITV/IR by KEDI has largely been in the E-M Project. The development of the KEDI instructional model utilizes a design that calls for full implementation of the KEDI model to follow small scale tryouts and large comprehensive demonstrations.

The results of ITV/IR programs utilized in the E-M Project for the first three small scale tryouts were reported in the First Interim Report. Therefore, this report deals only with information related to the fourth small scale tryout and the first large scale comprehensive demonstration.

The Fourth Small Scale Tryout

This fourth and last small scale tryout was conducted from May 6 through July 11, 1976 and covered all subjects for students in all of the fifth grade classes. A total of 1,050 students participated. Television (portable, one-half inch videotape and black and white TV

monitor) was used to present 16 ITV lessons*, and radio was used to present nine IR lessons. The ITV lessons were 15-20 minutes each. The ITV role was to present total teaching, selective teaching, and supplemental teaching. In the first role ITV replaced the teacher in all instructional activities. In the second role ITV was used only in those areas where learning could be better facilitated by TV. In the third role, ITV was used for enriching experience and providing motivation. KEDI's instructional model calls for selective use of the functions of television and radio.

The subjects covered and the number of lessons given by ITV were moral education (2), Korean education (3), social studies (2), Korean history (2), mathematics (4), and natural sciences (3).

IR was used in nine lessons lasting approximately 15 minutes each. The subjects and the number of lessons were moral education (5), Korean language (3), social studies (1).

The results of the fourth small scale tryout are presented in a preliminary report developed by KEDI entitled The Background of Fourth Tryout. Data relative to ITV and IR are taken from that report and quoted below.

A. Teachers' reactions

1. The teachers wanted ITV and IR programs to be produced in music, fine arts, practical arts, and physical education.
2. A period of 15-20 minutes of program was regarded as most adequate.
3. The teachers lacked a clear understanding as to whether TV would replace a teacher or a teacher would use it for instruction.

*A smaller number of ITV programs were used in the second and third small scale tryouts.

4. The instruction proceeded fast to cover the contents of each program within a given time.
5. The instruction railroaded, with no consideration given to the points which deserved emphasis or attention. Students were too busy keeping up with the progress of instruction to dwell on or react to the points of concern.
6. The contents of program were logically sequenced but not motive enough for students to actively participate in the process.
7. Technical operation such as camera operation, recording, etc., left much to be desired.
8. The teachers wanted to visualize programs prior to instruction or the program contents in the teacher's guide to be more specifically written.

B. Researchers' Observation and Analysis

KEDI researchers observed the instructions of ten ITV programs and five IR programs. An analysis of their observations resulted in the following findings quoted below:

1. 60% of each ITV and IR programs was in conformity with the procedures set forth by teacher's guide.
2. It took one minute and 30 seconds in ITV and two minutes in IR for students to pay full attention to the programs.
3. 84% of students were paying full attention to the programs continuously.
4. It was not necessary for teachers to urge students to be attentive while a program was going on. The teacher's explanation, while a program is broadcast, appeared to hinder their learning.
5. Following the broadcast programs, the teachers had students answer the questions in the workbook after a brief summary of what was learned.
6. The ITV and IR programs generally proceeded at an adequate speed, although it went a little fast in the IR program for moral education and slowly in the ITV program for mathematics.
7. The contents dealt with in the ITV and IR programs were of adequate volume.

C. Evaluation Items

1. In some subject matters, e.g. social studies and science, the points emphasized in the process of instruction were not fully covered by questions.
2. The evaluation of cognitive domain was performed well, whereas that of affective and skill domains was done poorly.
3. It took more than 20 minutes for students to answer the questions, taking a bite out of the time for supplementary and enrichment programs.
4. The diagnosis and formative test items were not used, because the production of test items were left to the discretion of the experimental schools.

First Comprehensive Demonstration

The first comprehensive demonstration was conducted from September, 1975 - February, 1976 for all subjects in the third and fifth grades and in 14 demonstration schools and 125 cooperative schools for a total of 52,261 students. Due to the lack of transmission capability from T-COM and because of the large size of the first comprehensive demonstration, ITV was not used. However, IR was used. Although the first large scale comprehensive demonstration was completed at the time of the team visit, the results were not available in English.

Second Comprehensive Demonstration

The second large scale comprehensive demonstration was being conducted at the time of the team visit (March 1976 - February, 1977) and IR programs were continuing to be broadcast. As noted earlier, ITV programs are not being transmitted due to technical difficulties with T-COM.

Results of this demonstration will be reported upon its completion and the review of the Analytical Case Study Team when it returns to Korea.

F. ITV AND IR IN SPECIAL PROGRAMS

High School of the Air and Correspondence

KEDI's involvement with the High School of the Air and Correspondence continues. Broadcasts for the High School of the Air and Correspondence are restricted to radio. ITV program production continues but broadcasts of such programs are delayed until such time as the T-COM transmission system is functional or alternative broadcast methods are available to KEDI. Currently IR programs are broadcast in all subjects at all high school grade levels. This is 15 subjects for the first grade at the high school level and 14 subjects each at the second and third grade of the high school level. The IR for High School of the Air and Correspondence School programs produced by KEDI are broadcast via government and commercial broadcast facilities outside of KEDI studios. The schedule is established at the beginning of each semester and sent to the 40 school centers involved in the program and the approximately 20,000 students enrolled in High School of the Air and Correspondence classes.

A sampling of hours that IR broadcasts is presented below:

<u>Level</u>	<u>Subjects</u>	<u>Region</u>	<u>Time</u>	<u>Broadcast Studio</u>
Grade I	All Subjects	Seoul and Vicinity	10:30-11:00 P.M.	KBS
	All Subjects	Taegu	10:30-11:00 P.M.	CBS
	All Subjects	Kwang Joo	10:30-11:00 P.M.	CBS
	All Subjects	Pusan	10:30-11:00 P.M.	CBS
	All Subjects	Chun Joo	10:30-11:00 P.M.	CBS
	All Subjects	Choon Chun	12:00-12:30 A.M.	MBC
	All Subjects	Kang Nung	12:00-12:30 A.M.	MBC
Grade II	All Subjects	South Korea	5:15-5:45 A.M.	MBC
Grade III	All Subjects	Seoul and Vicinity	10:00-10:30 P.M.	KBS
	All Subjects	Pusan	10:30-11:00 P.M.	MBC

The attrition rate remains relatively high at about 30%. The hours of broadcast may contribute to the cause of this problem. A second contributing factor may be that, due to budget restraints, KEDI is no longer able to rebroadcast previously broadcast IR programs. Therefore a student who misses a program does not have a second opportunity to receive that lesson and subsequently falls further behind in his assignments.

The procedure of having students come to designated school buildings every other Sunday for 26 days per semester to receive classroom instruction continues. Students are still required to submit reports for evaluation and correction by the instructor. Examinations are administered to determine student achievement level. KEDI's major role is to provide textbooks, radio instruction, teacher training, coordination of the program administration, and to administer the joint examinations. Each high school is responsible for the classroom teaching, evaluation, maintenance of student records, student counseling, and management of other matters necessary for the program. The radio programs and the printed materials for the High School of the Air and Correspondence are developed by KEDI by using college and university professors and high school teachers under subsidiary contracts to KEDI for this purpose.

In-Service Teacher Training

IR is used for in-service teacher training on a scheduled basis for 15 minutes per day for 22 weeks. These lessons are designed to present new and relevant information to classroom teachers on such topics as

current problems in Korean education, the future of Korea, new educational systems for Koreans, educational models, instructional objectives, and procedures to develop materials. To date, other than incidental direct feedback, there has been no research on the effectiveness of this effort. Most of the program content is developed by KEDI staff with MOE personnel from the textbook compilation division developing a smaller portion.

Social Education

During the second semester (August 23, 1976 -February 28, 1977) KEDI will initiate and begin to broadcast IR programs designed specifically for parents. Topics to be presented include counseling with children, health care, and manners for youngsters, and similar concerns. Some programs are produced now and are currently available for broadcasts. Others will be recorded during the next semester. The frequency and duration of broadcast is not known at this point in time.

Sinahn County Broadcasting System

KEDI's involvement with the Sinahn County Broadcasting System continues as described in the First Interim Report. As the technical problems currently being experienced by KEDI are solved it is generally believed that KEDI's role in providing quality education for the inhabited islands on the coast of South Korea will expand.

G. COMMENT

In view of the major role that ITV and IR play in the E-M Project as well as in other important projects, a number of observations and recommendations are made here. In some instances they are similar to statements made in the First Interim Report; in others they represent new and additional suggestions for consideration by KEDI. Members of the professional and technical staff have already achieved significant progress in spite of technical difficulties with T-COM. The following statements are intended to highlight certain tasks essential to the continued development and use of ITV and IR in KEDI's research and development responsibilities.

T-COM

Recognizing the continued technical difficulties attendant to the T-COM transmission system, it is recommended that KEDI pursue and give serious consideration to the development of alternative methods for the transmission of KEDI's IR/ITV lessons. KEDI should consider the short range goal of "getting on the air" by the beginning of the school term in September 1976. This will accommodate, on a temporary and greatly reduced basis, the IR/ITV aspects of KEDI's instructional model. The long range goal envisioned by KEDI from its beginning is to get on the air with a high quality transmission system that is responsive to KEDI's instructional model as it expands and develops in response to Korea's educational needs and reforms.

This short range goal of "on the air" by September 1976 possibly could be realized with the employment of small portable VTRs and monitors

in a small number of schools or preferably by leasing broadcast time from government or commercial broadcast concerns such as KBS, MBC, TBC, or from the American Forces Korean Network. The long range goal is to develop a viable transmission system that will satisfy KEDI's expanding needs. This possibly could be accomplished either by leasing time from government or commercial stations, or by developing a new broadcasting operation with its own land base microwave system.

Studio Bound Production

As KEDI's needs expand in the area of social education, Saemaul programs, parenting, and others, the need will arise for on-site and location type origination of programs. It is recommended that KEDI pursue the possibility of utilizing 8mm film and/or battery operated portable VTR units for on-site video recordings.

Role of Radio/Television

It is recommended that KEDI develop a clear definition of the role of instructional radio/instructional television (IR/ITV) in the KEDI instructional model. This may reflect the need for instructional television and radio, curriculum related television and radio, general educational television and radio, and/or a combination of the three.

Maintenance and Repair

Maintenance and repair of radio and television sets at the reception site may present a problem. It appears that repair of radios and black and white TVs can be handled with readily available and highly qualified

Korean technicians. However the repair and maintenance of color TV sets may present a problem to the currently qualified Korean technician. This recognizes that relatively few color TV sets are in existence in Korea and therefore technicians may not have had adequate training and preparation in the repair of color TV sets.

Graphic and Animation Production

KEDI's present illustrators appear to be talented and skilled in illustration techniques. Recognizing that graphic illustration, animation, and photography (including rapid development of negative film and slides) are major support services for TV production, KEDI may have to employ additional illustrators, photographers, and lab technicians in the near future. Additional space and animation production hardware will be required very soon if KEDI is to realize the full potential of its TV studio.

Media Selection

KEDI should give attention to identifying the unique contributions that radio and television can make to its instructional model. Presently it appears that some IR and ITV programs are produced, not because they are needed at that point in the lesson unit, but because IR and ITV are useful tools of instruction. It seems that often a decision is made that a certain number of radio and TV lessons are to be produced for a subject in a given semester. This number may or may not coincide with the unique attributes of radio and TV for teaching that subject or specific lessons within that subject.

The Length of Time of Broadcast Programs

KEDI may wish to explore the possibility of having varying amounts of time for the IR and ITV programs. Currently radio is scheduled for 15 minutes and ITV for 20 minutes. These pre-set times may or may not lend themselves to the concept that is being taught. There is reason to believe that some subjects can be covered with in IR lesson in less than fifteen minutes and likewise it may take more than fifteen minutes for other concepts to be covered adequately. The same thing is true for television. Some lessons and concepts require more than twenty minutes, some require less. In several cases it appears that producers/directors were required to expand material in order for that material to occupy a full twenty minutes for television or a full fifteen minutes for radio.

Photographs

The demand for a responsive photographic section will grow. KEDI may wish to find additional space and equipment for the photographic production. One must realize that a responsive photographic section is a necessity for high quality and economic TV productions.

In-Service and Pre-Service Teacher Training in the Utilization of IR and ITV

KEDI's instructional model has, as a major component in its implementation, the utilization of IR/ITV programs. The utilization of IR/ITV is a new development on the educational scene in Korea. Presently teachers are not trained in sufficient numbers in the utilization of IR and ITV for maximum effectiveness in the classroom.

It is reported in the RESULTS OF THE FOURTH SMALL SCALE TRYOUT OF THE KEDI INSTRUCTIONAL SYSTEM concerning teachers participating in the tryout,

Most of them had more than ten years of teaching experience, with their ages ranging from 31-35. Since they were well experienced in teaching, instruction itself proceeded smoothly. But their teaching patterns cemented over a long span of time exerted adverse effects on their ability to accommodate new methods. This fact was supported by the disposition of young teachers with 2 or 5 years experience to try out something new whereas those with longer experience were disposed to stick to old practice.

Recognizing that in-service education is a problem, the first draft of the report further states concerning the training of teachers "...efforts must be made to grope for more effective ways of training, which has a heavier reliance on a variety of media, as suggested by the new instructional system".

KEDI should give serious consideration to an intensive workshop schedule for teacher in-service education in the utilization of IR and ITV programs. For the present, existing teacher in-service workshops, weekend seminars, and/or summer activity courses may help to develop the necessary skills for full utilization of IR and ITV lessons. However, consideration should be given to the long term solution of this problem by incorporating the necessary curricular content for the utilization for IR and ITV into the curriculum at the college level for pre-service teacher preparation.

Cost Analysis Mechanism for IR and ITV

It is essential that KEDI establish a budgetary mechanism for assessing the cost of each of the TV and radio lessons that it produces. This is important for internal budgeting reasons and also for assessing

the cost of producing radio and TV programs in the event that outside contractors come to KEDI with requests for production.

Research and Evaluation of ITV and IR Effectiveness

Recognizing that IR and IRV are integral components of the KEDI instructional model, it is imperative that KEDI establish a system for determining the effectiveness of IR and ITV. Whether IR and ITV makes any difference in the KEDI model is unknown at this time. Current data does not support or deny the use of television in KEDI's model. Except for the first small scale tryout no data specifically on the effectiveness of IR/ITV has been reported, and in the first small scale tryout the data is inconclusive.

Production of Programs

Possibly the largest IR/ITV related problem outside the scope of the T-COM problem are the internal operations relating to the production of KEDI's IR and ITV programs. Currently the procedure for script writing, the passing of that script to the production staff, and the production of the program will be disfunctional under the high demand likely to be placed on the studio when full broadcast is possible. The presently existing informal system will work under the present conditions that are of relatively low demand. They will not, however, work when the demand increases as it is intended when the transmission problems are solved. It seems necessary that KEDI now establish a system for the logical and sequential flow of information and development of ITV and IR programs through the production phases. It is recommended that KEDI investigate and consider the possibility of

an organization that places a chief director or senior producer or some other one person in charge of the complete unit of instruction if IR/ITV are to be used. It seems possible that a chief director or senior producer for each subject matter area could be assigned to head a team of subject matter specialists, a producer/director, a floor manager, the script writer, set designers, and other necessary personnel. This person's main job is, simply, to produce quality IR and ITV lessons by establishing and maintaining liaison with subject matter content specialists on the problems and decisions that are academic and relate to instruction and with the producer/director, camera men, graphic illustrators, makeup artists, set design specialists, and technical individuals for the problems and decisions that relate to technical production.

This chief director or senior producer of each team must also concern himself with the efficient utilization of the TV studio. Decisions must be made on scheduling as much rehearsal, and blocking and memorizing lines outside the studio as possible. Therefore, when the production starts in the studio, the studio itself will be occupied for a minimum of time. Occupancy time in the studio is expensive and should be closely guarded.

The organization concept put forward above is simply to bring about, in the appointment of one individual, the responsibility for TV and IR program production. This person must see the "larger picture" in relation to seeking out answers and making decisions that relate to instruction and academia. In like fashion he/she must seek out and make decisions relating to the technical aspects of TV production.

V. THE EXPANDING ROLE OF KEDI

A. INTRODUCTION

In the period of slightly less than a year since the issuance of the First Interim Report, KEDI has further consolidated its role as the key educational policy, planning, and research organization in Korea. Although a major portion of its effort must be the management of the Elementary-Middle School Project which first gave life to KEDI, its programs beyond that project continue to develop and expand.

This section of the report updates information in the First Interim Report concerning projects being undertaken by KEDI beyond the E-M Project, and shows the trend toward on-going programs of activities in areas of concern in the educational future of Korea. This trend toward programs within which projects reside is demonstrated by the reorganizational thinking in KEDI, described elsewhere. Rather than setting up units devoted exclusively to a project, KEDI's organizational trend is to have project activities (such as those in educational planning, population education, industrial arts, new community movement) feed into on-going programmatic concerns for a better elementary-middle school curriculum, for better policy formation, for better inter-ministerial cooperation, and for better relationships between programs of the various ministries. KEDI is moving toward an organization that can absorb new project activities within programmatic units with long-term functional and continuing goals.

B. EDUCATIONAL POLICY AND PLANNING

Over-all economic and social planning in Korea is coordinated by the Economic Planning Board. Policy guidelines, with additional analysis usually prepared by the Korean Development Institute, are distributed to the various Ministries by the EPB, and each Ministry then prepares a plan which is reviewed by the EPB. Modifications are usually negotiated when a Ministry's plan is too costly or does not match policy priorities.

Within the Ministry of Education, educational planning has a spotty history. In the late sixties, the Ministry attempted a long-range plan for 1972 to 1986 with the assistance of foreign experts. The general reaction now seems to be that the plan was a good but idealistic report, prepared with little or no involvement of sections chiefs or provincial offices of education. It was largely ignored in terms of implementation.

Following this attempt, the Ministry asked all municipal and provincial boards of education to prepare a five year plan for 1972 to 1976. Only one or two boards responded, probably from lack of knowledge as to how to go about a planning exercise. The 1972-1976 plan, therefore, was a simple projection of what the Office of Planning and Management of the Ministry thought would be needed to further expand the educational system along traditional lines. In essence, the plan was an attempt to satisfy social demand for education.

In 1975, the Ministry of Education was again asked by the EPB for a draft of their plan for 1976-1981. With a small staff of professionals fully occupied with day-to-day management matters in the Ministry, the

Office of Planning and Management felt that it needed outside help in the development of the plan, and the Ministry turned to KEDI. KEDI, agreeing to do the plan, established a working committee of all section chiefs in the Ministry supplemented by distinguished educators outside the Ministry, and in a period of several months, developed a draft five-year plan. The plan, as of the summer of 1976, was still being discussed by the Economic Planning Board and the Ministry of Education.

Several observations are in order. First, planning must be considered a long-term continuous function involving continuous data collection and analysis, and involving modifications as the plan period moves along. Since the current plan was developed by KEDI as a one-time activity, KEDI had to "make-do" by assigning its staff to the task in the hopes that its cumulative experience (and that of the section chiefs of the Ministry) would substitute for the kinds of continuous data collection activities that usually provide information for plan development. The plan was thus heavily biased, as noted by the EPB, toward the "social demand" concerns of providing more education regardless of other economic trends or plans. The plan is a collection of activities which the various section chiefs in the Ministry feel would be appropriate if the funds were available, rather than an over-all strategy which orients the activities of the various sections and programs of the Ministry. Furthermore, there is little or no economic analysis in the plan, nor any attempt to show how Ministry of Education programs relate to training activities of the Office of Labor or of industry and business.

Second, the planning group was working with inadequate information on what is actually happening within Ministry of Education programs now. As a result, KEDI has recommended the establishment of a management information system within the Ministry so that such information is continuously available, not only to help in plan formulation, but to help in providing feedback on plan implementation. So far, it appears, this recommendation has not been acted upon by the Ministry, perhaps because of lack of funds.

Because of inadequate information and analysis, one of the key recommendations in the first draft of the current plan has been rejected by the Economic Planning Board (EPB). This was the recommendation that middle-school education be made compulsory throughout the country by 1981. The EPB suggested a more gradual implementation of this recommendation in order to soften the cost implications. They propose a gradual expansion of middle school educational facilities to the point of accommodating increasing numbers each year. In the next five-year plan, beginning in 1981, the goal would be 80% enrollment of middle-school-aged children, and then 100% as the final stage. Emphasis would be on expansion of facilities in the rural areas so as to contribute to a general goal of better income distribution in Korea.

In addition, of course, to management information to help in assessing what is actually happening in the Ministry, there is urgent need for a program of sustained policy and planning studies to provide continuous information for decision making during the planning and implementation process. A number of KEDI projects, such as those described below, already establish KEDI as a capable institution for the conduct of these kinds of studies, but the Ministry should study the

possibility of assigning KEDI the long-term, programmatic function of conducting policy and planning studies that will have some continuity and cohesiveness. KEDI's activities in connection with the "repeater study," discussed later, might be the first step toward assuming such a function. However, such an assignment is contingent upon support for increasing and developing appropriate staff.

Continuous study and monitoring of problems such as the following are urgently needed:

1. The reciprocal role of school and out-of-school efforts to train needed manpower for Korea (i.e., how can formal school programs under the Ministry of Education better coordinate their efforts with those of the Labor Office Vocational Training Institutes and with those of industry and business in vocational and technical training).
2. The possible income distribution effects of more attention to rural schools.
3. The possible cost-benefit effects (both socially and economically) of adjusting investment in various levels of education.
4. The possible better linkage of educational facilities and content to the manpower needs of future village industrial development.
5. The possible cost differentials involved in alternative approaches to preparing middle-level manpower. (For example, World Bank studies for the Economic Planning Board seem to indicate that employers find middle-school graduates with vocational-technical institute training under the Labor Institute as productive as technical high-school graduates, and the training is much cheaper. Such studies would be a part of an on-going education planning program).
6. Modification of the curriculum to better relate to the over-all economic and social development plan.
7. The manpower requirements for public and private education. (Such information would help prevent such current problems as the excessive production of elementary-school teachers at the Junior Teachers colleges).

If these and similar problems are under continuous study, KEDI could gradually develop simulation models to help policy bodies see the

implications of various possible alternative courses of action. Without such information, educational planning in Korea will continue to be a collection of individual activities that often do not mutually support one another and which often cause social and economic disfunctions.

C. REPEATER STUDY

Typical of the problems which can assume crisis proportions, in part because of inadequate and continuous educational planning activities, is the phenomenon of the unemployed high-school graduates has been increasing without a comparable increase in university spaces. In 1965, 30.3% of all high-school graduates entered the university. In 1976, only 19.7% will find university spaces. University graduates, in turn, earn, on the average, about two times as much as high school graduates, so there is tremendous pressure to obtain a university education. A further incentive is the traditional respect for education among Koreans. Thus, high school graduates who do not pass the university entrance examination or who fail to find a space in the university tend to repeat the examination year after year. Many remain unemployed while they take special courses to prepare for the next examination.

In the Seoul area, a third of those who take the university entrance examination are repeaters. Of those who fail, about 60% try again the following year. In 1976, 159,000 of those who took the examination failed, and nearly 100,000 can be expected to try again next year.

From 1970 to 1976, there has been a 210% increase in high school graduates and only a 130% increase in college enrollments. In 1970,

there were about 64,000 failures on the college entrance examination; in 1976 it was about 159,000.

These phenomena, of course, had not gone unnoticed in the educational community of Korea. Higher education institutions, parents, the press, and others have noted the problem and have suggested various approaches such as the expansion of higher education for the resolution of problems. The notable lack of any governmental effort to study the problem in a systematic way until early this year strongly supports the suggestion above that there is need in Korea for continuous educational policy and planning studies, perhaps under KEDI auspices.

In January, 1976, the President of the Republic, in an official annual visit to the Ministry of Education, expressed his concern and suggested that the Ministry examine alternatives for resolving the problem. The Ministry turned to KEDI, and KEDI, in turn, organized a seven-man policy group and a larger advisory body representing the various Ministries and community interests.

After six months of meetings with the various ministries and other organizations and a number of meetings of the policy and advisory groups, KEDI issued an interim report for discussion with the various Ministries and the general public. The interim report received immediate enthusiasm from top policy-makers and the KEDI Commission was instructed to report directly to the Prime Minister's office in finalizing the report and in recommending next steps.

The report examines the causes and effects of the repeater problem and studies possible alternative future action in a comprehensive fashion which is unusual in educational planning history in Korea. It also used a participatory mechanism which gave all interested parties a chance to

present their points of view, thus assuring that there would be broad-based support for the recommendations.

The recommendations, in brief, suggest better utilization of present higher education facilities, gradual expansion of facilities as well as expansion to accommodate some of the unemployed high school graduates, programs to increase employment opportunity for high school graduates that do not enter the university, programs to increase vocational and technical training through the Office of Labor programs and Vocational-Technical Institutes for high school graduates, programs to encourage dispersment of high school graduates to possible employment outside Seoul, increased vocational and technical emphasis in middle and high schools, better vocational counseling, establishment of employment job information centers and guidance systems for repeaters, better licensing systems for certifying vocational skills, and more industrial investment in training activities. Certain suggested social policies include greater emphasis on employment-generating investment in government planning; abolition of higher education degree requirements for certain jobs where such education is not needed; decrease in differential between salaries paid college graduates versus high school graduates; and a new youth welfare policy.

No one knows, of course, if all of the suggestions in the report are feasible from a resource allocation point of view, or whether or not all of the institutional and human resources, both within and outside government, can be marshalled for such a total re-orientation of the social, educational and economic policy of Korea. The next phase of KEDI's work, it is assumed, is to explore such questions.

The remarkable feature, however, of this study is that a growing

crisis situation in the form of unemployed high school graduates has sparked a comprehensive policy study which points the way to a continuous policy and planning function by KEDI. Should KEDI receive the mandate and the resources to undertake such work on a continuous basis, it is unlikely that other such crises would be allowed to develop with virtually no policy attention, as has the repeater problem for the past ten years.

D. INDUSTRIAL ARTS, VOCATIONAL AND TECHNICAL EDUCATION

Some of the early work of KEDI in vocational and technical education (as described in the First Interim Report) was helpful in formulating recommendations of the "repeater study," described above. However, KEDI's major proposal for disseminating skill training modules to middle schools and for equipping the demonstration shops in these schools has been rewritten in the light of the unwillingness of the government to finance local costs of the program. KEDI's work will now be limited to prototype production of 70 skills training modules for middle schools, prototype design of demonstration shops for middle schools, and some pilot teacher training (100 teachers will be trained to use the new materials). The cost of this project will be approximately US\$420,000 and it is being examined for possible approval by the Ministry of Education and the Economic Planning Board.

With the new recommendations of the Commission to study the repeater problems stressing vocational and technical education at all levels, it would seem that KEDI's expertise might be useful to the Ministry in designing new training modules for secondary schools,

and to the Labor Institutes in designing modules for use in out-of-school vocational and technical training. Furthermore, if the Commission's recommendations that industry step up its own training programs are widely accepted, KEDI may well be able to sell its services to industry.

One of the problems continues to be the lack of effective joint planning between the Ministry of Education and the Office of Labor and the Vocational Institutes under the latter. Part of the problem may be because of the outside agencies which have assisted in the setting up of the various institutions charged with vocational and technical training. UNDP has supported the setting up of the Central Vocational-Technical Institute under the Office of Labor which is charged with the training of vocational and technical teachers. Vocational Training Institutes, in turn, have been funded by the Asian and World Banks. Eight of these are now operational or being built in urban areas and eight or nine in rural areas. Each of these projects has been planned in isolation, and there has been little attempt to establish a government-wide policy of how the formal schools under the Ministry of Education and the vocational-technical training under the Labor Institute are to complement one another. As part of KEDI's possible longrange planning function, these matters might will receive priority attention.

In future planning in this field, KEDI should take note of a thought-provoking survey of employers and employees done by World Bank consultant Manuel Zimmerman and associates for the Economic Planning Board. These studies show that vocational-technical high schools tend to prepare graduates who are not as immediately employable in middle-level technical skills as those from a program which channels middle-school

graduates to the very practical vocational-technical high schools cost considerably more to operate than the Labor Institute Centers. Although this study does not suggest the elimination of the vocational-technical high schools, it does imply that there are alternate channels for preparing middle-level manpower that should be taken into account when planning for the future.

E. COMMUNITY

The New Community Movement began as a kind of political socialization effort but has gradually turned to community development efforts which have a real chance of increasing village productivity and quality of life. KEDI completed a survey in late 1975 (published in December, 1975 as Toward Improvement of the New Community Education for the Rural Poor) which sheds some light on the problems of rural participation in educational efforts.

The survey interviewed farmers, village leaders, and rural guidance officers. About three-quarters of the village leaders and nearly sixty percent of the farmers had participated in one or more education programs, but few had attended more than two or three such activities. Most indicated that they had learned something about cultivation of new varieties of rice, environmental improvement, disease and pest control, utilization of agricultural chemicals and farm management. Most, however, said that they applied few of the skills or knowledges because of lack of facilities and money or because the information or skills that they had were insufficient. Most such educational programs are of short duration and appear, at most, to disseminate limited information in insufficient depth to encourage

application. Also, the activities are also at inconvenient times, the teaching is poor, and the trainees are poorly selected.

The rural-guidance officers reported that the programs suffered because of lack of village cooperation, lack of money for implementation of projects, lack of effective local leadership, lack of institutional support, and lack of time and manpower.

As a modest next step, KEDI has been developing, during the first half of 1976, a model for spiritual (attitudinal) training for use in the New Community Movement. This study has attempted to collect principles from social psychology that might be applied to training of community leaders and guidance officers. A good deal of reference-group theory appears in the early versions of the model.

Finally, KEDI is continuing the cooperative arrangement with the Centre for Production and Training for Adult Education and Television (CEPTA-ITV) based in Singapore, whereby the Singapore group assists KEDI in the production of community education films. Four such films were produced in 1975 (The New Community Movement in Schools; New Community Leader Activities; Pig Raising; Tong-il Rice Cultivation), and another four are planned for 1976.

Serious problems seem to have arisen, both in production planning and in possible utilization of these films. KEDI and the Singapore group have elected an innovative approach to production whereby no professional actors are used. Film crews go to the countryside and film actual people to illustrate the points in the film. However, it has been difficult to get the technical advice of the Office of Rural Development of the Ministry of Agriculture on the content of the films, and the final products have been judged technically inadequate by that

office. Furthermore, the Office of Rural Development maintains its own film program, using professional actors, and apparently has no intention of distributing or using the KEDI films. The question then arises as to whether this film program should be continued. If the technical content is not approved by the technical groups concerned, and if they are not to be used in the programs where they could be helpful, why do them? This may be another case of available resources (the help of CEPTA-TV) shaping the program in meaningless directions.

The longer-term problem, of course, is to find a means of coordinated government planning of educational activities under the New Community Movement. As mentioned in the first interim report, KEDI might well inventory educational services and programs in the non-formal area, looking to more effective planning of such services so that they complement one another in creating a cumulative impact toward the achievement of New Community Movement goals.

Unfortunately, the New Community Education work of KEDI is limited in terms of both manpower and other resources. With no outside support in the form of either contracts or programmatic funding by the Ministry of Education, KEDI's activities will be limited to its present modest program of studies and films.

F. POPULATION EDUCATION

KEDI's Population Education program has progressed well since the First Interim Report. Teaching modules (units) for insertion into various subject matter areas at the elementary, middle, and high school levels are well under way and are being tested in the field. In addition, suggestions for infusion of material in other subject matter areas are being detailed.

The first series of field tests was conducted from April to June, and KEDI sent teams of evaluators to the field for summative evaluations and interviews in July. The results of the field tests were not available when data was being collected for this report, but a team member visited several schools in the Daegu area and the Gyung-Buk Province Board of Education to discuss the field tests.

The Gyung-Buk Province Board of Education participated fully in the planning of the field tests and in the development of a teacher-training seminar for the Province. The Provincial Educational Research Center had a number of joint meetings with KEDI to plan the field testing, and is enthusiastic about the program and about prospects for future collaboration.

Gyung-Hae Girls Middle School reported good response from the students, and the teachers felt that the student materials and the teacher guides were excellent. The materials were used in three experimental classes of 25 students, and the only problem was that the units were used in the homeroom for one hour a week only since the materials have not as yet been integrated into the regular curriculum. Because of this, the students did not always take the materials seriously, since they were not part of the curriculum on which they

would be examined at the end of the year. Teachers suggest that the use of the project method in the materials requires special training and that some of the materials emphasize too much the negative aspects of population growth rather than the positive aspects of population control.

The Jong-Po Elementary School near Daegu reported somewhat similar results. The material was used in twenty periods of the sixth grade, and there was better interest at the beginning than toward the end. Interest flagged somewhat, perhaps because the material was extra-curricular and not required for the examinations. There was some embarrassment in dealing with the physiological aspects of the material, and the parents often did not understand the need to introduce such material at the sixth grade. A number of teachers felt that there was a need to include more material relating the issues to the local community.

Concurrent with the field testing, KEDI is conducting a survey on population consciousness among students and teachers. A total of 48 elementary, middle, and secondary schools, chosen to be representative of conditions throughout the country, are being surveyed to discover pupil and teacher attitudes toward the appropriate size of the family, age of desired marriage, attitude toward migration and similar matters. A report on this survey will be published late in 1976.

Other related activities include:

1. A resource book for teachers (elementary, middle, and secondary), to be issued in October, 1976;
2. Various substantive studies to provide background information for curriculum developers and teachers (population analyses; population increase and social change; population increase and economic development; over-population and human eco-system). Consultants are used for these studies, and in each topic, theory is presented plus materials for teacher training.

3. Audio-visual materials (including slides) in all areas.

UNDP funding for KEDI's population work ends in 1977. By then KEDI hopes to have all materials ready in pilot form. It is expected that the Korean government will then fund a five-year project (1977 through 1981) for dissemination of the materials for teacher training (both pre-service and in-service).

The population education program appears to be one of the outstanding examples of how KEDI can work with a variety of Ministries, funding organization, universities, provincial boards of education and schools in conceptualizing a new curriculum in support of a national goal, then developing the materials for delivery of the new curriculum, testing the materials, developing in-service teacher training programs, and, in general, delivering a complete package designed to introduce new substance in the school program. So far, of course, the project has reached only the stage of preparing and testing the materials. If the Textbook Compilation Bureau of the Ministry does not integrate the materials into a revised curriculum at all levels, and if the Ministry does not fund the mass distribution of the materials and the necessary in-service teacher training during the next five years, much of the pilot effort will have been waste.

It is important also to point out that four major universities in Seoul have been involved in population education. Each, through the participation of a faculty team, has developed unique ways of infusing family planning and population education into various fields of study and specific courses.

The Seoul National University team has developed new course syllabi for the humanities and the social sciences involving relevant concepts

of family planning. The Korea University team has also developed new course syllabi for the social sciences and has published reference material on population education for student use. Ewha Women's University offers an elective course on population education for freshman and sophomore students. At Yonsei University the basic concepts of family planning and population education are integrated with the content of a course on School and Society which is required of students in the pre-service teacher training program.

G. TEACHER EDUCATION

Teacher Education

In addition to the teacher education activities related to the Elementary-Middle School Project (described elsewhere), KEDI has been continuing policy and program studies related to teacher education problems in general in Korea. Activities in 1975 and early 1976 were directed toward identification and description of critical teacher education problems, and KEDI has indicated that the following statements merit investigation (both in research and action domains) in the future:

1. Since the beginning of the 1970's, there has been a considerable discrepancy between demand and supply of teachers, with an excessive number of graduates from teacher's colleges. (This was verified in a team visit to the Junior Teachers College in Cheong Ju Province, where 95% of the 1976 graduates have no job offers.)
2. Teacher's Colleges have difficulty in recruiting excellent students because of insufficient incentive systems.
3. Many elementary and secondary teachers are willing to transfer to jobs in other fields because they think they do not receive sufficient benefits either financially or psychologically. (However, Cheong Ju Province reports a current yearly attrition rate among primary teachers of only 2.4% compared to an 8.7% in 1970, perhaps suggesting that the oversupply of teachers is encouraging those who have jobs to hold on to them.)

4. There is lack of integrity among curricula in teacher's colleges.
5. There is a lack of consistency between what the pre-service teachers learn in their schools and how they perform in a class after graduation.
6. There is a shortage of in-service training programs for upgrading teaching competencies.
7. Lecture-type instruction is the main method used in present in-service teacher education programs.
8. Most teacher's colleges do not have sufficient educational facilities and there is limited opportunity for practice teaching.

KEDI has made a number of recommendations concerning these problems, and is in the process of further research on teacher competencies, with the idea of producing model in-service teacher education programs. A slidetape program, based on UNESCO's Introduction to Educational Technology, has been produced and is being tested. Radio broadcasting for in-service teacher education began in March, 1976, designed to introduce new educational theories to teachers. Each weekday a fifteen-minute lecture is aired through an AM channel, and a survey will be done in 1977 on the effect of these broadcasts.

The effectiveness of KEDI's work in teacher education policy and action, of course, depends on the extent to which the organization can involve the various teacher's colleges and faculties of education in their work. Although the number of consultants from various faculties of education who are involved in various KEDI projects is impressive, it appears that there is still some distance between KEDI and the junior teacher's colleges, charged with pre-service, and to some extent in-service, training of elementary-school teachers. If there is to be long-term effect of KEDI's recommendations in teacher education, ways must be found to influence the curriculum, methods, and

programs of the sixteen junior teachers colleges and all other institutions involved in teacher preparation in Korea.

H. HIGH SCHOOL OF AIR AND CORRESPONDENCE

KEDI continues to prepare the broadcasts, texts, and supplementary materials for the High School of the Air and Correspondence (see elsewhere for a description of the radio aspects of this program). In addition, KEDI undertakes regular evaluation of student achievement under the program, assessments of administrative efficiency of the program, and certain related studies on non-formal education in general. For instance, currently underway (mid-1976) is a bibliographical study of air and correspondence education schemes in other countries.

It is estimated that there are currently about 20,000 students enrolled in the program throughout the country. In 1977, it is anticipated that about 3,000 of 5,000 enrolled four years ago in Seoul and Pusan will graduate, indicating a drop-out rate of about a third of total registrants. Beginning in 1975 enrollees were accepted from throughout the country, not just from Seoul and Pusan.

It is difficult to arrive at a per-student or per-graduate cost for the program. KEDI receives 200 million won a year for its work (about US\$40.00 per student), and a total of 500 million won is budgeted for the entire program. The remainder is expended by the Ministry of Education, largely to pay teachers who come to schools on Sundays to provide lectures, grade papers, and administer examinations for students enrolled in correspondence courses and to pay broadcast stations to broadcast the programs. The teachers receive 1,000 won an hour,

and KEDI feels that this is not enough to encourage quality work by teachers who give up their Sundays to run the study centers at the 40 high schools attached to the program. Broadcast stations (KBC, MBC, CBS) receive a total of 1,300,000 won for broadcasting the programs.

KEDI studies indicate that about 30% of the enrollees are recent middle-school graduates while the remainder are those who have been out of school for longer periods of time. Fifty-percent of the enrollees are working. The age range is from 16 years to over 50. They pay a modest tuition which varies by region. In Seoul, tuition is 46,000 won per year, while in smaller provinces the fee may be below 15,000 won per year.

KEDI has completed the texts in all the basic subject areas and has published 10,000 copies of each. A Handbook on Radio Instruction Programs, 1976, has been distributed (250,000 copies) free to all students, teachers, and other agencies, listing time schedules of broadcasts, channels, and other information. A Guidebook for Self-Study (1976) has received similar wide distribution (250,000 copies) and includes suggestions as to how to listen effectively; how to employ strategies for learning and self-study; how to read textbooks; and how to take notes.

KEDI is currently in the process of preparing supplementary learning packages for students in addition to the texts. These learning materials are designed to make the text more understandable. The preparation of these materials will take approximately three years. All materials should be available by 1979.

There appears to be little emphasis on vocational and technical education in the program of studies, an emphasis which would seem to

be consistent with policy concerns coming out of the repeaters study described earlier in this chapter, and with goals outlined in the next five-year plan. With high unemployment already among academic high school graduates, one wonders if a scheme such as the High School of the Air and Correspondence should not focus more on job skills.

I. NEW ACTIVITIES

A number of new activities are in the pipeline which are not far enough along to assess at the present time. Several of these which will be studied by the team more thoroughly in the future are as follows:

1. Women's Education Project. This new research effort, entitled Study on Korean Sex-Role Perception and Development of Compensatory Educational Program to Change Sex-Bias Attitude, has been funded by the U.S. Agency for International Development. The overall goal of the project is "to promote the sense of equality between Korean man and woman in their potential contribution to national development."

Specific objectives of the study include the following:

- (a) to investigate the level of awareness of Korean people of sexual discrimination as a social problem, (b) to identify the variables which condition discriminatory attitudes and behaviors, (c) to develop an exploratory compensatory educational program intended to eradicate the sex-biased attitudes, and (d) to implement the program on a small scale with Korean students at the seventh grade level.

The project, now in its initial stages of preparation and planning, will be reviewed in greater detail in the summer of 1977.

2. Materials Resource Centers. On paper, there exist 160 educational materials resource centers, one in every kun (county) in the country. Presumably, each center serves about 40 elementary and middle schools. In fact, many of these centers are not operational or, at best, offer minimal services with untrained staff and little materials or equipment.

KEDI has suggested that these centers be assisted by KEDI to the point where they have the trained staff to develop materials to supplement KEDI elementary-middle school material, and perhaps resources to help counsel schools on the use of KEDI material. At the same time, UNICEF has an interest in assisting these centers if they will take on the job of helping primary school teachers in science education. Such an approach would supplement UNICEF assisted science centers located at junior teachers colleges in each province.

Both ideas make sense, it would seem, and would appear to be complementary. The best approach might be to combine the goals of both approaches so that these centers become useful centers in assisting primary school teachers in a variety of teaching resource needs. UNICEF is suggesting a five-year project costing \$400,000. Certainly, this small sum must be supplemented over time by many times that amount by the national government if these centers are all to perform a significant function, and UNICEF would do well not to insist on isolating its interest from the broader curriculum concerns of KEDI's.

Related to this concern is a problem encountered by a science equipment production center originally financed in part by UNICEF.

The Korean government invested US\$1,000,000 and UNICEF US\$250,000 to establish this center to produce science equipment for schools. The Center has been taken over by the Korean Teachers Mutual Fund, which now has problems in marketing the science equipment produced by the center. The equipment is not part of the curriculum packages produced by KEDI, nor does the Ministry require that schools buy it. Since demand has been low, only small quantities are being produced at relatively high price. About 250 items are being produced in lots of 1,000. Yet, many items should be distributed in lots of one million a year to get proper use in the schools.

It would make some sense for KEDI and the Ministry of Education to link the science equipment production center to the network of resource centers in each kun, perhaps designating the latter as marketing and repair centers for the equipment. At the same time, KEDI might well examine the possibility of incorporating equipment from the center into its curriculum packages.

3. Provincial Educational Planning Training. KEDI has proposed a program to train personnel in provincial Boards of Education in techniques of educational planning so as to begin to develop capabilities in the provinces to intelligently contribute to national planning efforts. UNICEF may help in this effort. A related KEDI idea is to strengthen dialogue, communication, and cooperation among the research and development centers of the provincial boards. Both ideas are excellent, provided that KEDI can secure the policy support and funding to carry out the effort.

4. Research Information. There is no effort as yet in the education sector to store and control research information using computer technology. Such a system does exist in the science sector in the form of the Korean Science and Technical Information Center (KORSTIC) under the Ministry of Science and Technology. KEDI has had exploratory discussions concerning the possibility of using KORSTIC's computer facilities for the control of education research information. As KEDI moves forward with educational planning and policy studies and as the organization establishes itself as the nerve center of educational research and development activities in Korea, high priority should be placed on moving ahead such an effort. Automated information storage and retrieval of research information would assure that information forthcoming from research efforts throughout the country are not lost and would help assure that there is a cumulative effect of such efforts.

J. INTERNATIONAL COOPERATION AND LINKAGES

Most of the international relationships described in the First Interim Report continue to be built upon, with both KEDI and organizations in other countries receiving mutual benefit from the linkages. Some interesting new involvements not mentioned in the last report include the following:

1. KEDI acted as host for the ACEID sponsored A High Level Personnel Exchange Workshop in Curriculum Development, August 2-10, 1976. Participants attended from Sri Lanka, Malaysia, Philippines, Singapore, Thailand, and from organizations in Korea.
2. KEDI is sending a participant to a Group Training Course in Correspondence Education in New Zealand from September 6 to October 15, 1976.
3. KEDI is participating in programs of the Asian Institute for Broadcasting Development (UNESCO) in Kuala Lumpur, and sent one participant to its Regional Training Course in Educational Media (August 2-September 10, 1976).
4. KEDI is sending two out of a five-person Korean team to the UNESCO-sponsored Third Group Training Course in Educational Planning, Bangkok and Manila, 1976-1977. Phases I-III of the Project (October 25 to December 4, 1976) will be in Bangkok and Manila, and there will be follow-up by correspondence until August 1977. Since the Ministry of Education will also be sending members of the team, this offers a good opportunity for KEDI to further develop an understanding with the Ministry as to KEDI's long-term role in educational planning.
5. KEDI will participate in a four-month program on Cross-Cultural Research for Behavioral and Social Scientists at the Cultural Learning Institute of the East-West Center, January 5-April 30, 1977.

K. PUBLICATIONS

KEDI's publications program continues basically as described in the First Interim Report. Editions of some of the materials have increased somewhat, and as of January, 1976, an English language newsletter was inaugurated, Korean Educational Development, which is published in an edition of 500 copies and which goes to domestic and international research institutes and friends of KEDI.

There was still no decision as to the possibility of some regular arrangement for the commercial marketing of KEDI materials as of the summer of 1976. It would seem that KEDI might well continue exploring linkages with the Korean Federation of Educational Associations, in the light of the large editions of materials published by the Federation. The Federation publishes 50,000 copies of its magazine New Classroom with practical material for the teacher, and twice a year puts out a special publication for parents in an edition of 1.5 million copies. KEDI's materials are published in much smaller editions (KEDI News, 5,500 copies, up from 2,000 when started; Research for Teachers, 15,500 copies, distributed to schools; most research reports, a few hundred copies; Korean Education (an academic journal), 1,000 copies). With nearly 110,000 primary teachers and nearly 50,000 middle school teachers in Korea, KEDI must find ways of better disseminating its information, and a tie-in with organizations such as the Federation which reach large numbers of parents and teachers might be useful.

Another approach that merits exploration is the possibility of using the 160 resource centers which exist (on paper, at least) in each of the counties in Korea. If the KEDI proposal to UNICEF is funded,

KEDI will attempt to revitalize these centers and make them into dissemination centers which could be distribution points for KEDI publications.

L. CONCLUDING COMMENTS

The expanding role of KEDI, as described in the First Interim Report and as discussed in this chapter, has received further recognition by the Korean government during 1975-1976 with the delegation to KEDI of the responsibility for the development of the next five-year plan and for the conduct of the so-called "repeaters study." Thus, policy and planning activities in the field of education are increasingly being delegated to KEDI, in addition to earlier learning research, development, and curriculum delivery projects.

To some extent, the new re-organization of KEDI (described in earlier chapters) has encouraged greater inter-penetration of projects so that KEDI is moving toward a programmatic organization rather than a holding company of discrete projects. Thus, the population education and to some extent technical education materials are finding their way gradually into the E-M Project, and the conclusions of the various policy studies are beginning to affect the more applied research and development activities.

This symbiosis of program and activities is not, of course, complete. For instance, the High School of the Air and Correspondence seems to be a project quite isolated from all other activity in KEDI, and, notwithstanding certain policy questions raised in other studies of KEDI, the project continues the same program as when it was initiated over three years ago.

KEDI continues to increase its dissemination activities, but must find ways of more effectively reaching teachers and parents in the future. Also, it must find ways of covering the costs of creating and reproducing its instructional and informational materials in order to begin receiving some income beyond governmental subsidy. The Korean Institute for Science and Technology, for instance, receives a good deal of its income from sale of its R & D product and has a much healthier financial structure because of it. KEDI should continue to explore ways of marketing its product.

On the whole, the progress from projects to program appears to be going well. To a large degree, KEDI's future will depend on the government's acceptance of KEDI's role as a programmatic policy, planning, and research agency, rather than as a repository of ad hoc projects.

APPENDIX

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PUBLICATIONS

MATERIALS PUBLISHED BY KEDI NOT LISTED
IN THE FIRST INTERIM REPORT*

- I. Elementary-Middle School Instructional Materials Developed and Printed Since September, 1975
- II. Textbooks and Other Materials for High School of the Air and Correspondence
- III. Population Education Materials
- IV. Industrial Arts Materials
- V. Miscellaneous

*Not included in this list are new editions of ongoing publications listed in the First Interim Report, i.e., KEDI News, Korean Education, and Research for Teachers.

I. Elementary-Middle School Materials Developed and Printed Since September, 1975

A. Teacher Training Materials

1. Teacher's Handbook for KEDI's New Educational System - for the 2nd Comprehensive Demonstration
2. Operational Guidebook for the 2nd Comprehensive Demonstration

B. Instructional Learning Materials

Following materials had been printed for the 2nd comprehensive demonstration, 1st semester of 3rd, 4th, and 5th grades. All materials for the 2nd semester are now being printed.

1. Teacher's Guidebooks

Subject Matter	Grade			*Volume
	3rd	4th	5th	TOTAL
Moral Education	1	1	1	3
Korean Language	1	1	1	3
Social Studies	1	1	1	3
Mathematics	1	1	1	3
Natural Sciences	1	1	1	3
Physical Education	1	1	1	3
Music	1	1	1	3
Fine Arts	1	1	1	3
Practical Arts	-	1	1	3
TOTAL	8	9	9	26

*No curriculum under the 3rd grade in practical arts.

2. Student's Learning Guidebooks

Subject Matter	*Volume			
	3rd	Grade 4th	5th	TOTAL
Korean Language	1	1	1	3
Social Studies	1	1	1	3
Mathematics	1	1	1	3
Natural Sciences	1	1	1	3
TOTAL	4	4	4	12

3. Summative Tests

Subject Matter	*Kinds			
	3rd	4th	5th	TOTAL
Moral Education	2	2	2	6
Korean Language	3	3	3	9
Social Studies	3	3	4	10
Mathematics	3	3	3	9
Natural Sciences	3	3	3	9
Physical Education	1	1	1	3
Music	2	2	2	6
Fine Arts	2	2	2	6
Practical Arts	-	2	2	4
TOTAL	19	21	22	62

- Notes: 1. Diagnostic and formative test items of Korean language, social studies, mathematics and natural science are included in the student's learning guidebook of each subject matter.
2. Diagnostic and formative test items of music, fine arts and practical arts which are not developed in the student's learning guidebook are included in each grade learning guidebook of Korean language.

4. Teacher's Guidebook for Broadcasting

II. Textbooks and Other Materials for High School of Air and Correspondence

- A. Correspondence Texts, 1976 Academic Year (in addition to 50 subjects edited or revised in earlier years)
1. The 1st semester of the 2d grade--One subject matter revised
 2. The 1st semester of the 3rd grade-- 13 subject matters edited
- B. Handbook of Radio Instruction Programmes
1. 1974 Academic Year
 - a. Handbook of Radio Instruction for the 1st and 2nd semester respectively of the 1st grade
 2. 1975 Academic Year
 - a. Handbook of Radio Instruction for the 1st and 2nd semester respectively of the 2nd grade
 3. 1976 Academic Year
 - a. Handbook of Radio Instruction for the 1st semester of the 3rd grade
- C. In-service Training Materials for Correspondence School Teachers
1. 1974 Academic Year
 - a. Teacher's Manual of Correspondence Teaching
 2. 1975 Academic Year
 - a. Teacher's Manual of Correspondence Teaching

D. Supplementary Learning Materials

1. 1975 Academic Year

- a. Learning Materials for National Language for the 1st semester of the 1st grade
- b. Learning Materials for Mathematics for the 1st semester of the 1st grade
- c. Learning Materials for English for the 1st semester of the 1st grade

E. Guidebook for Self-study

1. Academic Year of 1976

- a. Student's Guidebook for Self-study

F. Summative Test Materials

1. 1974 Academic Year

- a. Test materials for end of examinations for the 1st and 2nd semester of the 1st grade

2. 1975 Academic Year

- a. Test materials for end of examinations for the 1st and 2nd semester of the 1st and 2nd grade

3. 1976 Academic Year

- a. Test materials for end of examinations for the 1st semester of 1st, 2nd, and 3rd grade

G. News Letter

1. 1975 Academic Year

- a. News Letters edited, printed, and distributed twice and ceased

H. A Preliminary Report on Curriculum Specification of Air and Correspondence High School

1. 1973-77: 1st Grade, One Volume

2. 1974-78: 1st and 2nd Grade, One Volume

3. 1975-78: 3rd Grade, One Volume

I. A Report on Status of Operation of Air and Correspondence High School

1. 1976-79: One Volume

III. Population Education Materials

A. A Study on the Curriculum and Instructional Materials for Population Education: Findings of the First Experimental Tryout

1. Elementary and middle schools (Nov. 1975)
2. High School (Dec. 1975)

B. Teacher's Guide and Student Workbooks for Population Education (Dec. 1975)

1. Elementary School
 - a. Fourth grade
 - i. Social Studies
 - ii. Arithmetic
 - iii. Vocational Education
 - b. Fifth grade
 - i. Korean History
 - ii. Social Studies
 - iii. Arithmetic
 - iv. Vocational Education
 - c. Sixth grade
 - i. Korean History
 - ii. Social Studies
 - iii. Arithmetic
 - iv. Natural Science
 - v. Physical Education
 - vi. Vocational Education
2. Middle School
 - a. First grade
 - i. Social Studies (Geography)
 - ii. Mathematics
 - iii. Physical Education
 - iv. Home Economics

- b. Second grade
 - i. Korean History
 - ii. Social Studies
 - iii. Science
 - iv. Mathematics
 - v. Home Economics

- c. Third grade
 - i. Korean History
 - ii. Social Studies
 - iii. Mathematics
 - iv. Science
 - v. Physical Education
 - vi. Home Economics

3. High School (Non-Grade but Subject Matter)

- a. Korean History
- b. Social Studies
 - i. World History
 - ii. Politics and Economics
 - iii. Society and Culture
 - iv. Korean Geography
 - v. Human Geography

- c. Mathematics
- d. Biology
- e. Physical Education
- f. Home Economics

C. Exemplary Learning Units for Population Education (May 1976)

D. Resource Material Development for Population Education

- 1. Design on Resource Material for Population Education
- 2. Population Analysis for Population Education
- 3. Population Increase and Social Development
- 4. Population Change and Economic Growth
- 5. Population Growth and Management of Environment

6. Family Life and Maternal Child Health

7. Reproduction in Human Population

IV. Industrial Arts Materials

- A. De-Yeun Kim, Kae-hak Lee, Jeung-Kun Lee, and Moo-il Chung; "Study on the development of the industrial arts curriculum for middle schools" (Research Report No. 26)
- B. In-he Lee, Kae-hak Lee, Jeung-Kun Lee, and Moo-il Chung; "Study on the development of the home economics curriculum for middle schools" (Research Report No. 27)
- C. Kae-hak Lee, Jeung-Kun Lee, and Moo-il Chung; "Survey on the industrial arts and home economics education in middle schools" (Research Report No. 25)

V. Miscellaneous

- A. Hong Dae-Shik and Hong Dong-Shik, Towards improvement of the new community education for rural development.
- B. Educational Plan for the Fourth Five-Year Economic Development Plan (1977-81).
- C. Korean Educational Development, an English language newsletter first issued in January, 1976, in a 500 copy edition and to be published irregularly in the future for distribution to research institutes and international friends of KEPI.