A MODEL FOR PLANNING-PROGRAMMING-BUDGETING SYSTEMS APPLICATION TO EDUCATIONAL DEVELOPMENT PLANNING IN THAILAND

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This is to certify that the

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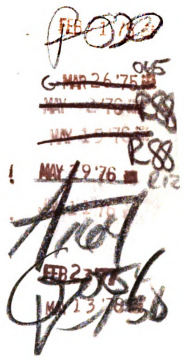

ABSTRACT

A MODEL FOR PLANNING-PROGRAMMING-BUDGETING SYSTEMS
APPLICATION TO EDUCATIONAL DEVELOPMENT PLANNING
IN THAILAND

By

Surat Silpa-Anan

The approaches used in educational planning in Thailand, and other developing countries as well, have considerable pitfalls. Most of them are merely means of determining educational goals which provide planners magnitudes to aim at; few, if any, give planners adequate guidelines for establishing an effective plan to achieve them. It seems necessary to develop a framework for an intelligent planning approach to facilitate the improvement of the conventional planning procedures. The Planning-Programming-Budgeting Systems (PPBS) is a possible alternative. This study is concerned with the development of a PPBS model which can be applied to educational development planning in Thailand. There are five specific objectives:

1. to review educational planning procedures in Thailand,
2. to analyze the main characteristics, elements and procedures of Planning-Programming-Budgeting Systems,
3. to develop a model of Planning-Programming-Budgeting Systems that are related to educational development planning process and that can readily be used by the Ministry of Education, Thailand to accomplish its planning missions,
4. to develop necessary planning documents and their formats,
5. to identify roles and functions of planning-related agencies in educational planning processes in Thailand.

The methology employed was exploratory and descriptive in nature. No theory nor hypothesis was tested. The PPBS model designed was somewhat a theoretical and tentative one. Data and information used were obtained from administrative sources and governmental reports and library research. Materials pertinent to Thailand were sent from the Educational Planning Division of the Ministry of Education; others were obtained from the University library and from school districts where PPBS was employed. Additional data and information were collected from observations in educational units implementing PPBS in the United States, and interviews with concerned officials in these units.

This study assumed that the present educational planning organizations would continue to exist. The PPBS model was designed in order to be introduced into the current planning and budgeting cycle. The model utilized the current planning potentials of the country both at local and national levels. Ten major tasks representing key events that have to be accomplished to complete PPBS cycle were designed. Coupled with a rolling planning concept, the PPBS model for preparing a Five-Year Educational Development Plan was presented in a PERT network form showing the flow of data into and out of the predefined processes in the PPB system and the sequences for completing the various processes. Responsible persons or agencies were assigned to each event. The results obtained in the study led to several recommendations concerning the installation and implementation of PPBS in Thailand.

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A Dissertation

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DEDICATION

to a school teacher named "Charoon"
and a woman named "Boonparma," in the
distant village where I was born, in
Thailand

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CHAPTER I

STATEMENT OF PROBLEM AND RATIONALE FOR THE STUDY

The Problem

It is explicitly indicated that Thailand has been employing the 'social demand' and 'manpower requirement' approaches to educational development planning. This has been stated in 3 Five-Year National Economic and Social Development Plans (1961-66, 1967-71, 1972-76). Educators and planning practitioners, in Thailand and other countries alike, are convinced of numerous shortcomings of these planning approaches that affect the educational systems, and critics hasten to point out alleged weaknesses. Three main criticisms are shared by the professionals regarding the social demand approach. Philip Coombs (1970) stated these as follows:

> (1) it ignores the larger national problem of resource allocation and implicitly assumes that no matter how many resources go to education is their best use for national development as a whole; (2) it ignores the character and pattern of manpower needed by the economy and can readily result in producing too many of some types and not enough of others; and (3) it tends to over-stimulate popular demand, to underestimate costs, and to lead to a thin spreading of resources over too many students thereby reducing quality and effectiveness to the point where education becomes a dubious investment. (pages 267-8, 286)

Many economists prefer the 'manpower requirement' approach to educational planning. While the broad logic of this approach is hard to argue with, Philip Coombs (1970) points out, its practical application reveals a number of flaws: first, it gives the educational

planners only limited guidance. It has nothing to say about primary education (which is not considered to be 'work-connected') though by implication it suggests curbing the expansion of primary education until the nation gets richer. Most manpower studies confine their attention to 'high level' manpower needed by the 'modern sector' (that is, mostly by urban employment). Thus planners are given no useful clues about the additional requirement of the people who would constitute the vast majority to the nation's future labor force, namely, semi-skilled and unskilled workers in the cities and the vast majority of workers who live in rural areas. Second, the employment classifications and manpower ratios (e.g. the desirable ratio of engineers to technicians, doctors to nurses) used in most manpower studies in developing countries, as well as the assumed educational qualifications corresponding to each category of job, are usually borrowed from the industrialized economies and do not fit the realities of the less developed ones. Educational plans based on such faulty assumptions could result in the mispreparation and/or over-preparation of many students for the jobs they are meant to fill. A third difficulty is the impossibility of making reliable forecasts of manpower requirements far enough ahead to be of real value to educational planning, because of myriad economic, technological and other uncertainties involved. The more refined the categories (e.g., 'electrical engineers' rather than 'engineers of all types') and the longer the range the forecast, the fuzzier and the less trustworthy the estimates become. (Coombs, 1970: 40-41; Chirikos & Wheeler, 1968: 169; Folger & Nam, 1964: 19-33; Anderson & Bowman, 1964: 4-46; Miner, 1967: 38-56 and Cash, 1965: 33-47).

In early 1969, Mark Blaug emphasized the inadequacy of these two approaches for Thailand. (Blaug, 1969) He suggested that the 'rate-of-return' be considered as an alternative. This approach, however, carries several weaknesses, such as: (1) the basic cost data are weak (loosely) and critics take the estimated income foregone by students, especially by students from places where heavy unemployment is endemic; (2) concerning with calculation of future benefits, the future income differentials, correlated with educational differentials, the implicit assumption being that they will remain constant in the future; this is very dubious assumption and (3) this method measures only the direct economic benefits and takes no account of indirect economic benefits and non-economic ones. This is a fair-sized exclusion. (Coombs, 1970: 43-44; Blaug, 1967: 169, 268)

None of these approaches, it is now clear, provides an adequate basis by itself for educational planning. (Blaug, 1967: 269; Coombs, 1970: 45) To add insult to injury, the three approaches are merely means of determining educational goals which provide educational planners magnitudes to aim at. Few, if any, give planners adequate guidelines for establishing an effective plan to achieve them. What, then, should be a possible alternative for Thailand? What should be an alternative that provides a framework for intelligent planning which is a substantial improvement over conventional planning procedures? The investigator proposes Planning-Programming-Budget Systems as a possible alternative and hence to be studied.

Rationale for the Study

The underlying premise for the Planning-Programming-Budget Systems (PPBS) approach is that it appears to represent an improvement over existing planning techniques. (Hartley, 1968: 4) The rationale for this study is to attempt to provide a framework for intelligent planning which is a substantial improvement over conventional planning procedures. A PPBS provides a rational basis for the efficient allocation of scarce resources among competing programs which is the heart of the planning mission. The advantage of the proposed approach over traditional planning procedures is that, in the new approach, emphasis is placed upon the outputs, or programs of the schools, rather than on the inputs that are necessary to support these programs. (Hartley, 1968: 4)

Philip Coombs, (1970: 53-54), Frederick Harbison, (1967: 25-26), Robert Chartrand, (1969: 4-5, 11), UNESCO (1970: 14-15, 21-22), OECD (1968: 134) and many others have encouraged research on and consideration of applying the new management techniques such as PPBS and other systems techniques to long-range educational planning. Wilber Steger (in Curtis 1969) points out the pressing reasons for the consideration of PPBS:

> To focus attention on major issues for education; to introduce analysis routinely into comparison of alternative resource allocation; to provide information about future as well as current costs and benefits; to present agency budgets in terms of meaningful activity structure; to save and focus the decision-making time to high officials; to make meaningful comparisons between government and private market progress. (pages 42-43)

The potential of PPBS on long-range planning is described by David Novick: "For more than twenty-five years I have been developing

a management tool--Program Budgeting--which is designed to strengthen an organization's capacity to do long-range planning and to provide a systematic method for resolving major resource allocation issues. Program Budgeting--or Planning-Programming-Budgeting abbreviated as PPB--focuses on basic function of management, which is to use the organization's available resources in the way that will be most effective in meeting its goals." (Novick 1968: 1-2) He emphasizes that the relationship between program and budget, and planning, programming and budgeting merits more complete description. (p. 11) This point is substantiated by John Due as excerpted by Irwin (1968):

> These systems (PPBS) seek to integrate long-range planning of government activities and programming of specific activities with annual budgeting, making use of the program budget structure and of various quantitative techniques in the evaluation of proposals. Systems analysis and cost-benefit techniques are employed with quantification of costs and benefits to aid in the selection of the best alternatives. This approach seeks to aid in defining the goals and in choosing among the goals, in specifying alternative programs to attain the goals, in choosing the best alternatives, and, subsequently, in measuring performance. Planning is extended forward for several years, rather than focusing attention on current year, with reconsideration of the overall plan at frequent intervals as the specific budget for each year is developed. Programming involves that statement of relationship of inputs and outputs, under various alternatives, to accomplish the desired objectives. (page 3)

According to Vincent Moore (in Curtis, 1969), the significance of PPBS to comprehensive planning is that:

> . . . it can serve truly comprehensive planning (including economic and social planning as well as physical planning) as capital programming has served our traditional physical development planning. The principles are essentially the same and PPBS incorporates the capital programming methodology, adding to it

> the other resources allocations required for government program service which do not require capital plant for operation (such as many welfare programs and economic development programs), but for which manpower and fiscal support and allocations are required. Obviously, the PPBS concept hints at some radical re-evolution of the organizational locus, operation scope, and internal structure of both the comprehensive planning and budgeting agencies. While changes are probably in the offering, no general policy can be set forth, at least at this time. It may be that many comprehensive and social planning agencies established with whom they have to compete like any other old-time agency. It may be that budget agencies which have been plodding along with tunnel-vision focus on short-term budget execution and control suddenly find themselves accounting groups for new programming and resource allocation agencies. Or it may be that both budget and planning functions become merged in a single agency. (page 2)

Whatever the future brings, Vincent Moore states in the same source, ". . . it is safe to say that PPBS concept, if not prematurely killed in the stampede of organizational panic, will go down in the history as one of the most revolutionary devices ever introduced in government." (Curtis, 1969: 2)

One of the strengths of PPBS is that it is capable of cutting across organizational boundaries, drawing together the information needed by decision-makers without regard to divisions in operating authority among jurisdictions. The advantage for planning is obvious.

> A program can be examined as a whole, contradictions are more likely to be recognized, and there is a context--otherwise lacking--for consideration of changes that would alter or cut across existing agency lines. (David Novick, 1968: 4-5)

However, program budgeting is not a panacea, Brent Bradley (1967) stated before the California Assembly Hearing:

> . . . it will not achieve wonders. Its success is probably to be measured more in terms of bad decisions prevented, rather than optimal choices made. Whatever its limitations, however, program budgeting must be considered in light of its alternatives. For the time being, program budgeting has much to offer and is worthy of your support. (page 11)

The available literature is simply in describing what PPBS is and/or should be: it suggests some of the ways it might be applied to education: but it is woefully lacking in any discussion of practical application to educational planning. For educational management, there is the need to strengthen training and research in educational planning itself. (UNESCO, 1970: 21) UNESCO suggests that research in the problems and methods of educational planning and development needs organization.

> If available research talent and resources are to have the greatest impact, they cannot be scattered aimlessly in all directions at once: they must be concentrated on selected problems with sufficient intensity to break through to significant new knowledge and practice. Much of the effort must be directed to solving the specific practical problems and needs of practicing educational planners and managers in the shortest possible time. (UNESCO, 1970: 22)

Such is the main purpose of this study. Specifically, this study aims to provide a framework for the implementation of PPBS in the Thai educational system after which the following objectives, like that developed by Wilber Steger, (in Curtis 1969: 43-44) can be sought:

1. promote an effective degree of bureaucratic centralization as well as "creative decentralization,"

2. relax constraints related to specific administration's political fate,

3. increase awareness of diversity of organized and unorganized, governmental and non-governmental, influences,

4. facilitate access to top government and non-government interests,

5. facilitate image of independence of thought from present administration,

6. overcome an image of infeasible "do-gooding" that planners sometimes have,

7. increase the effectiveness of working relations with various other operating agencies,

8. facilitate the ability to order priorities meaningfully,

9. create a technical source of power in decision-making,

10. routinize the notion of comprehensive comparison of alternatives,

11. increase the freedom from civil service restrictions and limitations on staff functions in public appearances.

Therefore it is reasonable to state that it is rational to apply the PPBS techniques to educational development planning, and that the results of this study will serve as a framework for intelligent planning which is a substantial improvement over conventional planning procedures in Thailand.

Purposes and Scope of the Study

Main Purposes

1. To develop PPB systems that are related to educational development planning in Thailand,

2. To develop long-range educational planning procedures that can solve major development problems of Thailand,

3. To explore methods of applying new planning techniques to educational development which coupled with other findings of other studies conducted in different settings will contribute to the development of a more comprehensive and more useful theory of educational planning than that which now exists.

Specific Objectives

1. To review educational planning procedures in Thailand,
2. To analyze the main characteristics, elements and procedures of Planning-Programming-Budgeting Systems,
3. To develop a model of Planning-Programming-Budgeting Systems that are related to educational development planning process and that can readily be used by the Ministry of Education, Thailand to accomplish its planning missions,
4. To develop necessary planning documents and their formats,
5. To identify roles and functions of planning related agencies in educational planning process in Thailand.

Scope of the Study

The study is limited to an investigation and subsequent development of a theoretical model for initiating the principles of Planning-Programming-Budgeting Systems in the public educational development planning for Ministry of Education, Thailand. The study is primarily concerned with investigating new aspects of a systems approach. It will be an exploratory and descriptive in nature. Since the experience of the educational institutions with PPBS is still new, and practically non-existent in Thailand, this analysis will of necessity be somewhat theoretical and tentative.

The study is not intended to be experimental in design. No specific theory nor hypothesis is to be tested. Data gathered from

the study, however, could hopefully be classified into sections from which hypotheses may be developed over time.

Assumptions of the Study

1. It is assumed that planning is desirable and a technical process
2. It is assumed that the present educational planning organizations will continue to exist. A PPBS will be introduced into a current planning and budgeting cycle with special attention to the fit. Changes in the currently organizational system may or may not be called for depending upon the analytical results.

Definition of Terms

Planning-Programming-Budgeting System (PPBS): is a management system involving the selection or identification of the overall, long-range objectives of the organization and the systematic analysis of various courses of action in terms of relative costs and benefits (Planning); deciding on specific courses of action to be followed in carrying out planning decisions (Programming); and translating planning and programming decisions into specific financial plans (Budgeting). (Gulko, 1972: 119)

Educational Planning: is the organized, conscious and continual exercising of foresight in determining the policy, priorities and costs of educational system, having due regard for economic and political realities, for the systems potential for growth, and for the needs of the country and of the pupils served by the system. (Beeby, 1967: 13; Waterston, 1969: 26)

Rolling Planning: this term is used interchangeably with "cycling planning." It is a system of revising a multi-year plan at the end of each year and, as the first year of the plan is dropped, estimates,

targets and projects for another year is added to the last year. (Waterston, 1969: 139-141) The plan derived from this system is called "rolling plan," or "cycling plan."

System: a system is an integrated assembly of interacting elements, designed to carry out cooperatively a predetermined function. (Flagle, Huggins and Roy, 1960: 58-59)

PERT (Program Evaluation and Review Technique): is a method of defining, planning, coordinating and controlling what must be done to successfully accomplish the objectives of a project within the prescribed time limits. (Smith, 1970; Federal Electric Corp., 1967: 1)

CHAPTER II

RESEARCH PROCEDURES

Study Framework

This study is an investigation and subsequent development of a hierarchical model for initiating the principles of Planning-Programming-Budgeting Systems in the public education development in Thailand. It is primarily concerned with investigating new aspects of the systems approach. The study utilizes the technique referred to as a content analysis. (Borg, 1963: 256-260; Holste, 1969) This technique is reported to be beneficial in descriptive studies for use by administrators, and of particular value in educational situations (Mauly, 1963: 281-282) such as is the present study trying to accomplish. The study attempts to systematize the construction of structure which identifies the different elements and variables of which the phenomenon to be studied, namely PPBS, is composed and by which it is shaped. The study also relates the theoretical properties of PPBS to the contemporary practice of educational planning for national development.

Due to its exploratory and descriptive nature and the fact that no cause and effect relationship are expected to be discovered, no statistical hypotheses are generated for this study.

Data and Information Collection

To encompass the objectives of the study, data and information were collected from administrative sources and government reports of Thailand which were obtained directly from the Educational Planning Division of the Ministry of Education. Other materials pertinent to

the study were obtained from the University Library, personal collection, and from school districts and other educational institutions implementing PPBS in the United States. In-depth information on PPBS installation and implementation was obtained from observations in educational units which were implementing PPBS and interviews with officials concerned in these units.

No formal statistically oriented sampling plan was used in this study but a selected sample was used for the observations and interviews. Sample of educational units were selected on the basis of stages of PPBS implementation, namely "fully implemented," "implementing," and "preparing to implement." Three such units were visited: (1) Office of Planning-Programming-Budgeting, New York City Board of Education; (2) The Office for Program Budgeting, the School District of the City of Detroit; and (3) Office of Management Service, Michigan State Department of Education.

The Office of Planning-Programming-Budgeting of New York City Board of Education has three sub-units--Systems Planning and Program Analysis, Program Budget Operations & Review, and Management Information. This office is one of the pioneers in PPBS implementation. The Office for Program Budgeting of the School District of the City of Detroit is a one-year old office whose main attempt was aimed at the second end of the PPBS principle, program budgeting. The Michigan State Department of Education is attempting to apply PPBS techniques in allocating resources for educational development on statewide basis.

During the visits, the investigator observed the operations of PPBS and interviewed the officials concerned. Twelve officials were

interviewed. While collecting data and information, the investigator attended the 1972 National Conference for Educators under the direction of Dr. Harry J. Hartley and Center for Educational Research and Field Services, School of Education, New York University, during April 28-29, 1972. The main theme was "Instructional Objectives and Program Evaluation: Planning-Programming-Budgeting Systems." About one hundred and fifty PPBS users and educators from school districts and from other educational institutions throughout the United States and other countries attended the conference. The conference had the following operational objectives: (1) identify and bring together school districts that are using PPBS in instructional programs, (2) provide an information exchange for PPBS users, (3) examine PPBS documents, forms and materials developed by districts across the nation, (4) direct questions on specific problems to panels of experts with operational experience, (5) identify "next steps" for school districts, (6) discuss possible misuses and pitfalls with systems procedures in education, (7) evaluate current PPBS activities in local school instructional programs, and (8) strike a balance between the "perfect and the possible" with PPBS. Ten of the participants were selected to be interviewed. Questions asked are recorded in Appendix E.

Presentation of Findings

The presentation of the findings of this study was based on sources of authority, references and the investigator's judgment. In order to avoid undue subjectivity, the findings were examined and validated by, in addition to the research director, four knowledgeable faculty members at Michigan State University who served as judges to

attest to the procedures of the study and its findings. One of the faculty was familiar with Thailand and knowledgeable in PPBS; three of them were knowledgeable in PPBS.

First, the conventional planning procedures for developing a five-year educational development plan in Thailand were described. This step provided a framework for the application of PPBS and the improvement of planning procedures in the nation.

Next, the study analyzed the concepts, elements, and variables which the PPBS was composed and by which it was shaped. Practices concerning the installation and implementation of PPBS in public schools in the United States were also examined. This step summarized the concepts, components, and elements of PPBS and devised PPBS procedures for the preparation of a five-year educational development plan.

Using the preceeding findings and analyses, this study constructed a PPBS model for the preparation of a Five-Year Educational Development Plan in Thailand by incorporating the concept of "rolling planning" into the model. Planning documents were designed for use. The expected end-product of this study was a procedural manual developed on the principles of Planning-Programming-Budgeting Systems to guide planning practitioners in Thailand in establishing, implementing, and evaluating a Five-Year Educational Development Plan.

CHAPTER III

CURRENT PLANNING PROCEDURES IN THAILAND

Instead of giving exhaustive detail an outline of education in Thailand (data readily available from other sources, such as Educational Information, 1960; Wronski and Swasdi Panich, 1966; Joint Task Force, 1964; Chandawimol, 1963), this chapter will present only that information which is germane to an understanding of the forces in the Thai educational system which either impede or enhance educational development planning.

The present administrative structure and the formulating procedure of Third Five-Year Educational Development Plan are described. Insight into the existing planning procedures in Thailand is the object of this chapter.

Administrative Organizations

In Thailand, education is both centralized and decentralized. This apparent paradox comes about because of the different agencies to which responsibility for education is assigned. (Harper and Wudhipreecha, 1968: 1) Administrative responsibilities are split between central and local authorities.

Centralized Control

The administrative responsibility for elementary education rests primarily with the Ministry of Interior. However, the Ministry of Education retains responsibility for the technical and pedagogical aspects of elementary education, as well as complete control over some 400 out of total of almost 300,000 elementary schools operated as

experimental institutions. The Ministry of Education also administers secondary (vocational and academic) and adult general education, as well as technical institutes and teacher training institutions at the post-secondary level. Private schools are under the Ministry of Education's supervision and control. Trade skill training programs are offered by the Department of Labor and the Department of Community Development of the Ministry of Interior. A National Youth Promotion Committee was recently established under the Office of the Prime Minister, to develop and coordinate rural youth development programs.

The universities exercise considerable autonomy, and they are only nominally subject to control by various agencies, such as the Office of the Prime Minister to which all universities are formally responsible. The National Education Council's (in the Office of the Prime Minister) approval is needed for organizational and curricula changes. It is also responsible for the review of university budget. Private colleges are jointly supervised and controlled by the National Education Council and Ministry of Education.

At central level, the three organizations--Ministry of Interior, Ministry of Education, and Office of the National Education Council of the Office of the Prime Minister, work closely together in policy-making and plan formulation for educational development under their responsibilities throughout the country.

Decentralized Control

A step toward decentralizing control of primary schools was made in 1963 where responsibility for primary schools that were located in municipal boundaries was transferred from the Ministry of Education

to the local municipalities. In 1966, the government massively decentralized by transferring the control of approximately 26,000 primary schools from the Ministry of Education to the local Changwad Administrative Authority under the Ministry of Interior. As in the municipalities, the local changwad administrative authorities are responsible for financing and administering the schools. Most of financial resources, however, are provided by the central government through the Ministry of Interior. For both types of primary schools (schools under the Ministry of Education and Ministry of Interior) the Ministry of Education continues to have centralized responsibility for curriculum and technical contents. (Educational Planning Division, 1970b: 2; Harper and Wudhipreecha, 1968: 2) To carry out the national overall policy the Ministry of Education serves as a coordinator between the Changwad Administrative Authorities and the municipalities in the development and harmonization of education at the local level. Harper and Wudhipreecha (1968) summarize the situation as follows:

> Primary education in many respects is decentralized. Responsibility for its administration, operation, and financing is vested in 71 changwad administrative authorities. At the same time what is taught in schools, is still centralized in the Ministry of Education. Thus Thailand is reaching for the best of two organizational world: from decentralization, involvement in and support of local education by people; from centralization, quality in the curriculum that can best be achieved by bringing to bear the best resources in the whole nation. (page 2)

At local level, education is carried out through a system that blankets the Kingdom at three different levels. There are 12 regional education offices, each headed by a Regional Education Inspector;

71 changwad (province) education offices, each administered by a Changwad Education Officer; and 574 or more amphurs, (district) each led by an Amphur Education Officer.

Regional Education Inspector

A regional education inspector is charged with giving leadership to the improvement of education in his section of the nation, particularly in adapting education to the special needs and opportunities found locally. He inspects and supervises the schools and oversees inservice-training for teachers in his region. Each regional education inspector is responsible for an average of six changwads.

He is appointed by the Under-Secretary of State for Education. He is not "line officer" but a "staff personnel;" along with his supervisory staffs, he works in constant cooperation and communication with changwad education officers.

Changwad Education Officer

Changwad education officer is responsible for all educational activities in his territory. The changwad education officer is responsible for: (1) the establishment, maintenance, and discontinuance of schools, (2) the adoption of textbooks, (3) the appointment and dismissal of teachers, (4) the increasing of teachers' salaries, (5) the planning for the development and maintenance of education in the changwad, (6) the inspection and supervision of all schools, (7) the allocation of monies to local schools, and (8) the expansion of upper primary (grades 5, 6, 7) schools, and (9) the preparation of the changwad educational budget. (Harper and Wudhipreecha, 1968: 3-4)

The changwad education officer is appointed by the Office of Under-Secretary of State for Education, Ministry of Education. He theoretically reports to the Ministry of Education through his regional education inspector, but this policy has never been followed in practice; the regional education inspector exerts no direct influence over the changwad education officer.

Changwad division heads in each changwad, such as changwad education officer, changwad agriculture officer, changwad economic officer, changwad finance officer, changwad community development officer, and changwad sanitation officer, sit in "council" as an autonomous body responsible only to the governor. This council of division heads is known as the Changwad Administrative Authority. Since 1966, the changwad administrative authority in each changwad has been charged with responsibility for compulsory education in all aspects. Before 1966, local education officers received policy directives for the operation and financing of schools directly from the Ministry of Education. Now policy determinations can be made at the changwad level. The roles of the Ministry of Education and Ministry of Interior have supposingly become to be one of making suggestions and giving advice. In practice, however, the two Ministries still have very strong control over changwads.

Amphur Education Officer

His responsibilities for educational development and maintenance are like those of changwad education officers. The amphur education officer's responsibilities simply pertain to a smaller geographical area, the amphur (district), which is one of several (an average of eight) in the changwad. Being appointed by the Ministry of Education,

he is delegated and relied upon by the changwad education officer and reports directly to him.

The amphur education officer has authority in his amphur for such crucial educational decisions as: (1) the establishment of local schools, (2) the operation of local schools, (3) the enforcement of compulsory attendance law, (4) the transfer of pupils from one school to another, (5) the preparation of the educational budget, (6) the inspection and supervision of local schools, and (7) the allocation of monies and materials for schools. (Harper and Wudhipreecha, 1968: 4)

Since the Ministry of Education and its various departments have a major role in the development planning for the country, more details of its administrative structure are presented here.

Ministry of Education Organization

Administrative relationships within the Ministry of Education are illustrated in Figure 3.1; this organization chart shows that the Ministry of Education is composed of two offices and eight departments.

The Minister of Education is a political appointee and sits on the Cabinet where he represents the interests of education and educators in decisions involving national policy. His "official" relationship to the Prime Minister and other members of the Cabinet is that of educational advisor, and he is held responsible for execution of directives issued by the Cabinet which affect education.

The Minister's Secretary and staff are responsible for assisting the Minister in performance of his duties--many of which are ceremonial,

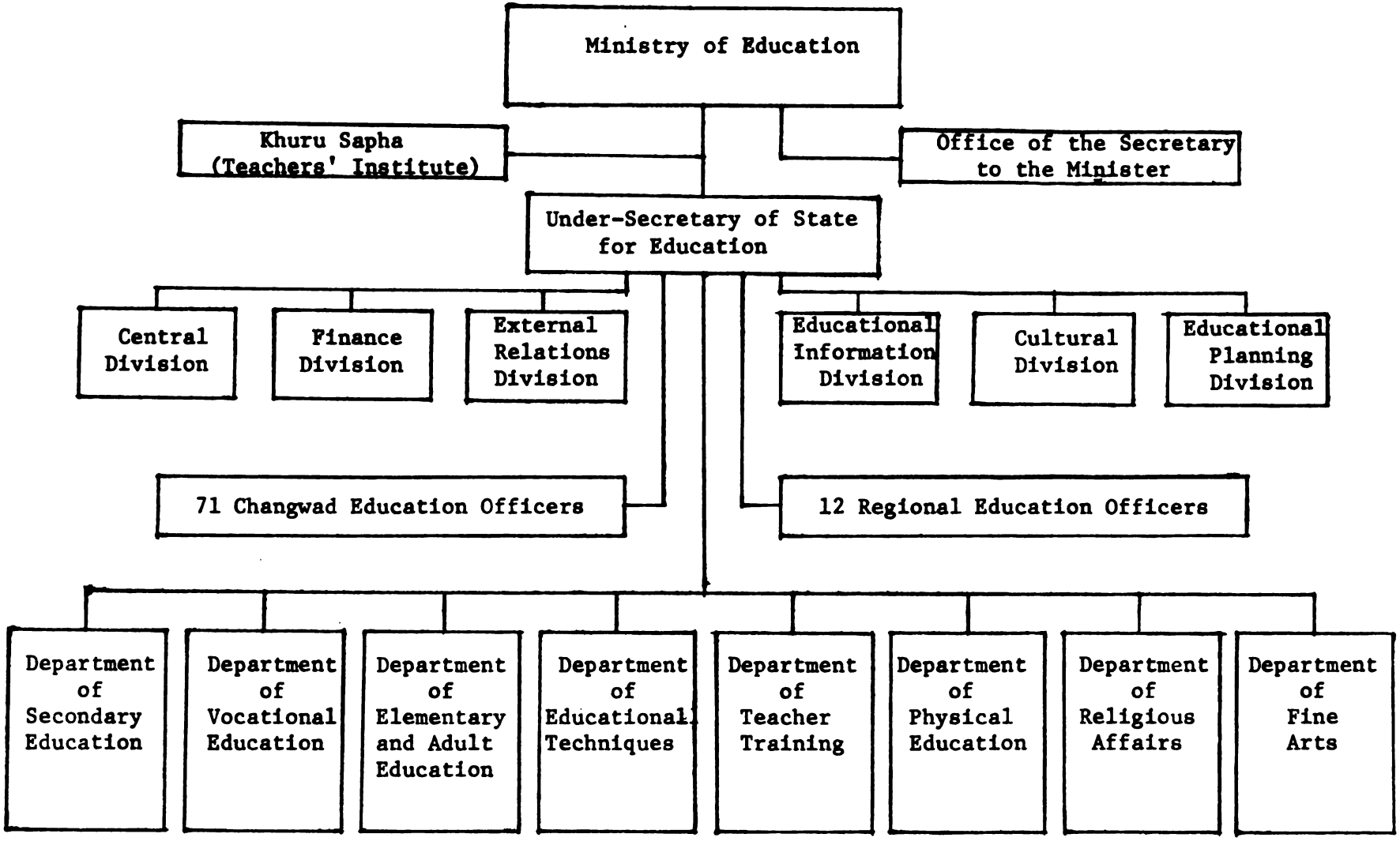


FIGURE 3.1 ORGANIZATION OF THE MINISTRY OF EDUCATION

social, cultural and/or representational. Responsibility for coordination of program execution with other government agencies may be assigned by the Minister to his Secretary, as may duties connected with preparing speeches, answering correspondence and writing reports.

Khuru Sapha (Teachers' Council) was created by law in 1945, and all school teachers are required to become members. This government-sponsored professional organization has as its primary "official" functions: (1) advisement to the Minister on methods of improving teacher welfare, (2) consultation with Ministry officials in development of elementary and secondary in-service training programs, (3) provision of health and other fringe benefits, etc. The Executive Board of Khuru Sapha approves the appointment, promotion, transfer and termination of members and is also charged with raising academic standards of teachers. This organization also publishes three monthly professional journals.

The Under-Secretary of State for Education has responsibility for overall management of the national education establishment; his is the highest ranking professional civil service position in the Ministry of Education. Whereas the Minister of Education is a political appointee and his duties are largely representational in nature, the Under-Secretary is expected to confine his activities to planning, organizing, directing, coordinating, staffing and controlling activities of the agency. The latter is charged with coordinating of program activities within the Ministry and cooperation with other government agencies in resolution of problems associated with education in which these other offices may have interest. The Office of

Under-Secretary of State for Education is made of six divisions: Central, Finance, External Relations, Educational Information, Cultural and Educational Planning Divisions. These divisions, together with two Deputy Under-Secretaries of State for Education, comprise the Secretariat of the Ministry.

Responsibility for operational management of education and educational service functions rests with eight departments within the Ministry:

1. Department of Elementary and Adult Education
2. Department of Secondary Education
3. Department of Vocational Education
4. Department of Teacher Training
5. Department of Physical Education
6. Department of Educational Techniques
7. Department of Religious Affairs
8. Department of Fine Arts

Collectively, these departments are charged with meeting the professional needs of regional, provincial, district and local educators and education officers. Specialized staffs within these eight departments provide educational leadership, business management, technical and other services to subordinate levels. Each department is under the supervision of a Director-General, a secretary and chiefs of specialized divisions. Divisions, which vary in number from department to department, depending upon the functions assigned and/or performed, are in turn subdivided into sections, each directed by a section head.

Agencies Responsible for Educational Planning

Agencies responsible for educational planning in Thailand can be conceptualized as two levels--national and local.

1. National Level

Five governmental agencies are responsible for educational planning at this level: The National Economic Development Board (NEDB), The National Education Council (NEC), the Bureau of Budget (BOB), the Ministry of Education (MOE), and the Ministry of Interior (MOI).

The National Economic Development Board (NEDB), among other functions, is responsible for coordinating the overall educational development plan (Education Sector) with the national social and economic development plans. The Board is also responsible for allocating development budget for education. (Educational Planning Division, 1970a: 2; 1970c: 322; NEDB Act, 1959: 3-5) It is the highest planning agency within the nation.

The National Education Council (NEC) is responsible for formulating and defining overall educational policies and development programs so as to comply with the national development plan (Educational Planning Division, 1970c: 322), and for considering and working out "coordination of educational projects and plans of all ministries, public bodies, departments, changwad administrative authorities, and municipalities so as to comply with national development plan." (NEC Act, 1969: 3) This office also serves as the coordinator among all higher education institutions throughout the country.

According to the Educational Planning Division (1970a), the Educational Planning Division of the Ministry of Education:

> serves as the representative of the Ministry of Education in the part of the national education planning; serves as the center for making operation plan with the cooperation of different departments within the Ministry of Education; assists the regions and provinces in educational planning at the local level; serves as the center of Ministry of Education in (a) collecting data, figures and statistics of education, and (b) analyzing different projects of the Ministry of Education before forwarding them to outside the Ministry; analyzing all the proposed budgets in education; studying and analyzing all problems related to educational planning and economics of education; serving as the coordinator between regional education inspectors and the local administrative officials in educational planning. (pages 1-2)

The Bureau of Budget (BOB) of the Office of the Prime Minister is represented in the Executive Committee of the National Economic Development Board during the Five-Year Plan operation. It joins the Board in considering the overall fiscal plans and policies. The Bureau also supervises and controls the educational budget during plan implementation phases. (Bureau of Budget, 1966: 88)

The Local Education Division of the Ministry of Interior serves as a coordinator in fulfilling the Ministry's policy on compulsory education planning. The main planning tasks which are considered as technical contents, however, are performed by the Ministry of Education and the National Education Council at national level and by the changwad administrative authorities at the local level. See Figure 3.2

2. Local Level

Planning for educational development at local rests with, as mentioned earlier, three network offices--regional, changwad, and

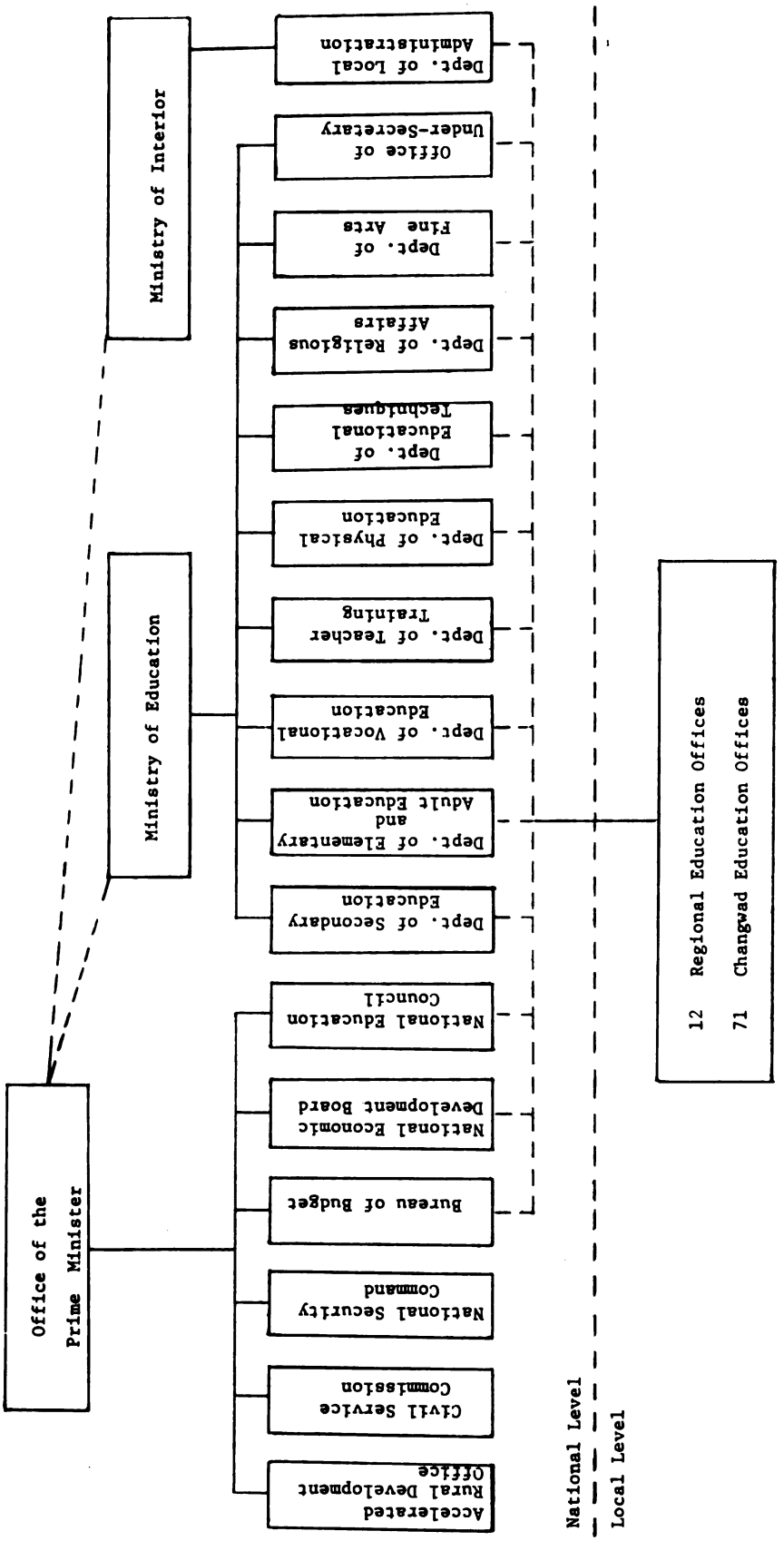


FIGURE 3.2 AGENCIES RESPONSIBLE FOR EDUCATIONAL PLANNING

amphur, according to functions designated. Details of their functions will be explained under these headings: procedures for planning at local level, and procedures for planning at national level.

Procedures for Planning at Local Level

The Ministry of Education had, in 1963, moved to establish the Educational Planning Division (EPD) in the Office of Under-Secretary of State for Education. Putting the EPD in that office was done primarily to enable it to serve all the departments of the Ministry of Education in its studies and recommendations. As the EPD came to see how essential good planning was at all levels, it proved fortunate to be located in the office that is responsible for amphur, changwad and regional education officers.

The preparation of the First and Second National Education Development Plans (1961-1966 and 1967-1971) took place at the central headquarters and was focused on the national needs. The aggregate approach tended to give little attention to problems which were unique to particular regions when regional officers had no contribution at plan formulation period. Regions and locals had no full understanding of plan implementation and no participation in budget proposals. (EPD, 1971: 323)

In responding to the problems, the Educational Planning Division, with technical assistance from Michigan State University, launched a District Planning Project (DPP) early in 1967. It was so designated because the District (amphur) was the unit in which the facts were collected and for which the plans were formulated. The project focused on the principle of two-way planning--"bottom-up" and

"top-down." The main purpose was to encourage planning activities both at local and national levels. This could hopefully insure wide participation through a democratic process; the involvement of the various central government agencies at the center, regional, provincial, district and school levels could improve the amount of vertical participation. In addition, participation could be increased directly by involving regular committee members, staff members and specialists at each level or indirectly by using consultants.

One amphur was selected to make a pilot study. During the remainder of 1967-68, twelve amphurs (one from each region) joined the project. The objectives of the project were:

> (1) to provide people at local levels with data and the ideas that will promote local planning and wise decision-making, (2) to help build the desire and capability for local planning on the part of those who make decisions, and (3) to develop materials and processes that will be useful guides in the collection of data, the handling of data, and the use of data to reveal problems and to form decisions.
>
> --Harper and Wudhipreecha, 1968: 20

The changwad and regional education officers, at their annual meeting in June 1968 at Chiengmai, a northern province, showed great interest in the speedy adaptation of the project toward meeting changwad needs. At this meeting it was agreed that each province would set up its own educational plan. The Educational Planning Division agreed to provide technical assistance to all provinces. The District Planning Project was then changed to the "Regional Education Planning Project." According to Educational Planning Division (1970c), the purposes of the project were three-fold:

> (1) to encourage each province to establish its own educational plan within 2-3 years, (2) to encourage each province to establish its educational plan in harmony with National Economic and Social Development Plan, National Education Development Plan, as well as its own socio-economic conditions, and (3) to provide provincial educational plans as basis for establishing the Third Five-Year National Economic and Social Development Plan (1972-1976)--Education Sector, of which the Ministry of Education and the National Education Council will be in charge. (page 325)

The planning procedures used for the Regional Education Planning Project are displayed in Figure 3.3. The procedures can be conceptualized as a six-step process:

Step 1: Survey forms design

Step 2: Technical training

Step 3: Educational survey and diagnosis

Step 4: Plan writing workshop

Step 5: Plan integration

Step 6: Plan implementation

Survey Forms Design

The Educational Planning Division staffs devised eight survey forms for collecting data at the provincial level. They were forms on (1) pupils--enrollment, age group, attendance, examination results; (2) teachers--principals' questionnaire, personnel's questionnaire; (3) facilities; (4) equipment; (5) finance; (6) expenditures; (7) adult education; and (8) data display. All forms were designed in such a way that they were easy to read, to follow and were economical, minimum time consuming and processable by hand. Forms 1-7 were data gathering tools

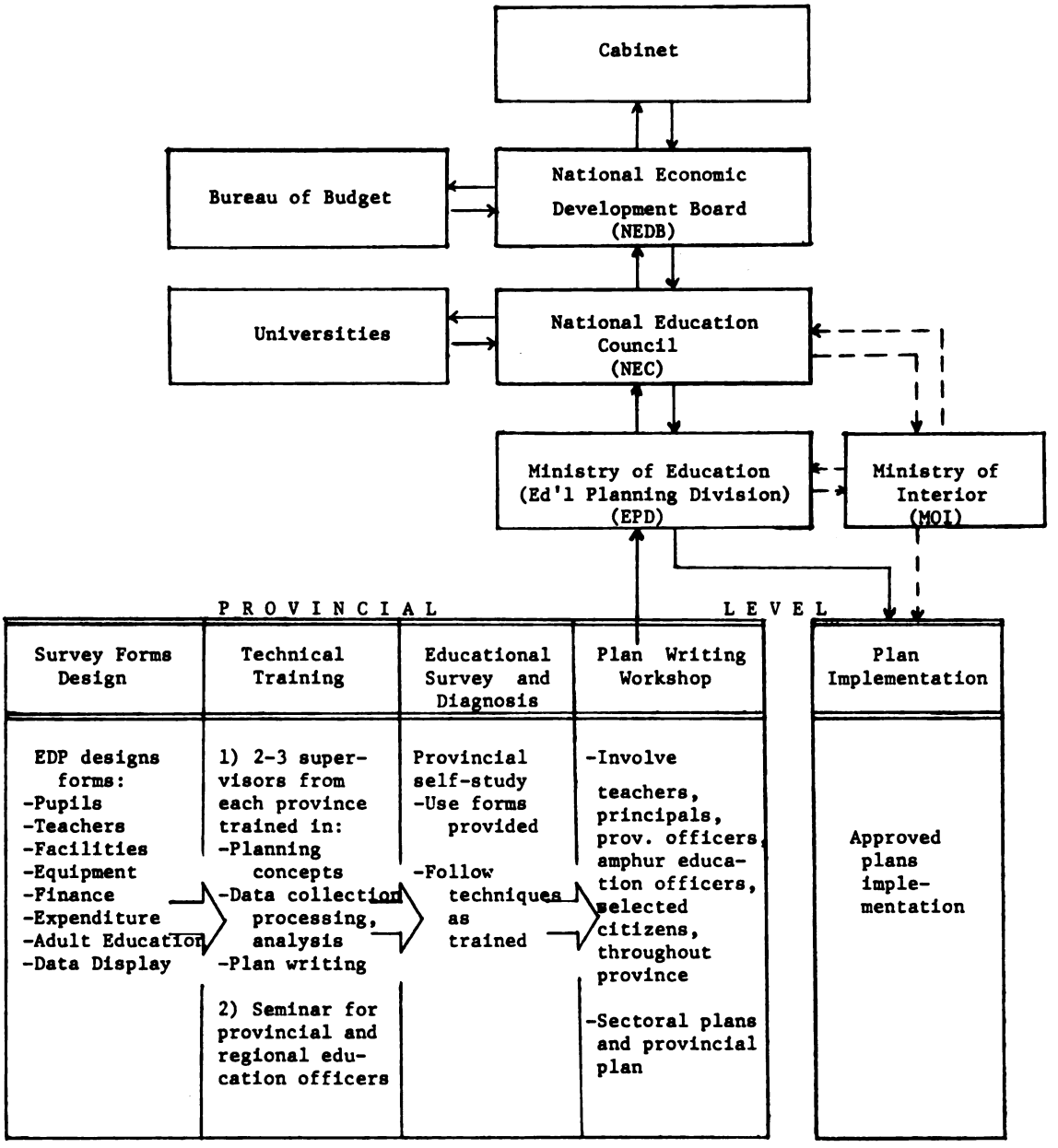


FIGURE 3.3 PLANNING PROCEDURES AS DEPICTED BY REGIONAL EDUCATION PLANNING PROJECT

Source: Silpa-Anan, 1969

while form 8 was a complete data display (summarized from forms 1-7) designed to be used as a "planning document" in subsequent steps.

Technical Training

There were two technical seminars involved: (1) seminar for planning technicians, and (2) seminar for changwad education officers and regional education inspectors.

Two to three provincial education supervisors were selected from each province to be trained in educational planning techniques. These supervisors became provincial "planning technicians."

The training seminar was organized cooperatively among Educational Planning Division, ministerial inspectors, regional education inspectors, and changwad education officers. There were five seminars of the kind, five days each, to cover the whole country.

The seminar contents covered from general areas such as educational planning concepts to specific ones such as techniques of data collection, processing, analysis, and plan writing. The main purposes were to enable the supervisors to precisely use the survey forms, and to familiarize them to the new concept of educational planning.

A one-week seminar for changwad education officers and regional education inspectors was conducted in Bangkok by the Ministry of Education. The main purpose was to familiarize these officials with the concepts and techniques of educational planning and decision-making so that they could provide proper leadership in the planning process. The officers had opportunities to meet national educators, planners, economists, and social scientists. Case studies of selected provinces were used during the seminar.

Educational Survey and Diagnosis

Planning technicians conducted a self-study survey by sending forms provided by Educational Planning Division and following guidelines as trained. Seven survey forms were sent to schools to gather needed data. The complete forms were then sent back to the changwad education office where they were edited, processed, and analyzed by the planning technicians. The finished data were transferred to a single compact form--Data Display which, afterward, would be used as a "planning document." The Data Display was a 103-page document showing summarized data in all aspects of education within the province--pupils, teachers, facilities, equipment, finance, expenditures, and adult education. Data presented included both existing conditions and five-year projections. (EPD, 1968) The processing of data was done by hand using an abacus and/or a simple calculating machine.

Plan-Writing Workshop

Next was a planning-writing workshop at province. Participants included such persons as teachers, principals, amphur education officers, changwad education officer, provincial education supervisors, regional education supervisors, selected citizens, and members of the changwad administrative authority council.

After a general assembly, the participants were divided into several groups to form committees. Each committee was responsible for specific "sectoral plans," normally seven: lower elementary education, upper elementary education, academic secondary education, vocational secondary education, adult education, and promotion services.

Each sectoral committee identified problems, set objectives, identified alternatives for each objective, identified available resources and made decisions for further courses of action. The member of the committee established actions into "project" form. The final product of each sector, then, was a combination of projects. Projects were, in reality, plans for each sector. A sectoral plan normally included such information as (1) existing conditions, (2) problems, (3) direction of action, (4) targets, and (5) sets of projects.

Each project within a sectoral plan typically followed the format designed by the Educational Planning Division. It was as followed:

1. Project title
2. Problem
3. Objectives
4. Course(s) of action
5. Responsible authorities
6. Required budget
7. Follow up and evaluation method

After sectoral plans had been finished, the participants reassembled to put together the overall provincial plan. Each committee reported its plan. Reaction, questions from all participants were entertained. Adjustments were made and plans were approved. The combination of sectoral plans developed into provincial master plan. The plan was officiated by the governor's signature before it was

presented to the Ministry of Education for further action in integrating into national education development plan.

Displayed in Appendix D.1 is a detailed outline of Changwad Khonkaen Educational Development Plan, 1970-1976, as formulated from its own provincial effort.

Procedures for Planning at National Level

In preparing the Third Five-Year Educational Development Plan (1972-1976), Thailand employed a committee approach. According to Educational Planning Division (1970a: 3-4 and A.7) several committees were established at national level. Their designated names and affiliated organizations were conceptualized as shown in Figure 3.4. Functions for each committee can be described as follows:

1. The Committee of Planning of the Third National Education Development Plan was appointed by the Executive Committee of the National Education Council with the Secretary-General of the National Education Council acting as its chairman. The Committee was responsible for formulating policies, setting targets, establishing budget ceilings, and defining projects of the national plan.

2. The Task Force Committees to Study and Prepare Education Development Plan was appointed by the Committee of the Third National Education Development Plan. It comprised four working groups: (1) higher education, (2) secondary education, teacher training and special education, (3) elementary education and kindergarten, and (4) nurse education.

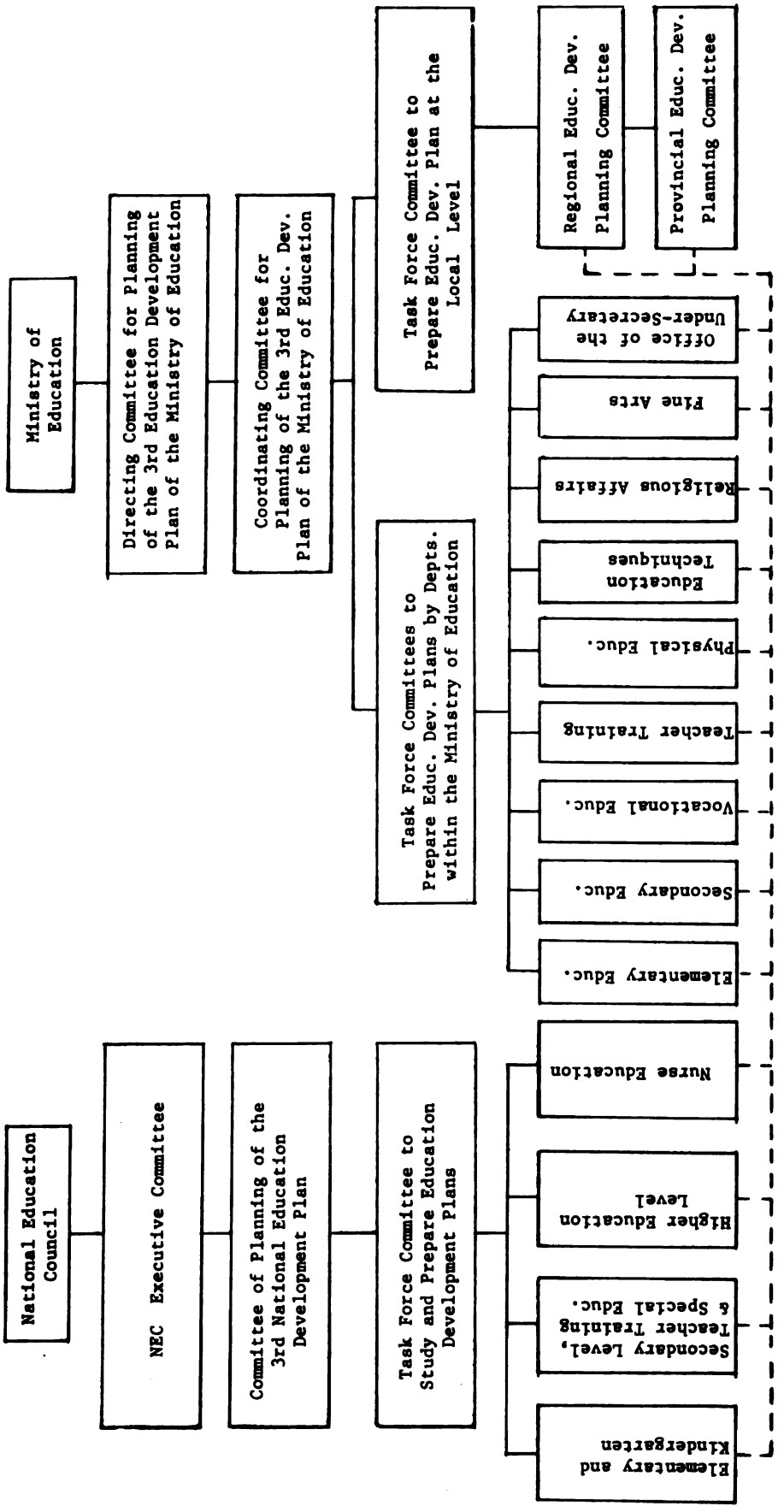


FIGURE 3.4 ORGANIZATIONAL STRUCTURE FOR THE PREPARATION OF THE THIRD FIVE-YEAR EDUCATIONAL DEVELOPMENT PLAN

In fulfilling its responsibilities, the Ministry of Education established several committees to cooperatively work with the four working groups. They were numbers 3-6 that followed.

3. Directing Committee for Planning of the Third Education Development Plan of the Ministry of Education.

4. Coordinating Committee for Planning of the Third Education Development Plan of the Ministry of Education.

5. Task Force Committee to Prepare Education Development Plan by Departments within the Ministry of Education: there were nine groups representing nine departments within the Ministry of Education which comprised the Task Force. Included were Elementary and Adult Education, Secondary Education, Vocational Education, Teacher Training, Physical Education, Educational Techniques, Fine Arts, Religion Affairs, and Office of Under-Secretary of State for Education.

6. Task Force Committee to Prepare Education Development Plan at Local Level worked with the twelve educational regions and seventy-one changwad education offices.

It can be conceptualized that there were two "sets" of planning groups, in this case committees, at national level. One responded to the Executive Committee of the National Education Council another reported to the Ministry of Education. The former included a broad cross-section of the professional staff with representatives from such agencies responsible for national planning as the National Economic Development Board (NEDB), the Bureau of Budget (BOB), the Manpower Planning Office (MPO) of NEDB, the Ministry of Interior (MOI), Ministry of Education (MOE), higher education institutions, and several

other selected persons from both social and economic sectors. The latter set of committees included representatives of various departments within the Ministry of Education including professional staff from local level. Since plans were initiated at provincial level, the role of the Ministry of Education was, in one sense, a coordinating one. The MOE coordinates planning activities between the provinces (of local level) and the former planning group (of the national level).

The planning procedures at national level can be outlined, in sequences, as follows:

1. The Committee of Planning of the Third National Education Development Plan was established. The Committee reported directly to the Executive Committee of the National Education Council.

2. The Committee of Planning of the Third National Education Development Plan appointed the Task Force Committees to Study and Prepare Education Development Plans. The Task Force appointed four working groups: (1) higher education, (2) secondary education, teacher training and special education, (3) elementary education and kindergarten, and (4) nurse education.

3. The Task Force Committees' working groups, with close cooperation of the Ministry of Education's Coordinating Committee for Planning of the Third Education Development Plan, designed National Education Development Plan using data and information provided by the Ministry of Education's Regional Education Planning Project and provincial plans.

4. The Committee of Planning of the Third National Education Development Plan (#1) provided budget ceilings for the Task Force Committees (#3).

5. The Task Force Committees drafted the Third National Education Development Plan and presented for #1's approval.

6. The Committee of Planning of Third National Education Development Plan (#1) proposed the drafted plan to the Executive Committee of the National Education Council for approval. The approved Plan became the national plan and was sent to the National Economic Development Board for plan integration and to the Ministry of Education for implementation.

7. The Ministry of Education reassigned the approved Plan to responsible departments and provinces.

8. Departments and provinces implemented their plans.

The product of these processes, the Third Five-Year National Education Development Plan (1972-1976), is presented in Appendix D.2.

CHAPTER IV

PPBS INSTALLATION AND IMPLEMENTATION IN THE UNITED STATES

PPBS Literature

"The literature in this particular area (PPBS) is increasing rather dramatically. Most of the literature, however, is simply descriptive and expository but not very operational." (Hartley, 1972) This statement reflects a very clear picture of literature on PPBS.

The first book directly applied to education was published in 1968 entitled Educational Planning-Programming-Budgeting: A Systems Approach by Harry J. Hartley. Since then, PPBS has become one of the main topics found in educational planning, management and administration books. Great efforts have been made to produce materials pertinent to PPBS by such organizations as American Council of Education (ACE) and Western Interstate Commission for Higher Education (WICHE). A large number of articles pertinent to PPBS in education were also published through variety of professional periodicals; these can be found in such references as Education Index, ERIC's Research in Education, and A Bibliography of Selected Rand Publications: Systems Analysis, 1970. In January 1972, the Office of Research and Evaluation of the School District of Philadelphia started publishing PPBS Users Newsletter on quarterly basis. The Newsletter aims to serve as "a clearinghouse for practical ideas and information concerning the development and implementation of Planning-Programming-Budgeting Systems in education and related areas." Gary F. Blanchard is its editor. (PPBS Users, 1972: 1)

Other sources of information and ideas were exchanged, among users, through personal contacts among school districts and education institutions where PPBS was implemented.

A "second wave" of PPBS books appeared in late 1971 and early 1972. The Administrative Leadership Service of the Educational Service Bureau published PPBS Techniques in Educational Management by George H. Rumpel in 1971. The book is presented as a handbook to delineate the procedures recommended for the installation of a working application to public school education. The object of the book is to develop a direct approach to the implementation of a program planning and budgeting system for a typical school system. The writer proposes step-by-step implementation of a successful system of management control, with relatively less emphasis on classroom level objectives and their measurement.

A book edited by Sue A. Carpenter entitled Program Budgeting for School District Planning was published by Educational Technology Publications in 1972. Most contributions are provided by the Rand staff. Its chapters on developing program structures, forecasting models, program designs, and the other components, inform the readers of the relevant considerations in developing a PPB system, rather than giving specific instructions. The emphasis is on planning, which means that the perspective is broad and strategic, rather than tactical or administrative.

> Program budgeting is a way of life--a planning life. It forces explicit consideration of many things not usually thought of as an integral part of the budgeting process. Such things as objectives, the priorities of objectives, and the dimensions of the future take their place along with the usual con-

> siderations of fund availability, resource availability, and required expenditures. The result is budgetary documentation that is a part of decision-making process and not just a record of what happened last year, what might happen this year, and a five percent increase for what might happen next year. The program budget becomes, in fact, an instrument for orderly, considered change--the means to achieving improved educational planning.
>
> --Sue Haggart, 1972: 10-11

An operational book in an applied sense by Robert F. Alioto and J. A. Jungherr entitled Operational PPBS for Education: A Practical Approach to Effective Decision Making, 1971, was published by Harper & Row Publishers. The book reveals how PPBS works in an applied sense. The authors aim to provide a practical approach for the introduction and installation of a PPB system. The first part describes the components that are necessary for an operationalized PPB system. Part two provides a comprehensive example, through a procedures manual and a display document, of how to collect, analyze, and display the necessary information for a viable PPB system. Part three includes representative samples of various forms and other materials that have been developed by school districts in order to facilitate the implementation of a PPB system.

History of PPBS

The history of PPBS is somewhat indistinct. There are at least three possible antecedents to PPBS--one in industry, one in the federal government, and one related to the evolution of budgetary reform.

In industry, PPBS can be traced back to the time that the Dupont Corporation invested in General Motors, sometime around 1915. There is evidence that Dupont introduced its concepts of establishing

objectives, relating activities to these objectives, forecasting, planning for the future, developing standards and output measures, etc. into General Motors at this time. All of these characteristics, as will be noted later, are components of PPBS.

In the Federal government, PPBS was introduced as part of the War Production Board's wartime control system in 1942. The Control Materials Plan was probably the first attempt at PPBS used in the Federal government. It is not usually identified as such because it was performed in terms of copper, steel, aluminum, and other critical materials rather than in dollars. However, it can be considered PPBS because it had the following characteristics:

-The concept of looking at the whole picture, not just the parts

-Identification of major goals

-Specific program objectives

-Program objectives divided into program elements

-Programs crossing organizational lines

-An extended time horizon

-The examination and analysis of alternatives

Budgetary reform in the United States has evolved through three distinct stages, the last of which is associated with the contemporary Planning-Programming-Budgeting System. In the initial stage, the primary emphasis was on central control of spending, and the budget was utilized to guard against administrative abuses. The detailed classification of objects of expenditure was the main control mechanism. The second stage was management-oriented. It was concerned with the efficient performance of work and prescribed activities. The performance budget,

officially introduced by the Hoover Commission, was the major contribution of the management orientation. The third stage is reflected in the planning orientation of the new PPB system. It has roots in economics and systems analysis and looks beyond the "installment buying" of the conventional budget to measure the future costs which more often than not have been overlooked, ignored, or at best underestimated. (PPBS Staff, 1967: 2-4)

While the new PPB system brings, among other things, a substantial change in the central focus of budgeting, it is anchored to half a century of tradition and evolution. PPBS is the management system of the future, but it is also a product of past and emerging developments, embracing earlier budgetary functions and now including broad planning and analytical functions as well.

In the narrow sense, PPBS was the brainchild of Charles J. Hitch and his associates at the Rand Corporation who were provided the opportunity to apply the analytical approaches to weapons planning and program decisions that they had developed for the Air Force to a wider range of governmental activities when Hitch was appointed Assistant Secretary of Defense-Controller in 1961. When Hitch unveiled his approach to budgeting to Congress (hearings conducted by the Subcommittee on National Policy Machinery of the Senate Committee on Government Operations, July 24, 1961), he identified it as a "program package budgeting approach," and introduced his remarks with the statement that he would confine himself "to a discussion of what we are doing to improve the planning-programming-budgeting process within the Department of Defense." (Mowitz: 1) The words planning, programming and budgeting systems had been abbreviated into PPBS by

August 25, 1965, when President Johnson announced at a press conference that the new system would be introduced throughout the federal agencies. During this same period of time the state-local finances project at the George Washington University, under a grant from the Ford Foundation, began to assist city, state and county governments with the development of planning, programming, budgeting systems.

In the mid-1960's, the Department of Defense was considered to be a model of management efficiency in the federal establishment and a number of articles appeared in popular journals implying that the Department's program package budgeting approach to the management of its resources should serve as model for all government agencies. The promised results were greater efficiency in the accomplishment of governmental objectives. A significant aspect of the Department of Defense's approach was the use of economic analysis to determine probable costs of alternative courses of action in terms of the benefits (or level of effectiveness) that each alternative was likely to produce. Many of the proponents of PPBS considered economic analysis to be the essential part of the process. But in a broader sense, what came to be called PPBS in the mid-1960's was a stage in the continuing development of governmental decision-making structures and processes for functioning in an increasingly complex society in which science and technology played major contributory roles in bringing about social, economic and political change. (Mowitz: 1-2)

By 1961 when Robert McNamara was sworn in as Secretary of Defense, the management innovations that were introduced in order to provide the Department of Defense with a comprehensive planning,

programming, and budget decision process were the products of developments in systems theory, methodology and technology which had occurred during the post-World War II period. To a large extent the introduction of innovations stemmed from involvement in wars and the need to maintain a high level of military preparedness employing weapons systems based upon advanced science and technology. By the decade of 1960's, it was generally agreed that the time was ripe to apply the new decision technology to the most complex organization in society--government.

The Adoption of PPBS

Following the Executive Order which required the heads of all federal agencies to adopt PPBS for fiscal year 1968, the planners in industry, municipal and state governments, and other nondefense organizations sought to discover what could be learned from the federal experience. There was an intensive interest in the sophisticated conceptual procedures developed for the nation's (U.S.A.) top priority organization (as reflected in the share of GNP expended for defense), the Department of Defense. (Hartley, 1968: 100) By 1968, however, government agencies had had little experience with PPB. Most federal agencies were still trying to figure out what was really involved in PPB and not many had made impressive progress in implementation. Few state and local governments were knowledgeable about the approach. In 1972, PPBS is a familiar term at all levels of American government and in many countries outside the United States as well. (Lyden & Miller, 1972: 1)

The State-Local Finances Project (5-5-5 Project) of the George Washington University was instrumental in introducing American state

and local governments to the potentialities of this comprehensive budgetary approach. The 5-5-5 project was begun in 1966 under the directorship of Selma J. Mushin and supported by a grant from the Ford Foundation. The project was undertaken to demonstrate the conceptual and operational feasibility of planning-programming-budgeting systems procedures for state and municipal governments and with the idea that their efforts would serve also a body of experience on which other governments might draw. Five states (California, Michigan, New York, Vermont, and Wisconsin); five counties (Dade, Florida; Davidson, Tennessee; Los Angeles, California; Nassau, New York; and Wayne, Michigan), and five cities (Dayton, Ohio; Denver, Colorado; Detroit, Michigan; New Haven, Connecticut; and San Diego, California). The extent to which PPBS procedures have been developed varies greatly among these fifteen governmental units. The major relevant publications of the project are: PPB Notes, 1-11; Program Planning for States, County, City (January 1967), by Harry Hatry and John Cotton; and Implementing PPB in State, City, and County: A Report on the 5-5-5 Project (June 1969). (Hartley, 1968: 101; Lyden and Miller, 1972: 11)

As early as 1968, 28 states and 60 local governments reported that they were taking steps toward the implementation of PPB system, and an additional 155 local governments reported that they were considering implementation. Outside the United States such countries as Belgium, Great Britain, Canada, and Japan have moved toward adoption of PPB systems in one form or another. (Lyden & Miller, 1972: 1) Many UNESCO nations have moved toward the same direction. PPBS is

being used by the UNESCO nations in manpower projections to try to establish the kind of educational programs and techniques to prepare roles for the future. (Hartley, 1972)

School districts and institutions of higher education, by 1968, had also adopted PPB systems, and a textbook for use in schools was published; a pioneer book is Educational-Planning-Programming-Budgeting: A Systems Approach (1968), by Harry J. Hartley. A great number of articles addressed directly to education have been published.

Hartley (1972) observed PPBS in 1972 as follows:

> As far as the current state goes, it is difficult to determine exactly how many states have mandated some form of PPBS and how many local schools are actually "doing" PPBS. My own judgment is that more than 1,500 local schools are actually engaged in PPBS development in operational sense. Operational usage of PPBS continues to grow.

PPBS Installation and Implementation

When the decision is made to apply the PPBS mode of thinking to the development of educational systems, there are several factors that must be considered in order to insure the likelihood of a successful installation. Alioto and Jungherr (1971: 22) summarize these factors as follows: (1) what resources (personnel--professional and secretarial, equipment, and materials) will be needed to install and operate a PPB system? (2) how much time will be required to accomplish the necessary tasks? (3) what specific strategy or steps for installing the system need to be considered?

1. Resources

Most school districts in the United States possess the professional staff resources necessary to install PPBS. (Alioto and Jungherr, 1971:

22) Knezevich, on the other hand, argued that most schools have barely enough administrative staff to maintain the status quo and, therefore, the staff must be increased in order to implement a PPB system. He stated that it would take more than a dedicated and retrained administrative staff to make PPBS work. (Knezevich, 1969) Experience has shown, however, that some districts are capable of implementing PPBS without the addition of professional personnel. Darien, Connecticut; Skokie, Illinois; and Pearl River, New York, have successfully initiated PPBS using only the existing professional staff.

In most cases, the districts either initiated new positions with the rearrangement of personnel or changed functions of existing organization and, of course, of personnel. In both approaches, additional training and reorientation are necessary. In accordance, federal agencies, state, regional research centers, state department of education as well as individual universities have sponsored institutes, workshops and seminars using PPBS approaches. (Rumpel, 1971: 13) Beside such training, state and school districts received assistance through contracted consultants with various organizations. The Board of Education of the City of New York had a contract with Stanford Research Institute; the counties of Bucks, Cameron, Elk, McKean, and Potter of Pennsylvania with Fels Institute of Local and State Government of University of Pennsylvania; Warwick School Department and Barrington School Department of Rhode Island with individual agents, Dr. Harry Hartley and Dr. James Richard of New York University; School District of the City of Detroit with Price Waterhouse & Company; School District of Philadelphia with Price Waterhouse & Company; the State of Pennsylvania

with Institute of Public Administration of the Pennsylvania State University; Dade County of Florida with the Association of School Business Officials, the New England School Development Council and the American Association of School Administrators, among others, have spent efforts on behalf of their organizations to develop PPBS for education. The adoption of legislation by the State of California establishing an advisory commission, whose purpose is to assist all school districts in the installation of PPBS, has promoted the application of PPBS to education.

When an organization initiated PPBS approach, a new "PPBS office" was normally established. This was done by either changing the name of the existing office and functions or creating a completely new bureau under various names. The School District of the City of Detroit established "The Office for Program Budgeting" in 1971. The New York City Board of Education initiated the "Office of Planning-Programming-Budgeting" with three sub-units: Systems Planning and Program Analysis, Program Budget Operation & Review, and Management Information. Other organizations assigned PPBS operations under such persons as assistant superintendent for business management, assistant superintendent for instruction, business manager, and PPBS project director. Some districts assigned PPBS responsibilities according to office functions, the others to individuals perceived as competent in the subject. This caused many difficulties and was convinced by Hartley as he stated, "PPBS is very highly personalized. That is, its success depends on one particular person in the organization. If that person should leave the district (PPBS specialists are in demand and are mobile), the

whole project is left in disarray. We need continuity of documentation." (Hartley, 1972)

Since PPBS has been used prior to its reliance on EDP (Electronic Data Processing), the understanding of PPBS educational applications must be first explored on a manual basis before complicating its comprehension by involving computer-related technicalities and terminologies. (Rumpel, 1971: 7) Most of school districts followed this principle and found their PPBS projects manageable. This technique alone is responsible for vast savings in cost. Of course, the improved computer speeds and expanded capabilities are helpful in saving time and solving complicated problems like analysis of a wide range of alternatives and evaluating the effect of each on the total results.

2. Time Required to Operationalize PPBS

Hartley (1972) was convinced that "the number one problem in implementing PPBS is the lack of time. Administrators are generally unable to devote sufficient time to this activity. As a result, most schools are underadministered. PPBS is usually done in spurts of activity, and this results in uneven progress and frustration." Alioto and Jungherr (1971: 25-6) observed that the speed with which a PPB system could be initiated within a school system would depend upon the backing and active interest of the board of education and central administration and on the quality and number of personnel assigned to specific tasks. Hatry and Cotton (1967) found that in governmental agencies the achievement of a smoothly running PPBS system could not be expected in one or two years. (p. 34) Through their experiences,

Alioto and Jungherr (1972: 26) came to believe that "with a concerted effort it is definitely possible to achieve the installation of a PPB system within a shorter time frame. Through the use of sufficient manpower and time commitment it might be possible to operationalize a PPB system in less than three years. The change to a PPB system is of such magnitude that it would be virtually impossible to install the complete system in a one-year time frame." However,

> the school community may enjoy some of the positive benefits of a PPB system far sooner than designers of theoretical models have previously suggested. PPBS is divisible, that is, the components can be initiated on a partial basis; therefore, the district has considerable latitude in choosing a starting point. The initial benefits that a school district can achieve will depend on both the starting point selected and the effort devoted to activities leading to the installation of a PPB system.
>
> --Alioto and Jungherr, 1971: 26

3. Strategies for the Introduction of a PPB System

It is clear that administrators, as authority figures, are crucial in introducing innovations, particularly those involving educational change. The implications of the literature for bringing about innovation in education demonstrates the need for attaining a commitment from the top-level administrators. Without their commitment PPBS probably will not be successfully installed in a school system. A formal resolution endorsing the concepts of PPBS should be passed by the highest decision-making body as a visible manifestation of its commitment to the installation of the system. The resolution by the highest decision-making body approving the concept of PPBS and sanctioning its installation leads to the consideration of strategy to be utilized in order to operationa-

lize PPBS. In order to bring about any change in a bureaucratic organization there must be persons willing and able to make decisions on activities necessary for effecting the change. Alioto and Jungherr (1971: 27) suggested that

> while the power of communications in decision making by informal groups has to be recognized, the installation of PPBS can best be accomplished on a systematic and formalized basis. Because the components of a PPB system cut across all activities and the organizational structure of a school system, the systematic linkage of all the components is an absolute necessity for a fully operationalized PPB system. (emphasis supplied)

In order to formalize the decision-making process and to guarantee the systematic linkage of the components, a group of ten to fifteen persons are normally assigned the overall responsibility for the installation of the PPB system. This is a central PPBS group reporting directly to the superintendent of schools. It is required to initiate and develop the system. Normally it is called a PPBS task force. A successful task force includes a broad cross-section of the professional staff with certain representatives from the public and from the high decision-making body. The task force is responsible for the accomplishment of the following activities:

1. Task force orientation
2. Consideration of alternative resources
3. Preparation of the detailed installation plan
4. Design of the program structure
5. Preparation of objectives, establishment of priorities, and evaluation of achievement
6. Preparation of program budget
7. Design of the program accounting system
8. Programming: providing for multi-year planning, program review, and analysis of alternatives
9. Preparation of the PPBS document

--Alioto and Jungherr, 1971: 29

Practically, the task force has the authority to establish subcommittees on an ad hoc basis. Such subcommittees, as commonly found among school districts, are an "objective subcommittee," "program analysis subcommittee," "program budget accounting subcommittee," "communication, public relations subcommittee," "management information subcommittee," and "training subcommittee."

Approaches and Sequences of Task

The most frequently employed approaches to the installation of PPBS can be classified into three categories: (1) utilizing existing staff, (2) employing an outside consultant, and (3) purchasing a packaged program. School Districts may employ a combination of two or more of these approaches.

The task force usually faces one of the important questions regarding the starting point of the implementation of PPBS. Generally, a school district's task force takes one of the PPBS components for starting the installation of the system. Such components are: (1) preparation of objectives, (2) preparation of program structure, (3) program analysis, and (4) program budget. Among the school districts attempting to install PPBS, there is no consensus as to which starting point is the most effective. Westport School District, Connecticut, started with its goals (objectives) while Milford School District, New Hampshire, started with its program budgeting.

However, whatever the starting points are the task force must follow some systematic strategy for the implementation. One of the commonly used by school districts is such designed by Harry Hartley

(in Hunt and Alward, 1971: 18) for Warwick and Barrington, Rhode Island. It is shown below:

1. Hold In-Service Training Session
2. Identify PPBS Implications for Teachers
3. Select PPBS Task Force
4. Develop an Implementation Strategy
5. Emphasize Humanistic Aspect of PPBS
6. Specify PPBS Tasks to be Accomplished
7. Monitor Tasks with an Event Schedule
8. Design School's Program Structure
9. Formulate Budget Account Codes
10. Identify Cost of Each Program
11. Prepare Annual Budget Cycle
12. Prepare Concise Procedural Manual
13. Develop Expenditure Control Sheets
14. Prepare Budget Workshop and Forms
15. Publish Internal Program Budget (Legal Budget)
16. Publish Public Program Budget (Presentation Budget)
17. Prepare Organization Charts
18. Integrate Existing Data and Reports in the District
19. Design Information System for Electronic Data Processing
20. State Format and Content for Program Analysis
21. Outline Reasons for Preparing Program Memoranda
22. Select Target Programs for Detailed Analysis
23. Devise a Feasible Evaluation Strategy
24. Consider Accountability via Performance Objectives
25. Identify Performance Indicators for the School District
26. Decentralize Planning and Budgeting
27. Develop a Communications Plan
28. Provide Periodic Progress Reports
29. Discuss PPBS Questions and Answers with Staff and Public
30. Critique PPBS Project with Internal Position Papers
31. Prepare Statement of Goals
32. Consider Writing Behavioral Objectives
33. Avoid Misusing Systems Analysis
34. Analyze Cost-Effectiveness of Programs
35. Analyze Teacher Time Utilization
36. Prepare Concise PPBS Glossary
37. Read New USOE Handbook II: "Financial Accounting"
38. Make Multi-Year Projections for Planning
39. Select Topics for Intensive PPBS Staff Training
40. Exchange PPBS Materials with other Local Schools

Problems Confronted

One school district started to implement PPBS and then stopped, Brown reported. (Brown, 1972: 6) The experience left the district

with no benefits and considerable costs--especially in terms of wasted time and energy of large number of people. Other school districts and educational institutions confronted similar problems, to a certain extent. The problems are identified by Brown (1972: 6-8), Koch (1972: 12), Hartley (1972: 1-4), Sutton (1972: 9), and others. These, coupled with the interviews, can be summarized into 9 areas as follows:

Problem 1: Differences in Expectation

As with many new projects to improve education, board members and citizens are often led to expect too much. Plans for implementing PPBS are usually accompanied by talk of more effective uses of resources, greater productivity, more efficiency, and so on. To most board members this may mean holding the present programs at the current performance levels and reducing costs. To most educators this may mean better programs with little or no increases (except salary raises).

A more realistic and candid exchange of views from the beginning might avoid some of the future difficulties.

Problem 2: Leadership and Planning

The notions of project planning and management are not understood by every administrator. Many of them have never had the training or experience. If a project director is not properly prepared, resources should be allocated for training him. A project manager should have or acquire the ability to plan effectively, to implement a project, and work with people. He will need the strong backing of the superintendent.

The central planning and budgeting staff must become conversant with the concepts and techniques of PPBS at the outset. They are immediately and directly involved in the design and development of the system, and must explain, even defend, it to others. An organized orientation and training program should progressively reach appropriate agency personnel during the preliminary phase. Involvement of agency personnel in any aspect of the system before training is unwise.

Problem 3: Organization and Commitment

In deciding how PPBS will be implemented, a realistic assessment of the superintendent's staff is essential. Often, one of the first steps, early in the project, is reorganization of the management and supervisory staff along lines which are more programmatic or functional.

A single office should be assigned the authority and responsibility for the overall development and implementation of the system by the chief executive. The chief executive must give his official sanction and support to PPBS if it is to progress as planned, and if it is to become in fact a meaningful management information system.

Problem 4: Financial and Other Costs

PPBS costs money and time to implement. District staffs need to accomplish enough early planning to apprise the superintendent and board of the full estimated costs including, especially, staff training and support systems development. Because implementation never proceeds exactly as planned, the project plan and budget must be periodically reviewed, revised, and approved by the chief executive.

Problem 5: Lack of Communication

PPBS sometimes is kept a deep, dark secret which only the central office administrators understand. But if people do not know about the project, they may not understand that the irritating thing they have to do now fits into a larger picture which benefits the district and, eventually, the students. They may even refuse to respond at all. Many districts use a PPBS project newsletter as well as periodic staff briefings.

Problem 6: Lack of Participation

Too often, administrators, and especially, principals are not involved in the development of the project itself. Planning of the project should include an advisory board with a wide range of people including, possibly, teachers under some conditions. This is not to imply that such a group should be able to hamstring a policy decision to move ahead with the project.

Problem 7: Insufficient Training

Training usually costs money. But it is important if real change is to take place. A great many, if not all, of the employes have to receive some type of normal training. Through experience, the most effective and the most challenging means of accomplishing this task well is to use as the materials of instruction the real forms and procedures that will be required. A minimum of time should be spent on the theoretical, and the maximum on what has to be done, when, and how. Let the "why" emerge as these specifics are questioned.

Problem 8: Failure to Confide in the High Decision-Making Body

When the full implications of PPBS become apparent, it sometimes startles the board and administration. There is a natural tendency to want to avoid the difficulties attendant upon the implementation of changes which affect the staff--as nearly all do. The relationship becomes a rather critical condition for success for the new system.

Problem 9: Misconception of PPBS

Perhaps the most common misuse of PPBS by school districts is to assume that the concept applies only to the operations of the school business administrators. Most districts which claim that they are moving toward a PPBS design do not involve curriculum-instructional specialists until a later phase, if they involve them at all. If this new approach is to be successful it is imperative that instructional specialists be involved from the very beginning in the design and classification of the program structure. Continual dialogue and cooperation between instructional specialists and financial administrators are essential.

CHAPTER V

PPBS CONCEPTS, COMPONENTS, ELEMENTS AND PROCEDURES

PPBS Concept and Components

Planning-Programming-Budgeting Systems (PPBS) is a management system involving the selection or identification of the overall, long-range objectives of the organization and the systematic analysis of various courses of action in terms of relative costs and benefits (Planning); deciding specific courses of action to be followed in carrying out planning decisions (Programming); and translating planning and programming decisions into specific financial plans (Budgeting). (Gulko, 1972: 119) It is an approach to decision-making which systematically integrates all aspects of planning and implementation of programs. (Alioto & Jungherr, 1971: 9) However, it should bear in mind, David Novick reminds, that there are a number of important things that PPBS does not do:

> one is that PPB is an instrument for overall planning which utilizes existing systems for directing and controlling operations and therefore does not necessitate change in either existing organization or methods of administration. Second, PPB is specifically designed for long-range planning and budgeting; it is not primarily a tool for conducting the annual budgeting-accounting cycle, although next year's budget must be included in its purview and accounting supplies part of the reports. Third, although PPB stresses the use of quantitative analytical methods, and in some cases a rather extensive use of modern computer technology, it does not attempt to quantify every part of the problem or to computerize the decision-making process.
>
> --David Novick, 1968: 2

The activities involved in the process have been described by William Gorham (1967) as follows:

> The Planning-Programming-Budgeting System is a framework for planning--a way of organizing information and analysis in a systematic fashion so that the consequences of particular choices can be seen as clearly as possible. It attempts to do three things;
>
> 1. To display information about the functioning of actual governmental programs so that it is possible to see easily what portion of federal resources is being allocated to particular purposes, what is being accomplished by the programs, and how much they cost;
>
> 2. To analyze the costs of alternative methods of achieving particular objectives so that it is possible to rank the alternatives in terms of their relative costs;
>
> 3. To evaluate the benefits of achieving objectives as comprehensively and quantitatively as possible in order to facilitate the setting of priorities among objectives. (pp. 4-5)

The Report of the First National Conference on PPBES in Education (1969) describes the activities involved--planning, programming, budgeting, and evaluation--rather more specifically as follows:

> Planning is directed toward keeping the school doing what it is supposed to do. That is, the process generates a series of objectives devoted primarily toward assisting the school system to meet its responsibility to society.
>
> Programming is concerned with the generation of a series of alternative activities and the selection of a specific activity or a group of activities designed to bring about the achievement of an objective. Programming includes multi-year planning, program review, and the analysis of alternatives.
>
> Budgeting is the allocation of financial resources to the activities selected according to established priorities.

> Evaluating consists of a review of actual performance which provides evidence of whether or not the stated objectives have been obtained. Evaluation leads directly to a redesign of objectives, a reassessment of programs and priorities, and the allocation of resources. Therefore, the evaluation components of PPBS may provide for continuous renewal of the educational programs. (p. 45)

As stated earlier that PPBS is an approach to decision making which systematically integrates all aspects of planning and implementation of programs. The principle can be conceptualized as shown in Figure 5.1.

The PPBS process is, in general, conceptualized as having four major components. All are essential in the complete PPB system. They are structural aspect, analytical aspect, control aspect, and data and information aspect. Figure 5.2 shows how the components fit into the PPB system.

Haggart (1972) describes the four components as follows:

> Structural aspect involves the setting of objectives and the development of a program structure. These are interacting activities. Attempts to identify groups of programs that, either singly or in combination, help to clarify objectives. Conversely, clarification of objectives will facilitate the task of grouping program elements into programs.
>
> The second component of program budgeting is the analytical aspect. It is within this area that the cost-effectiveness analyses and trade-offs are made. It is in this area also that the generation or identification of alternative ways to meet objectives most often takes place.
>
> The third component is the control aspect. Basically, this involves keeping tabs on how well a new program is being implemented and recording program changes--in other words, progress reporting and control.
>
> The fourth component is data and information aspect. The analytical component of the program budgeting influences the choice of data. As the

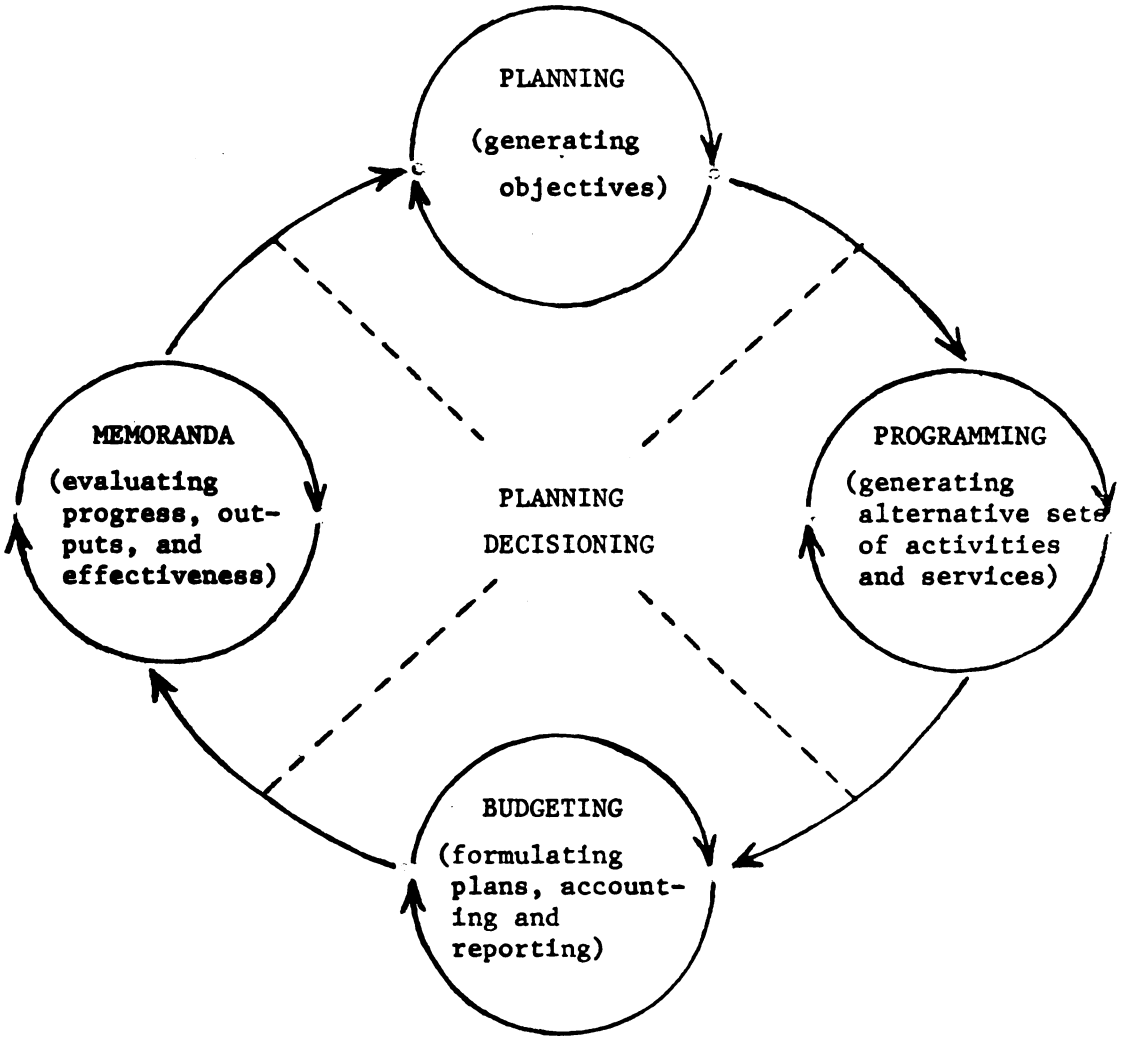


FIGURE 5.1 CONCEPTUALIZED PPBS COMPONENTS AND ACTIVITIES

Source: adapted from Report of the First National Conference on PPBS in Education (1969) as quoted by Alioto and Jungherr (1971: 116), and from Hartley (1972).

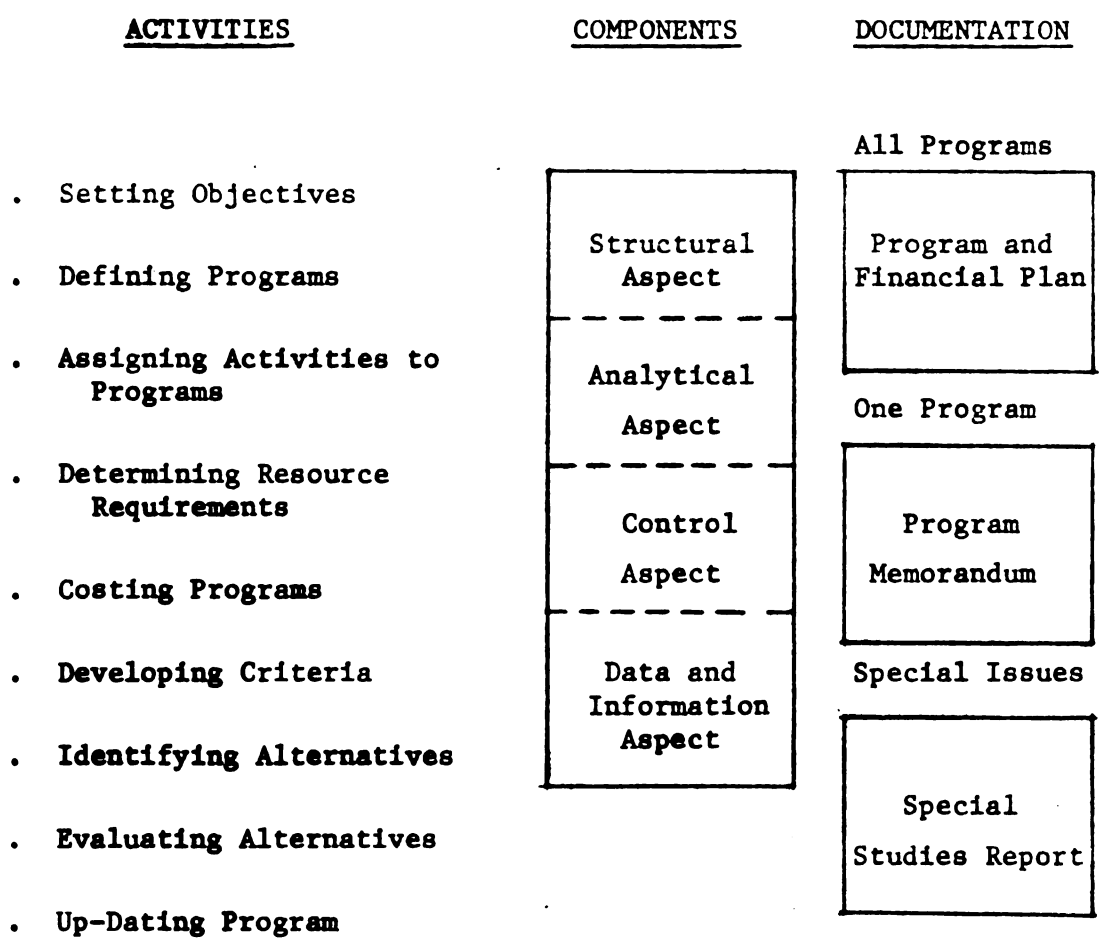


FIGURE 5.2 PPBS COMPONENTS WITHIN PPB SYSTEM

Source: Haggart, 1972:8

> successful implementation and utilization of the system progresses, certain data appear that were not evident before. These data then become useful, not so much as an end in themselves, but rather because they support the analytical part of the process. (pp. 7-9)

Fisher (1966: 32-33; 1970: 181-182), Pethruschell (1968: 3), and many other authorities in the field view PPBS as having three components; they all combine the third and fourth components which described by Haggart into a single component.

PPBS Elements

The previous section provides concepts and components which comprise PPBS. The PPB system possesses several distinctive characteristics which shape it into a rational process for management and planning. This section describes "elements" inferred from the PPBS implications for education.

Objectives

An essential characteristic of PPBS is its output orientation: PPBS describes accomplishment rather than things purchased. It is structured on the basis of outputs, missions, functions, activities, services, or programs, rather than on traditional input items. Each governmental agency is required to determine a series of output categories that cover the total work of the agency. This assemblage of output-oriented activities serves as the basic framework for the planning, programming, and budgeting processes. (Hartley, 1968: 85, 90-91)

Objectives refer to goals or results that the decision maker seeks to attain; hence, the end product or output of a program. (Gulko, 1972: 117)

Identification of specific government objectives and establishment of appropriate categories (which cut across departmental lines where needed) are major initial steps in instituting a PPB system. (Hatry and Cotton, 1967: 16-17)

It is useful to conceive of objectives as existing at several levels reflecting varying degrees of abstraction. Under a PPB system each level may have its own set of objectives which should be related through the program structure. Therefore, a hierarchical relationship of objectives is established. The objectives become more specific, behavioral, observable, and measurable as one proceeds through the various levels of the program structure. This is confirmed by the Western New York School Development Council (1970): the smaller the unit within an organization for which one is planning, the more specific statements of objectives become; the target date of accomplishment of the objectives become more precise; and source requirements are easier to identify. (pp. 2-3)

Under the PPB system, objectives can be classified into three basic types. Alioto and Jungherr (1971) describes these types as follows:

> 1. Philosophical Objectives
> These are statements of general educational aims, such as school board policies that are philosophical in nature. They are usually based on an assessment of the general expectations of community, student, and professional staffs. Philosophical objectives by definition are general and timeless. They are helpful to the extent that they provide overall direction for the development of more specific objectives. Referring to the program structure, philosophical objectives may be developed for levels one, two, and possibly three. Philosophical objectives are synonymous with goals as defined by Hartley (1968: 155).

> 2. Instructional Program Objectives
> Instructional program objectives are statements of anticipated behavioral changes to be accomplished in a particular instructional program area. Instructional objectives are prescriptions for change. They describe what is to be learned, when the information or skills will be learned, and the circumstances under which the learner will be evaluated. An instructional program objective describes the educational intent of the instructional program rather than the teaching method for achieving it. Further, it describes the conditions under which the behavior will occur and establishes criteria for judging acceptable performance. An instructional program objective differs from a philosophical objective because it requires a specific time frame and evaluative criteria.
>
> 3. Support Service Program Objectives
> Support service program objectives are statements of the purpose of these services and their relationship to the overall instructional program. Examples of supporting service program areas are transportation, school cafeteria, and plant operation and maintenance. Support service objectives should be designed using the same criteria as the instructional program objectives. That is, they should include a statement of the purpose of the supporting service, the time frame under which it is to be accomplished, and the criteria that will be used for determining whether or not it has been accomplished. (p. 54)

Because PPBS is a system, the relationship among the three types of objectives is important. Much of the benefit accrued from PPBS approach is the fact that these relationships can be spelled out. The instructional program objectives--the most numerous and difficult to determine--are related to the philosophical objectives. Support service program objectives can be justified and evaluated primarily in terms of their contribution to the instructional program. The PPB system links the three types of objectives into a functioning whole. This facilitates the gathering and analysis of data on all the programs that make up the school system.

Program Structure

The very heart of the PPBS is the program structure, for it makes the outputs of a school district visible and identifies the resources required to yield these outputs. (Hartley, 1968: 154) Program structure is "a classification system that categorizes the activities of an organization according to their relationship to the organization's objectives." (Gulko, 1972: 121)

The program structure provides for the integration of all the components of a PPB system. It is the basis for displaying objectives and evaluation data by program area. It also provides for the grouping of activities to which costs can be assigned. The analysis within a particular group of activities or between groupings of actitities can be accomplished as a result of the program structure. Thus, the program structure furnishes the framework for unifying all of the components of a PPB system. According to Alioto and Jungherr (1971: 41), the purposes of the program structure are two-fold: (1) to display information that will be meaningful to administrators and usable in decision-making, and (2) to provide a base of information that will support the subsequent efforts at systems analysis.

> Each of these purposes can be accomplished by establishing a classification scheme that groups the organization's activities according to the objective that each activity serves. Within the resulting taxonomic framework, information can be brought together on resource requirements, cost, outputs, and benefits of all the activities carried on by the organization. The array of categories used to represent the activities of the organization and their interrelationships is known as a program structure.
>
> --Haggart (in Alioto and Jungherr, 1971: 42)

In addition to linking program categories and objectives, a program structure has several other properties. Barro explains these properties as follows: (Haggart, 1972: 21-23)

> 1. The program structure should embrace all the activities of the organization. In the case of a school district, this means that program categories must provide for instructional activities (both inside and outside the classroom), administrative activities, activities related to operation and maintenance of facilities, and activities related to a variety of ancillary and support functions performed by the school system. The reason for this comprehensiveness is that program budgeting is intended to help administrators in allocating all the resources at their disposal among the district's various programs.
>
> 2. The program structure is a hierarchical classification scheme. District activities are grouped into a relatively small number of programs; these are subdivided into more narrowly defined subprograms; and the subprograms, in turn, are composed of still more narrowly specified program elements. These successive levels correspond to a parallel hierarchy of objectives: broad educational ones at the top and progressively more specific ones at each lower level.
>
> 3. The program structure should allow for categorization of activities according to several attributes. Attributes other than relationship to educational objectives may include such things as target population, geographic location, and various descriptors of the process involved in each activity. Classification according to such variables results in a multidimensional that has sometimes been neglected in the literature, but not in practice. However, it is a particularly important property to bear in mind in developing a program structure for a school system, or for other types of educational institutions, as will become evident later.

4. The program structure should allow for and reflect differences in how directly activities relate to objectives. In some cases the relationship is clear and direct. For example, instruction in reading contributes to attainment of the objective, "learning to read." However, many district activities make their contributions in much less obvious and direct ways. For instance, supervision of instruction by the principal and provision of electric light in the classrooms also contribute ultimately to "learning to read" and to many other educational objectives. The program structure must be designed to show the nature of the relationship between each type of activity and the postulated educational objectives.

5. The program structure should be made up of categories that remain relatively stable over the years, so that long-range planning can be carried on; but it should also be able to accommodate new activities when necessary. Obviously, these two attributes are somewhat in conflict. A workable compromise may involve (a) setting up the higher-level categories (programs and subprograms) so that they encompass relatively broad ranges of activities--not only the activities actually carried on by the organization at a particular time--while (b) allowing for occasional replacement or realignment of the individual program elements that fall within these categories. Thus, the broad outlines of the program structure will be stable, while program changes will be reflected at the detailed level of the classification system.

Figure 5.3 displays the program structure element as it functions in the PPB system.

Cost-Effectiveness Analysis

The cornerstone of PPBS is the systematic identification and analysis of alternative ways to achieve organizational objectives. The analysis process provides a decision-maker with a considerably improved understanding of the issues and the alternatives open to him; the resulting program plan and its implementing budget should

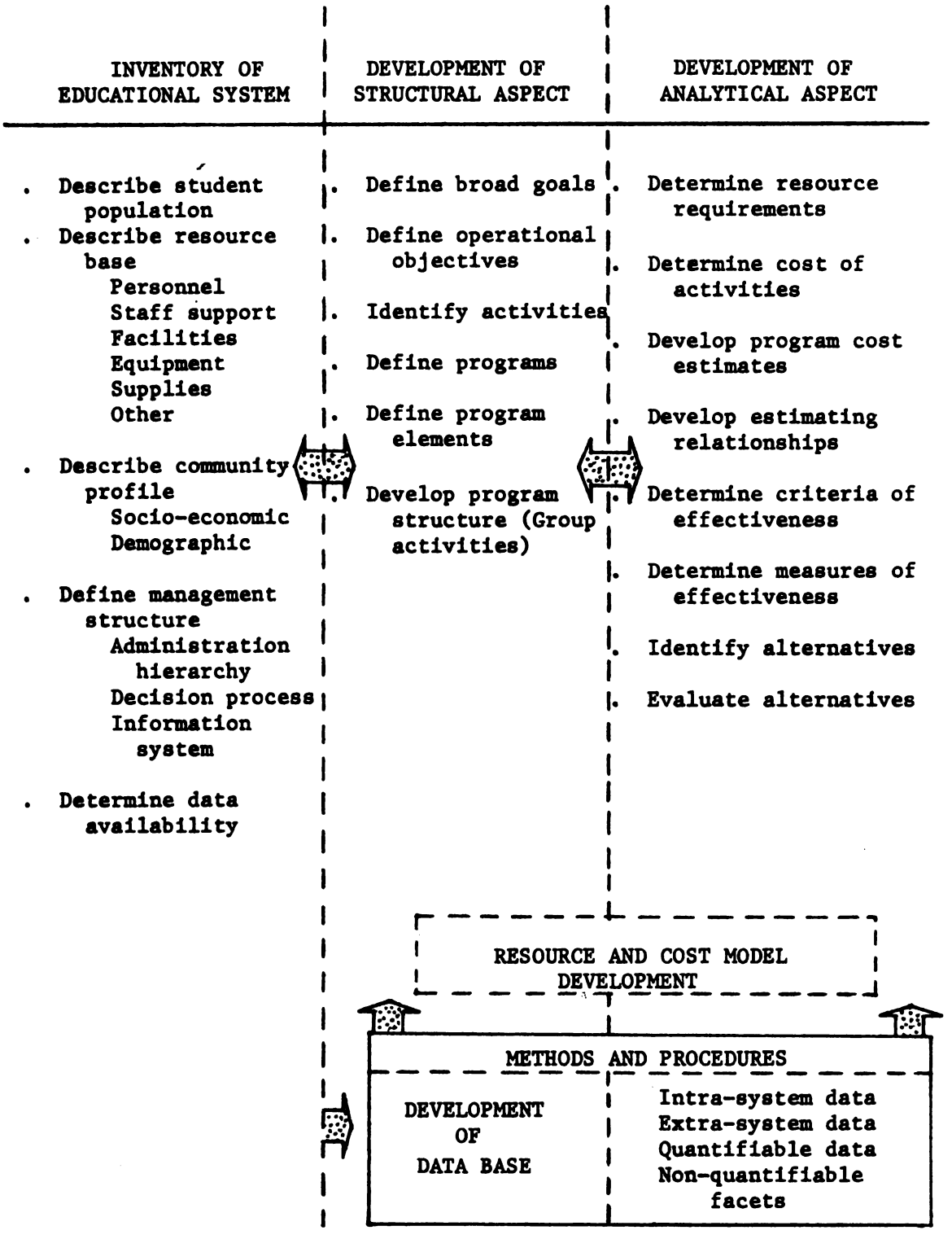


FIGURE 5.3 SCHEMATIC OF ACTIVITY AREAS IN THE DEVELOPMENT OF PPBS

Source: Haggart, 1971:2

thereby also be considerably improved. (Hatry and Cotton, 1967: 15, 12)

> Cost-effectiveness analysis is an analytical approach to solving problems of choice requiring the definition of objectives, identification of alternative ways of achieving each objective, and the determination of which alternative yields the maximum benefit for a given cost or yields a given benefit at the lowest cost.
>
> --Warren Gulko, 1972: 111

This process is used to examine alternative courses of action in terms of utility and cost.

> When possible, a quantitative analysis of comparative benefits is made. Otherwise, less rigorous analysis prevails. The options are made explicit in order to clarify relevant choices of their probable consequences. The analytical activity is used to generate new objectives and alternatives and to help specify the most appropriate courses of action. It is, therefore, intended to provide policy appraisal rather than mere budget justification.
>
> --Harry Hartley, 1968: 84

In order to determine a pay-off function, the cost of a particular course of action should be compared with anticipated benefits and then weighed against alternative course of action. This analytic approach is similar to cost-utility, benefit-cost, or even input-output analysis, and it is designed to aid in the evaluation of competing alternatives. Until educational benefits no longer defy complete quantitative measurement, it is desirable to articulate many of the benefits in nonquantitative terms. Attempts to quantify all program objectives of a school would probably suffocate the basic concept of PPBS. (Hartley, 1972: 97)

Keller has defined this process as ". . . both an attitude and a set of formal analytic techniques which attempt to relate the costs and benefits of competing programs in a rigorous quantitative fashion so that choices can be made about preferred courses of action." (Gulko, 1972: 6)

Cost-effectiveness analysis is a technique for comparing programs, and, according to Carpenter and Haggart (in Haggart, 1972), may be used:

> . to help assess the relative worth of several innovative programs with the same educational outcome (such as improvement in reading achievement);
>
> . to determine whether a single program is becoming more or less effective as time passes so that steps may be taken to improve it, if necessary;
>
> . to help assess the relative worth of the same program for different student populations (such as those with differing socio-economic backgrounds) or in different school settings. (page 272)

The analytical phase is concerned with the extent to which the results of the quantitative analysis do, in fact, bear on the choice problem and with identifying all of the important nonquantifiable variables that must also be weighed by the planner. Sociological and political implications are examples of nonquantifiable variables that are often overriding. Organizing these vague and largely intangible but necessary inputs to the decision process is also part of systems analysis. (Petruschell, 1968: 9)

The goal of the analysis is not to provide the planner with the alternative that "maximizes" or "minimizes" specific characteristics; the goal is to provide information which together with the

judgment of the planner permits a compromise among the characteristics of the alternatives within the various environmental constraints, such as budget level or political atmosphere. (Haggart, 1972: 272)

Management Information System (MIS)

PPBS is a system aimed at helping management make better decisions on the allocation of resources among alternative ways to attain organizational objectives. Its essence is the development and presentation of information as to the full implications, the costs and benefits, of the major alternative courses of action relevant to major resource allocation decisions. The logic of the decision structure is expressed in the program structure. Program structure concepts, therefore, provide the key to the development of the information system. (Mowitz: 31) This idea is confirmed by Haggart's earlier statement that the purposes of program structure are two-fold: (1) to display information that will be meaningful to administrators and usable in decision-making, and (2) to provide a base of information that will support the subsequent efforts at systems analysis.

Program structuring is an iterative process. As the objectives are initially identified and the program structure developed, the process serves to clarify the objectives. This clarification, in turn, facilitates the program structuring. The process is continued, with the goal being to achieve a workable program structure. The program structure then provides a format for the program budget. The program budget, itself, is a display of the expenditure consequences, overtime, of activities resulting from current policies and decisions. Combining this with the program plan that includes output

measures results in an organized information base--an informational framework--that is useful in assessing current programs and in evaluating the alternatives in terms of their impact on the cost and effectiveness of all the programs. This is in keeping with the overall concept of PPB as a management tool in educational planning--the purpose of the planning being not only to achieve better educational results but also more effective use of resources. (Haggart, 1972: 229-230)

According to Harry Hartley (1968):

> All of the informational elements of PPBS, taken together, constitute an MIS that is designed to facilitate decision making. . . . It includes the blending of conceptual elements (system specifications), procedural aspects (administrative plan), and the day-to-day, operational facets of collecting and utilizing the information. MIS is more than just record keeping. Although information will be received and recorded, it is classified in a manner consistent with programs and objectives; it is accessible for program reports and analysis. (p. 188)

The MIS's component and functions within the PPB system is displayed in Figure 5.3.

Budget

One of the fundamental principles of PPBS is that ongoing programs are reviewed simultaneously with proposed new programs and operating and capital budgets are considered together. There is always the possibility of paying for something new by reducing or otherwise changing that which is already in process. (Petruschell, 1968: 14) PPB system's influence on the budget review process is probably the most important aspect comparing with traditional (line-item) budgeting.

The government's budget is a key element in converting a development plan into a program for action (Waterston, 1969: 201) Budget is used as an important means of (1) developing planning process, (2) developing plans, and (3) implementing plans. The budget process, properly used, can help develop a strong planning organization. A strong planning organization, in turn, makes better budgeting. Budget may be used in variety of ways to strengthen planning.

For planning to be capable of implementation the planning process must not end with the preparation of a set of recommendations or plans prepared in isolation from the programs through which they must be implemented. The mechanism for implementation includes the preparation of programs in physical and financial terms which ultimately are set forth in the budget. A useful budget should represent estimates of the cost of carrying out recommended programs over a number of years. It should constitute a plan, which is usually reviewed and probably revised for implementing policy. In this sense the budget represents the commitment on the part of the governing body of the education enterprise to allocate scarce resources to specific activities so as to attain specific objectives. Preferably some output estimates should accompany the budget.

> It is helpful to have a budget which is structured so that it facilitates the measurement of costs to key specified objectives as well as comparison of alternative courses of action. The entire education enterprise as well as its sub-units should be encouraged to formulate program goals which are regarded as basic of their commitment to action and represent ultimate measures against which actions must be validated. The budget should help identify specific objectives through which broad goals are translated into practical terms and should assist in the evaluation of activities in terms of their effectiveness in contributing to program objectives.

> It is essential that planning and budgeting processes be very closely linked. If planning is to be fruitful it must be effectively contribute to the process by which different units in the system identify their missions, specify their goals and objectives, monetary implications, evaluate alternatives and select the most effective programs. Since many programs cut across departmental lines it is important to prepare for a broad area, i.e., the entire education enterprise, it cuts across numerous administrative units and thus becomes in essence a mechanism for coordination.
>
> --Werner Hirsch (in OECD, 1968: 93)

Multi-Year Plan

The main contribution of PPBS lies in the planning process, i.e., the process of making program policy decisions that lead to a specific budget and specific multi-year plans. (Hatry and Cotton, 1967: 15) This approach explicitly considers the implications of future conditions. This requires forecasts of future demands on the organization, future resources available, and the capacity of current programs and projects to meet the objectives of the organization under conditions anticipated in the future. Plans are revised or new plans originated as necessary to overcome obstacles and to achieve changing objectives.

The concept of multi-year planning is an important part of program analysis because of the necessity for predicting the long-term consequences of program decisions. Also, decision makers are not limited to a single academic year in analyzing the priorities for allocating resources. The multi-year concept assures the recognition of the educational and financial impact of program decisions over a long time period. (Alioto and Jungherr, 1971: 104)

> Program, or department, chairmen and others involved in school planning are required to project their needs into the future for a stated period of time, perhaps five years. Budget classification should facilitate the comparison of program outcomes over a span of time. In education, this is done in capital budgets much more than in operating budgets because there are formal, required procedures for estimating pupil enrollments and forecasting the number of buildings to be needed at future time. What is needed is a decisional matrix and data flow plan ensuring that annual budgeting is not merely incremental, but is integrated with long-range planning on a continuing basis. (emphasis supplied)
>
> --Harry Hartley, 1968: 97

Program Memorandum

Program memorandum is an internal planning document that records analyzed programs and lists alternatives and recommendations. (Hartley, 1968: 256) This document is prepared for each major program--either instructional or support--and contains the recommendations; identifies issues involved, in terms of selection, from among alternatives; and explains the basis for the selection. (Haggart, 1972: 10)

Program memorandum provides the communication between the analysts within a program area and the analytical staff which services the decision-making group. In these studies the program group lays out the issues it identifies in the program area, the alternatives it recommends, and the pros and cons for its recommendations, as well as the data, analysis, and arguments for the possibilities it has rejected.

The top-side analytical group re-analyzes the program memorandum and writes its program memorandum in response. The reply may accept the recommendations for the same, different, or modified reasons. It

may determine issues that have not been raised. It may suggest alternative program packages that have not been considered. It may modify alternatives that were examined. After as much study, analysis, and re-analysis as time permits, the top staff, with concurrence or objection from the program manager, drafts the final program memorandum covering all issues and all alternatives for consideration by the decision maker. (Novick, 1968: 8-9)

> PPBS, taken to full installation, will give the administrator an ideal network for internal communication. It is evident that the communication network established under a PPB system need not follow traditional communication lines such as from superintendent to assistant superintendent to building principal to staff. Thus, the system produces a number of alternatives for communication between staff members. . . . The joint establishment of objectives and determination of program under the PPBS approach requires staff involvement. If the administrators' aspirations are for total staff involvement in the decision-making process it can be accomplished most reasonably and effectively through the systematic PPBS approach.
>
> --Alioto and Jungherr, 1971: 14

Performance Criteria

"Performance criteria" is used, in the PPB system, interchangeably with such terms as "measures of performance," "performance level," "indicator," "criteria," and "effectiveness performance." Theoretically, the ideal would be to find a single measure of the output of the system and to relate all activities to that final measure of effectiveness. In the case of education and other complex public services, there is reason to question the validity of the theoretical ideal, and as a practical matter, there is no known way to produce a single, valid measure of educational output. Under these circumstances, a better approach is to

identify indicators of major variables subject to partial, if not complete, control of the Ministry of Education which, when interpreted by experienced administrators and policy officials, indicate possible needed action. Examples of such indicators now in use by education administrators include variations of teacher-pupil ratio, achievement scores, age-group attendance rate, unit costs, student flow, etc.

Evaluation

The process of planning, programming, and budgeting is repeated annually in the PPBS so that planned action is regularly revised in view of actual experience in carrying out the first year of the multi-year plan. Thus the PPBS approach provides a systematic way of helping the organization keep its plans and actions up to date. (Government Studies Center, 1969: 13)

Program review is a year-round process of evaluating and revising program objectives, performance, and costs. It makes the planning-programming-budgeting system a dynamic procedure. Hartley (1968) suggests that the organizational structure should mandate periodic updating by means of planning calendars so that recommendations can be made within the annual budget cycle. The evaluative criteria should be developed to aid decision makers at all levels within the system. (page 98)

PPBS Procedures for the Development of A Five-Year Plan

The PPBS approach covers the whole range of procedures from gathering data, defining the problems and basic objectives to the selection of courses of action and budgeting--all part of disciplined

way of thinking about plans and objectives. The approach can be viewed as proceeding in steps. These steps are a description of the functions involved; however, they do not necessarily occur in the order described and are not necessarily performed independently.

The cycle of events for the PPBS procedure is shown in Figure 5.4. The effort of planning, programming, and budgeting is a never ending and continuous process. The procedures to the left of the diagonal line are the planning, programming, and budgeting steps. Those in the lower right are the general processes carried out on a day-to-day basis to control and guide the ongoing operations. It is assumed that these processes will produce data which is recorded in a data base within the management information system.

Step 1: Gather Data, Summarize Existing Conditions

The PPBS procedure starts with data gathering and computational efforts designed to describe environments in which the Ministry of Education and other educational institutions will operate over the next five years. All aspects of the education components will be characterized, such as enrollments, revenues, personnel, facilities, and equipment. These data are entered into the data base for use in subsequent planning effort.

The next task is to extract data from the data base and summarize it in a form suitable for the subsequent planning steps. The output of this procedure will be descriptions of the existing conditions of education of the province and the aggregation of the nation. The data resulting from this step are recorded in the data base.

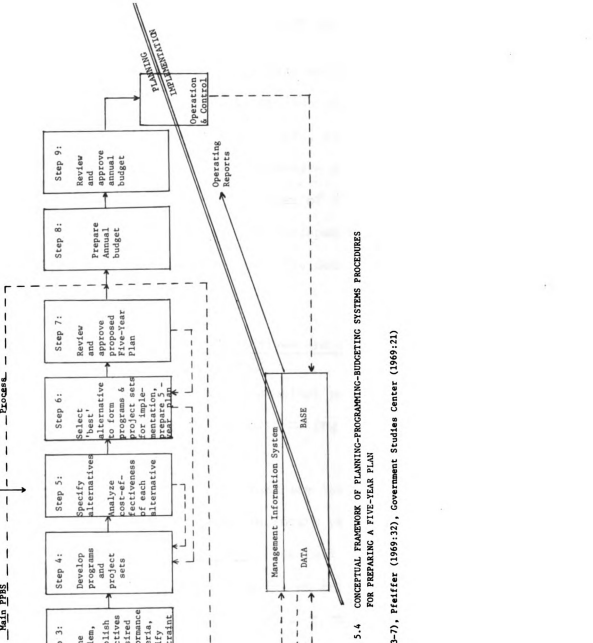


FIGURE 5.4 CONCEPTUAL FRAMEWORK OF PLANNING-PROGRAMMING-BUDGETING SYSTEMS PROCEDURES FOR PREPARING A FIVE-YEAR PLAN

Sources: adapted from Casanco (1970:3-7), Pfeiffer (1969:32), Government Studies Center (1969:21)

Step 2: State Assumption, Forecast Enrollment and Estimate Revenue

Assumptions about environment are stated which may affect education in the next five years. These assumptions will serve as a base for the next task--the forecast of enrollments, revenues and other forms of the education program. These forecasts provide estimates of factors important to the future activities of the province and the Ministry of Education and, therefore, are indispensable to this decision process. These forecasts are entered into the data base for use in subsequent planning effort.

Step 3: Define Problem, Establish Objectives and Desired Performance Criteria, Specify Constraints

Next is to define problems and to establish policy guidelines. This is carried out by the highest decision-making body and includes four distinct phases.

1. Define problem: those issues that may have arised during the current school year or are anticipated in future years are defined.

2. Establish goals and objectives: the task is to develop sets of overall goals and specific objectives for educational development. Clear distinction must be made between goals, as general statements of ideals expressed in abstract terms, and objectives, as specific aims, measureable and achievable, which may require reformulation under given circumstances. Objectives are obtained by applying preestablished standards to a set of overall goals. C. H. Granger (1964: 63-74) suggested the following criteria for good objectives:

> 1. The objective should be a guide to action. This should be not only a guide to action but also an impetus for the decision making process and the organization to act.

2. Objectives should be stated so that courses of action are suggested which will satisfy the given objectives.

3. The objective should be explicit enough to enable one to measure whether the objective is being realized.

4. An objective should be challenging. Some people suggested that one's objectives should be set in a manner that they can never be reached. Perhaps this is unrealistic. Success in reaching objectives can provide motivation to acquire other goals or objectives.

5. An objective should be cognizant of external and internal constraint which the environment places on the system.

6. An objective should be capable of being related to other objectives at higher or lower levels in the organization.

When educational objectives are set, Granger suggested in the same source, the environment in which we exist must be understood as well as some notion of the courses of action which are or will be available as means of achieving these objectives. Furthermore, there must exist a hierarchy of objectives in any operating system. The hierarchy should lead from the top or very broad type of objective down through the organization to extremely specific and well-defined objectives at the operating levels.

Appendix A.1 shows examples of what have been described in this section.

3. Establish desired performance criteria: Criteria are selected which measure how well are objectives being met and determine when those objectives have been reached. Appropriate yardsticks are essential to setting goals, making improvements in schedules.

The criterion is the thing that the analyst is trying to optimize. It must be specified carefully and, in the case of systems analysis, specified with mathematical precision. It is an expression of the overall goal. (Mood, 1967: 23)

4. Identify constraints: since a system is a part of larger system, there will always be things that do not change and cannot be changed in any reasonable period. They are known as constraints and range from fixed budgets, existing rules, and laws to firmly established traditions which may serve a real purpose or may have little value, but not yet are ripe for breaking. These constraints must be identified and taken into consideration if planning is to be effective. Other controllable and uncontrollable variables must also be specified. Uncontrollable variables include things like the weather and population trends, which may indeed undergo spectacular changes but are not under the decision-makers' control.

The planner is naturally concerned above all with introducing innovations and hastening or retarding the pace of events, with those elements which he can change in efforts to get results. These are controllable variables. See Appendix A.1

Step 4: Develop Programs and Project Sets

Using the output resulting from step 3--policy guidelines and objectives, as base, the potential programs and projects are developed. These programs and projects are proposed which should improve the operation of the Ministry of Education and eliminate or reduce the problem areas. This step of PPBS procedures is called program struc-

turing. The development of structural aspect of PPBS, according to Haggart (1971: 2), includes such activities as:

- Define broad goals
- Define operational objectives
- Identify activities
- Define programs
- Define program elements
- Develop program structure (Group activities)

In order to understand and analyze the province's or the Ministry's activities a hierarchical classification scheme must be provided. This scheme should be the framework for organizing provincial activities into relatively small number of programs that can be sub-divided into more narrowly defined levels. The first level of program structure should be general in nature and move to levels two, three, four, etc., with the activities under each level becoming more narrowly specified. Figure 5.5 shows classification of program structure.

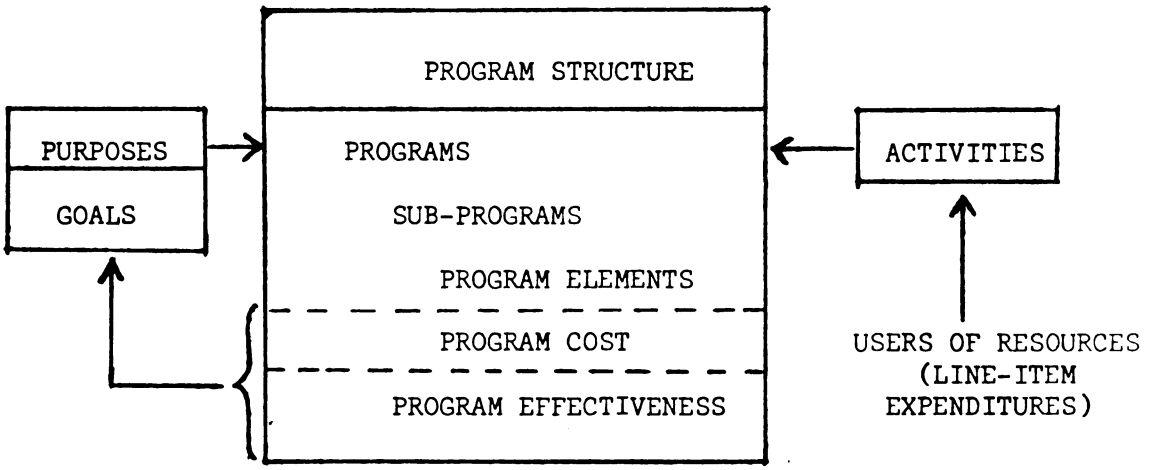


FIGURE 5.5 NATURE OF THE PROGRAM STRUCTURE

Source: Haggart, 1971, p.3

Figure 5.6 shows a hierarchical classification scheme of program structure and its example. Further illustrations will be found in Appendices A.2, A.3, A.4.

Level	Classification	Program Structure
I	Program	Instructional Support
II	Sub-program	Instructional Administration
III	Program Element	Instructional Supervision
IV	Activities	Supervision In-service Training Professional Leave
III	Program	Instructional Evaluation
IV	Activities	Evaluation In-service Training Professional Leave
III	Program Element	Instructional Improvement
IV	Activities	In-service Training Professional Leave

FIGURE 5.6 A HIERARCHICAL CLASSIFICATION SCHEME OF PROGRAM STRUCTURE

According to Alioto and Jungherr (1971), there are two approaches for structuring the programs, descriptive and prescriptive.

Descriptive Program Structure: this type of program structure is based on existing activities of the organization. The process includes grouping the existing activities of the province or the Ministry according to apparent similarity of purpose. Once the activities have been brought together according to purpose, then the

groups may be assembled into larger program aggregates. This process involves starting at the lower levels of the hierarchy with the more specific activities and working them through a regrouping process into the higher levels of the program structure.

Prescriptive Program Structure: this program structure is developed around objectives of the organization. The province or the Ministry begins the installation of PPBS by stating the objectives, then the basis for establishing the program structure should be the groupings of objectives that have been specified and agreed upon. The objectives can be subcategorized into more specific objectives that in turn provide the various levels of hierarchy for the program structure.

The prescriptive approach defines programs according to a conception what schools ought to be doing. The descriptive approach identifies programs and objectives inductively from relationships among actual, ongoing activities.

As stated in a previous section, once a formal resolution endorsing the concepts of PPBS is passed, a PPBS task force should be assigned the overall responsibility for the operationalization of the PPB system. This should be done at both provincial and national levels. The task force has the authority to establish subcommittees. The establishment of objectives, program structures, program analysis, and performance of other activities in the PPBS processes will be done by this task force through its subcommittees.

Step 5: Specify Alternatives, Analyze Cost-Effectiveness of Each Alternative

This step can be divided into two distinctive phases.

1. Specify Alternatives: alternatives for each established objective are identified. Generally, there are a number of different ways of carrying out each objective and of bringing it into a better relationship with other parts of the total educational system. Once objectives have been defined, uncontaminated by specified means, the PPBS approach requires an analysis of the precondition that will bring about the desired result--and the precondition that will bring about this precondition, and so on. Henry Chauncey (in Umans, 1971: 33) indicates that the analysis proceeds backward from the stated goal by asking, in great detail and stage by stage, exactly what must take place before the end result can be expected to occur. It is through this backward analysis, and the examination of the multitude of alternatives at each stage, that the optimal means to the desired ends emerge. Only then can a detailed plan of movement from present condition to targeted goal be drawn up. This way the plan itself can be tested before implementation.

The necessity for more than one possible courses of action as a means of obtaining the objectives of the organization is obvious. Ackoff (in Andrew and Moir, 1970: 12-13) refers to two types of activities with regard to alternative courses of action: (1) the search of activity in which various alternatives exist but they are not obvious to the decision maker, (2) the development activity, if none of the existing course of action will obtain the desired objectives or the desired level of performance, the other courses of action must be created.

According to Greenhouse (1966: 276), there are two types of alternatives: (1) "program alternatives:" is output-related; it suggests substituting entirely different program (and therefore a

different output) for a program already planned or in progress; and (2) "alternative ways to do a given job:" is input-related. It takes the program as given, and raises possibilities for changing the mix of inputs, and thereby redirecting the program. Viewed in other way, the first involves policy questions, which the second involves operational matters.

The Parma City Schools "Seventh Grade Social Studies" Program in Appendix A.1 shows alternatives for the established goals and objectives.

2. Analyze Cost-Effectiveness of each Alternative: several authors call this phase a "program analysis." It is a process where all alternatives for an objective are evaluated and compared--often by cost-benefit studies and from which a preferred course of action is selected. This is a crucial step for decision makers to make and bring about prudent decisions. It may mean the success or failure, superiority or inferiority of the plan chosen to implement. In reality, Fisher stated (Lyden and Miller, 1972: 270), most major long-range planning decision problems must ultimately be resolved primarily on the basis of intuition and judgment. He suggests that the main role of analysis should be to try to sharpen this intuition and judgment. The analysis should be directed toward assisting the decision-maker in such a way that his intuition and judgment are better than it would be without the results of the analysis.

Cost-effectiveness analysis possesses many characteristics:

> 1. A most fundamental characteristic is the systematic examination and comparison of alternative courses of action that might be taken to achieve specified objectives for some future time period. Not only is it impor-

tant to systematically examine all of the relevant alternatives that can be identified initially, but also to design additional ones if those examined are found wanting. Finally, the analysis, particularly if thoroughly and imaginatively done, may at times result in modifications of the initially specified objectives.

2. Critical examination of alternatives typically involves numerous considerations; but the two main ones are assessment of the cost (in the sense of economic resource cost) and the utility (the benefits or gains) pertaining to each of the alternative being compared to attain the stipulated objectives.

3. The time context is the future (often the distant future--five, ten, or more years).

4. Because of the extended time horizon, the environment is one of uncertainty (very often great uncertainty). Since uncertainty is important facet of the problem, it should be faced up to and treated explicitly in the analysis. This means, among other things, that wherever possible the analyst should avoid the use of simple expected value models.

5. Usually the context in which the analysis takes place is broad (often very broad) and the environment very complex, with numerous interactions among the key variables in the problem. This means that simple, straightforward solutions are the exception rather than the rule.

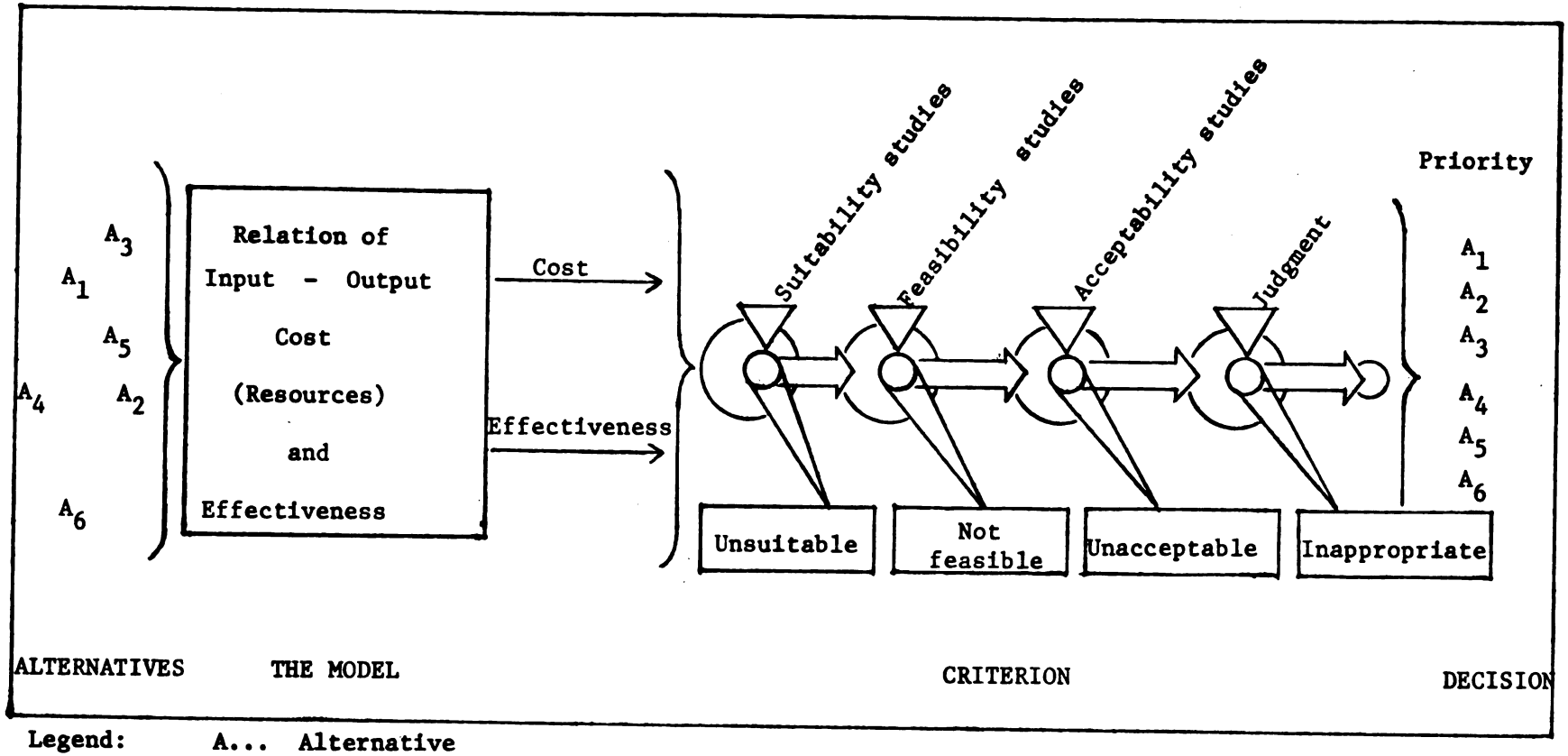
6. While quantitative methods of analysis should be used as much as possible, because of items 4 and 5 above, purely quantitative work must often be heavily supplemented by qualitative work and of using an appropriate combination of quantitative and qualitative methods.

7. Usually the focus is on research and development and/or investment-type decision problems, although operational decisions are sometimes encountered. This does not mean, of course, that operational considerations are ignored in dealing with R&D and investment-type problems.

> 8. Timeliness is important. A careful, thorough analysis that comes six months after the critical time of decision may be worth essentially zero, while a less thorough--but thoughtfully done--analysis completed on time may be worth a great deal.
>
> --Gene A. Fisher (in Lyden & Miller, 1972: 269-270)

The cost-effectiveness analysis comprises such elements as objective or objectives, alternatives, costs or resources used, a model or models, and performance criteria. The elements of analysis become inputs to the process of the analysis as shown in Figure 5.7. The process begins with the alternatives to be evaluated. These are examined within the model that represents the input-output or the resource-effectiveness relationships of the system. It tells what can be expected from each alternative. Essentially, it shows the cost of the alternative and the contribution of the alternative in meeting an objective. Criteria are then used to weigh the cost against performance. (Haggart, 1972: 154) The criteria are based on suitability, feasibility, acceptability and judgment. Special studies may be needed for each criterion. The important feature in the diagram is the screening or sorting gate which is controlled by selection criteria. An alternative is firstly examined for suitability. If it is unsuitable course of action, it will be dropped. The retained, suitable courses of action are subjected to feasibility study. The same process applies for acceptability study and judgment. (Mottley, 1972: 136)

The purpose is not to determine one ratio of effectiveness to cost for an alternative but rather to rank alternatives to provide a part of the basis for selection among them.



Legend: A... Alternative

⇨ Retained course of action

▽ Data and evidence derived from studies

○ Sorting gate controlled by selection criteria

FIGURE 5.7 THE PROCESS OF ANALYSIS

Source: adapted from Quade (1966:7), Mottley (1972:135), and Haggart (1972:155)

Appendix A.5 shows one of outcomes of the analysis in instructional program.

Step 6: Select "Best" Alternatives to Form Program and Project Sets for Implementation

This step is concerned with the output of step 5--the prediction task which permits a comparison between the objectives and desired performance criteria established earlier and suitability of a particular programs and projects. The Changwad education officer or the Under-Secretary can then judge the alternative program and project sets and select the one that most nearly satisfies the policy guidelines. Since none of the proposed program and project sets may be feasible, or none may produce the desired results, steps 4 through 6 may have to be repeated several times before adequate set of programs and projects is selected.

At this stage a task force is ready to formulate and prepare a five-year plan then propose to the higher levels for further action. The master plan will comprise both the educational development programs and fiscal plan.

Step 7: Review and Approve Proposed Five-Year Plan

This step involves review and acceptance of the five-year plan by the highest decision-making group. This step may require recycling back through step 6 and possibly back to step 4 before the highest decision-making group approves the five-year plan.

Step 8: Prepare Annual Budget

Once the five-year plan is developed, reviewed and approved the annual budget is prepared. The first year of the five-year plan is then specified in detail and budgets and operation guidelines for the province and the Ministry are developed. The budget is then prepared for the appropriate review, approval and implementation.

It is noted that the budget is a mechanism for plan implementation. The useful budget represents the cost of carrying out the recommended programs. It must constitute a planned plan.

Step 9: Review and Approve Annual Budget

The highest decision-making group reviews and approves the annual budget. The first year of a five-year plan is ready to be implemented.

CHAPTER VI

PPBS PROCEDURES FOR THE DEVELOPMENT OF A FIVE-YEAR PLAN FOR THAILAND

In applying the PPBS to educational planning, it is assumed in this dissertation that the present educational planning organizations in Thailand will continue to exist. A PPB system will be initiated in a current planning and budgeting cycle. A PPBS model which is constructed in this chapter, therefore, utilizes such planning organizations as the Provincial Educational Development Planning Committee, the Directing Committee for Planning of Educational Development Plan of the Ministry of Education with its various subcommittees and task forces, and the Committee of Planning of National Education Five-Year Development Plan with its various task forces and subcommittees.

According to the "two-way planning" principle currently adopted in Thailand, planning activities take place at both local and national levels. The PPB system will also be installed at both levels.

To increase the possibilities of success for the Five-Year Educational Development Plan, the modern concept of "rolling planning" is incorporated into the planning processes. The "rolling planning" (or cycling planning) is a system of assessing and revising a multi-year plan at the end of each year and, as the first year of the plan is dropped, estimates, targets and projects for another year are added to the last year. This technique increases the degree of continuity and flexibility of a long-range plan.

The proposed PPBS model is constructed in such a manner that it allows the continuity of the existing Five-Year Plan and, at the same time, provides procedures for revising, updating, and annual evaluating through the "rolling planning" process.

Due to its different characteristics and organizational structure, higher education is not included in this model. However, a parallel PPBS model for higher education planning is expected to be constructed.

The very heart of the PPBS is the program structure for it makes the outputs of an educational system visible and identifies the resources required to yield these outputs. The program structure furnishes the framework for unifying all of the components of a PPB system. Therefore, the adequate starting point of the initiation of PPBS in educational development planning in Thailand is the conversion of the conventional Five-Year Plan to program structure. This can be done by establishing PPBS task forces for each province (at local level) and for the Ministry of Education (at national level). The two task forces serve as planning committees at their respective levels. They are responsible for the following activities:

1. Task force orientation
2. Consideration of alternative resources
3. Preparation of the detailed installation plan
4. Design of the program structure
5. Preparation of objectives, establishment of priorities, and evaluation of achievement
6. Preparation of program budget
7. Design of the program accounting system
8. Programming: providing for multi-year planning, program review, and analysis of alternatives

9. Preparation of the PPBS document.

By working closely together, the two task forces design program structures based upon the Five-Year Education Development Plan of the provinces and the nation. The provincial program structures are assembled into the larger (national) program structure. The program structure derived by this technique is called "descriptive program structure."

Generally, each project of the conventional Five-Year Plan (1972-1976) contains information required in the PPBS processes, such as the rationale of the project, purpose, objectives (or targets), implementation method, financial requirement, and enrollment projections.

Taking the Third Five-Year Educational Development Plan, 1972-1976, as a basis, a possible program structure is constructed as shown in Appendix B. Thailand's educational program structure can be organized into seven program areas (Level I): administration services, instructional program, instructional support program, complementary instruction program, facilities operation program, student services program, and public services program. Included are thirty-three programs (Level II), and eighty-six projects (or program elements--Level III). These programs and projects suggest many possible program activities (Level IV) but they are not identified in this program structure due to lack of essential information. However, this problem should be resolved through the PPBS procedures.

This program structure, including its various carried over details from the conventional plans, becomes a new Five-Year Educational Develop-

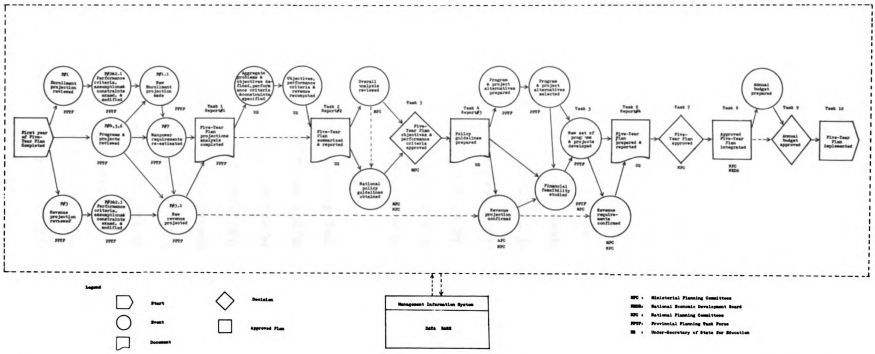


FIGURE 6.1 PPBS PROCEDURES FOR THE PREPARATION OF ROLLING FIVE-YEAR EDUCATIONAL DEVELOPMENT PLAN IN THAILAND.

ment Plan. When this step has been finished, the country will have new Five-Year Plans for both the nation and individual provinces. The PPBS cycle for rolling planning can, therefore, start at the end of any year of the Five-Year Plan.

Figure 6.1 depicts an annual PPBS procedure for preparing a five-year educational development plan. The PERT chart shows the flow of data and information into and out of the predefined processes in the PPB system and the sequences for completing the various processes. There are ten tasks representing key events that have to be accomplished to complete the PPBS cycle. Each event designates a completion of activity or a group of activities involved in the processes. Planning documents necessary for completing particular activities and/or events are assigned. These are indicated by F# which refers to PPBS Form number. Initials below each activity or event specify persons or agencies responsible for the completion of that particular activity or event.

PPTF stands for Provincial Planning Task Force. The Task Force may be comprised of several committees and/or subcommittees. There will be 71 task forces of this kind in the entire nation. Each task force is responsible for the educational development planning of the province. US is abbreviated for Under-Secretary of State for Education. As described previously, this person has the highest ranking professional civil service position in the Ministry of Education. He is responsible for the overall management of the national education establishment. The Educational Planning Division aids him in educational planning and development responsibility. MPC refers to the Ministerial Planning Committees of the Ministry of Education. This

study refers to MPC as a unified body which may be comprised, as described in Chapter II, of several committees and subcommittees within the Ministry.

NPC stands for National Planning Committees. It is referred to as a unified planning body at national level. It may be comprised of several committees and/or subcommittees as described in Chapter II. The MPC and NPC are so assigned in this study to receive specific responsibilities in the national planning processes. Methods of using the committees depends on leadership and management style of the executives. It is noted, however, that a successful task force or committee includes a broad cross-section, vertically and horizontally, of the professional staff with certain representatives from the agencies concerned and from the high decision-making body. Included in the national planning committees are representatives from the National Economic Development Board (NEDB), the Bureau of Budget (BOB), the Office of the National Education Council (NEC), the Ministry of Interior (MOI), and the Ministry of Education (MOE) and various universities. The idea of using committees in the planning procedures is not only obtaining useful ideas and recommendations but also, and very importantly, the commitment of the representing agencies.

Effective planning depends very much on sufficient, accurate and meaningful data and information. The produced data and information, before or during the PPBS processes, are recorded in a data base within the management information system. The information system must be devised both at provincial and national levels.

Task 1: The Five-Year Plan Reviewed

This task is designed to evaluate the first year of the Five-Year Plan. The main purpose is to analyze and to find errors, problems or problem areas concerning the projections made, after the first year of the Five-Year Plan has been implemented.

First, the enrollment and revenue projections are reviewed. The review includes the examination of the underlying assumptions and conditions used in each projection. The assumptions not consistent with realities over the past year, if occurred, are modified.

New projections are made and probable performance criteria and manpower feasibility are re-estimated. PPBS Forms 1, 2, 2.1, and 3 will be used to facilitate these activities.

Next, programs and projects are reviewed. The following questions must be answered:

1. To what extent have the programs and projects become operational?
2. Was there any policy change during the year? If yes, to what extent did the change affect the programs and projects implementation?
3. What are main problems or lessons learned during the year in implementing plans? What should be further actions?

PPBS Forms 4, 5, 6 will be used.

After these reviews have been made, new enrollment and revenue projections will be made. Use Forms 1.1 and 3.1. Probable performance criteria and manpower feasibility are re-estimated (Form 7). Recommended changes are also suggested. The Provincial Planning Task Force

(PPTF), then, summarizes the results of the review and presents its report (Report #1) to the Under-Secretary of State for Education. The report includes (1) analysis results, (2) recommended changes, and (3) proposal for new programs.

Task 2: The Five-Year Plan Summarized and Reported

The main task of this step is the overall review of provincial Five-Year Plan analysis and the summarization of aggregate Five-Year Plan. This task is done by the Under-Secretary of State for Education and his staff. Practically, the Educational Planning Division staff, as the Under-Secretary's staff, perform this function with the Under-Secretary's approval.

First, reports from provinces are reviewed. The Under-Secretary and staff identify problems, specify suggested objectives and desired performance criteria, and identify constraints and conditions for various programs and projects. Taken recommended changes from Report #1 into additional consideration, the Under-Secretary and his staff rewrite suggested objectives and re-estimate performance criteria. Revenue requirements are also recomputed. Necessary forms used in Task 1 will be used in this step.

Next, the Under-Secretary and his staff are ready to summarize the Five-Year Plan and to prepare a report (Report #2) to present to the Ministerial Planning Committees (MPC).

Task 3: The Five-Year Plan Reviewed, Modified and Approved

The Ministerial Planning Committees (MPC) reviews the objectives, desired performance criteria and new proposals that are incorporated

in Report #2. If desired, the objectives and performance criteria will be modified.

Meanwhile, it is expected that the Ministerial Planning Committees seeks agreed upon policy guidelines from the National Planning Committees (NPC).

When satisfied, the Ministerial Planning Committees approves Report #2. This approval is based on (1) the recommendation of the Under-Secretary concerning the problems revealed in the analysis and summarization of the previous Five-Year Plan, and (2) the policy guidelines obtained from the NPC. The approved decision forms a policy guideline for the provinces and aggregate Thailand.

The MPC sends the modified and approved Report #2 back to the Under-Secretary of State for Education.

Task 4: Policy Guidelines Prepared

The Under-Secretary and his staff prepare a report (Report #3) on policy guidelines. These guidelines will establish a basis for the preparation of a new Five-Year Plan. The tasks for the Under-Secretary and staff are explaining the MPC's decisions. The explanation will be expressed in terms of modified objectives, desired performance criteria, conditions and assumptions to be used for projections, probable constraints, financial feasibilities, and possible new programs and projects.

This report is sent to the provinces.

Task 5: New Set of Programs and Projects Developed

Using the established policy guidelines as a basis, the Provincial Planning Task Force (PPTF) prepares new alternative programs and projects. In doing so, the PPTF may choose to take any or all of the three options: (1) continue the project as established, (2) shift all or part of the resource allocations to a different project, or (3) alter the project.

The proposal alternative programs or projects must include at least the following information: (1) objectives, (2) project description, (3) performance criteria, (4) project costs, and (5) manpower requirement.

Cost-effectiveness analysis for program and project alternative is made before the selection of "best" program and project sets can take place. This step may involve several special studies, such as suitability studies, feasibility studies, and acceptability studies. The PPTF decides whether to conduct special studies on the various program or project alternatives. Priorities are set for alternatives.

The PPTF, then, summarizes the proposed program and project alternatives and present to the Under-Secretary of State for Education. Forms #7 - 15 are used at this step.

Task 6: New Five-Year Plan Prepared

The Under-Secretary selects from among the alternative programs and projects the most "satisfactory" or "best" programs and projects, in light of the policy guidelines. Since none of the proposed program or project alternatives may be feasible, or none may produce the

desired results, Task 5 may have to be repeated several times before a satisfactory set of programs and projects are selected.

The PPBS procedure provides for the analysis of program and project costs separately, and for the merging or re-allocation of project costs into program costs. This aspect of the procedure brings about the effective planning. The procedure encourages the introduction of change and innovation through the concept of the project and, at the same time, retains the notion of continuity through the concept of a continuous planning.

When selections are made, the Under-Secretary and his staff prepare the new Five-Year Plan. The Plan includes at least (1) program and project sets, (2) objectives, (3) performance criteria, (4) constraints, (5) revenue estimates, and (6) evaluation methods. The Plan forms Report #4. The report is presented to the Ministerial Planning Committees for the review and approval.

Task 7: New Five-Year Plan Approved

The Ministerial Planning Committee (MPC) reviews and modifies the proposed Five-Year Plan. If necessary, tasks 5-6 may be repeated. The PPBS procedure provides mechanism for high degree of communication, involvement, and participation across the lines and levels. This aspect brings about concrete commitment and cooperation among agencies and persons concerned with the advancement of education of the province and nation as a whole.

When satisfied, the Ministerial Planning Committee approves the Five-Year Plan.

Task 8: The Five-Year Plan Integrated

The Five-Year Educational Development Plan is a "sectorial plan" within the National Economic and Social Development Plan. It must be harmoniously integrated into the nation's Master Plan. If desired, this step may loop back to previous steps. The approved and integrated Plan provides a basis for the preparation, review and approval of the annual budget.

Task 9: Annual Budget Approved

The approved Five-Year Plan is sent to responsible provinces and agencies for implementation. During the implementation period the budget will be prepared through normal budgeting cycle.

One of the fundamental principles of PPBS is that on-going programs are reviewed simultaneously with proposed new programs and operating and capital budgets are considered together. For planning to be capable of implementation the planning must not end with the preparation of a set of recommendations or plans prepared in isolation from the programs through which they must be implemented. The mechanism for implementation includes the preparation of programs in physical and financial terms which ultimately are set forth in the budget. A useful budget must represent estimates of the costs of carrying out the planned programs. Budget must constitute a plan, which is usually reviewed and probably revised for implementing policy. In this sense the budget represents the commitment on the part of the governing body of the education enterprise to allocate resources to specific activities so as to attain planned objectives.

In light of the established Five-Year Plan, the annual budget is prepared. The first year of the Five-Year Plan is then specified in detail and budgets and operation guidelines for the provinces and Ministry of Education are developed. The budget is then prepared for the appropriate review, approval and implementation.

Task 10: Five-Year Plan Implemented

The approved Five-Year Plan obtained at the completion of Task 8 which formulated in forms of programs and projects are returned to responsible educational units for implementation. According to the predefined processes, the planning activities will recycle starting from Task 1, at established phases of planning procedures.

CHAPTER VII

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The approaches used in educational planning in Thailand, and other developing countries as well, have considerable pitfalls. Most of them are merely means of determining goals which provide planners magnitude to aim at; few, if any, give planners adequate guidelines for establishing an effective plan to achieve them. It seems necessary to develop a framework for an intelligent planning approach to facilitate the improvement of the conventional planning procedures. The Planning-Programming-Budgeting Systems (PPBS) is a possible alternative. The main purpose of the study was to design a PPBS model that was related to educational planning in Thai public education system and that would prove to be an improvement over the conventional planning procedures in this country.

The methodology employed was descriptive in nature. No theory nor hypothesis was tested. The PPBS model designed was a somewhat theoretical and tentative one. Data used were obtained from administrative sources and government reports and from library research. Materials pertinent to Thailand were sent directly from the Educational Planning Division of the Ministry of Education. Others were obtained from the University library. Additional data and information were collected from observations in educational units which were implementing PPBS in the United States and in interviews with officials concerned in these units.

In Thailand, education is both centralized and decentralized. This apparent paradox comes about because of the different agencies to which the responsibility for education is assigned. Administrative responsibilities are split between central and local authorites. Planning for the development of public education takes place both at local and national levels. The country employs the principle of the "two-way planning," bottom-up and top-down. First, the seventy-one provinces formulate their own plans. Using these provincial plans as a basis, two planning groups at national level establish a Five-Year National Education Development Plan. The approved Plan is then sent back to the provinces for implementation.

To begin the development of a PPBS model for the improvement of educational planning procedures in Thailand, literature on the subject area and working PPB Systems in the school districts in the United States were examined. These were described in Chapters IV-V. The literature in this area is increasing rather dramatically. Most of the literature however, is descriptive and expository and not very operational. The adoption of PPBS is widespread among school districts. In 1972, more than 1,500 local schools were actually engaged in PPBS development in an operational sense. Operational usage of PPBS continues to grow.

The successful installation of PPBS in a school district needs the sanction and endorsement of the top-level administrators. The time required for full installation is approximated at up to three years. The existing personnel of a school district could normally be used effectively provided that they received additional training and reorientation. External consultants are commonly used. A PPBS task

force has proven to be necessary in establishing a successful installation. The task force is responsible for training personnel, preparing implementation plan, designing program structure, preparing objectives, planning communication systems, scheduling PPBS cycle, preparing planning documents, etc. They report directly to the top-level administrators.

Planning, programming, and budgeting are all essential elements of administration. The three main components of PPBS, among others, are program structure, analytical and information aspects. Other elements include budget, multi-year plan, program memorandum, performance criteria, and evaluation. Nine steps are found to be necessary for PPBS procedures in preparing a five-year educational development plan.

Chapter VI presented a model of PPBS application to educational development planning in Thailand. The model was presented in a PERT network form. Ten tasks representing key events for completing PPBS cycle were designed. Activities or events that have to be accomplished to complete each main task were identified. Each event designated a completion of activity or groups of activities involved in planning processes. Planning documents necessary for completing particular events were designed. The model is designed for "rolling planning" in which the Five-Year Plan could be annually reviewed, revised, and updated; and in which new ideas could be introduced into the educational system.

Conclusion

Eleven conclusions can be drawn from the results of this study. They are as follows:

1. The PPBS procedures can be effectively synchronized with the current planning procedures used in Thailand. The conventional planning procedures encourages planning at two levels, local and national. The PPBS procedures should enhance this concept because PPBS (1) emphasizes team effort, (2) encourages crossing sectionlines, (3) provides wide participation, (4) provides high degree of communications, (5) employs analytical techniques which would sharpen the decision-maker's intuition and judgment, (6) provides methods for continuous planning, and (7) advocates a well-organized data collection and information system.

2. It appears that the PPBS approach would not bring a radical change in organization structure of the educational planning system but its procedures would be revolutionary in a sense that PPBS implies a more systematic and more rational operation for effective planning.

3. The PPBS model was put forth as a means to improve the current planning and budgeting procedures in Thailand. It utilizes the existing planning potentials of the country, namely provincial planning technicians and national planning-related planning bodies.

4. PPBS procedures would give planning practitioners guidelines of what and how to do to achieve the predefined objectives in educational development. Major tasks and responding events that have to be accomplished to complete a PPBS cycle were identified. They were presented in a sequential manner and responsible persons or agencies were specified. It is noted that only major events were designed from the overall national perspective. In practice, each province may need to design a more detailed PERT network for controlling, programming,

monitoring, and evaluating its own planning and administrative activities.

5. A cross-section representation of the planning committee members and a systematic and rational ways of deriving decisions seem to prove to be very important factors under PPBS. Responsible authorities at the national level were assigned to two sets of planning groups, one reporting directly to the Executive Committee of the National Education Council and the other reporting directly to the Ministry of Education. This was done so in order to facilitate flexibilities for administrative monitoring according to one's administrative style.

6. The program structure for educational development in Thailand can be prepared from the current activities. There are normally two approaches to start designing program structure for an educational system. One can start from the current activities of the system or from objectives of the educational system. The program structure designed in this study employed the former approach in order to bring about a smooth installation of PPBS. The program structure was made out of the current Five-Year Educational Development Plan, 1972-1976. The program structure can be broken down to Level III without confusion. In actual operation, PPBS should provide ways of restructuring the hierarchy of programs either for continuing programs or new programs (innovations).

7. The manner in which the program budget is prepared and displayed will be different from the conventional methods in Thailand. Annual budgeting, however, can be prepared and processed according to the current budget cycle.

8. Effective planning under PPBS procedures emphasizes the systematic manner in which programs and projects within a plan are derived and in which budget and resource allocations are closely related to the pre-established programs and projects. This calls for, of course, the systematic participation of agencies concerned and for their responsibilities to maintain cooperation and commitment in bringing about the agreed upon objectives.

9. PPBS can be an effective tool for decision-making provided that a general accounting system is efficient. Thailand may need to examine and adjust its accounting system if PPBS is to be fully operationalized.

10. The PPBS model designed is somewhat theoretical and tentative. Coupled with other findings of other studies conducted in different settings and times, this study should contribute to the development of a more comprehensive and more useful theory and operationalization of educational planning than that which now exist.

11. With the existing cultural values and highly developed technology of the United States, none of the school districts has successfully operationalized the "entire" facets of the PPBS. Thailand may face similar problems that now confront the United States.

Some of major problems on operationalizing PPBS in Thailand may be anticipated as follows:

a) Anti-planning attitudes: a planner is often visualized as a back-room expert, ensconced near the Minister of Education or some other seat of power; ". . . he is often regarded with suspicion, if not hostility, by teachers, educators and educational administrators. . ."

(Coombs in IIEP, 1965: 8) These attitudes and perceptions, known as an administrative inertia, are likely to stand in the way of operationalizing such a new idea as PPBS.

b) Leadership and Competency: PPBS is a technical process. The notions incorporated in PPBS, particularly project planning and management, are new and would not be understood by most of administrators. The major problem would be to convince leaders that PPBS would increase the improvement of planning process since it runs counter to the Thai traditional kinds of administrative system. The same problem would apply to those who control finances.

c) Planning participation: too often planning is regarded as a mystery which only a handful of the central office administrators understand and hence can be involved. It is difficult for educational workers in the field to understand and to respond to such planning. For planning to be truly effective, a wide range of planning participation and an effective communication system must be established.

d) Organization and commitment: according to the current organizational structures, Thai government bureaucrats, both high and low-ranking are free to ignore the hard choices required to provide the Kingdom with a continually improving educational system, and devote their full energies to the achievement of what Riggs (1966: 326-327) has termed "the operational code of a bureaucratic policy." The government bureaucrats in Thailand:

> . . . as much as possible, reduce the work load for officials. This refers especially to the content of bureaucratic work--i.e., avoid the necessity of making hard decisions, of having to choose between alternatives. . . .

> . . . as much as possible, reduce tensions between the bureaucracy and the public, since any measures which incur the wrath or resistance of the people would only make life more difficult for the officials. . . .
>
> . . . pressure may be imposed on other officials to secure as much income as possible. The need for income is so great that one may justifiably impose tributes upon others for direct payments, but one would do so in moderation to avoid violating the first two norms.
>
> Finally, . . . it is important to be well situated within the bureaucracy, since all positions are not equally desirable. . . . Hence, it is an operating rule to seek promotions, transfers, and changes or revisions of one's job assignments if thereby the prospects of satisfying the other norms can be enchanced.

The "operational rule" could possibly cause a serious problem for the introduction of such a highly rational approach as PPBS to educational development planning.

The results obtained in the study led to several recommendations concerning the installation and implementation of PPBS in Thailand. They are presented in the following section.

Recommendations

Due to the nature and design of this study, many aspects cannot be included. For PPBS to be truly useful in Thailand, thirteen areas of further activities and/or research are recommended.

Recommendation 1:

Taking the rationale of PPBS coupled with current policy and strategy on educational planning in the country into consideration, it should be Thai government's policy to operationalize PPBS in educational system because planning, programming, and budgeting are all essential

elements of administration. Planning is directed toward keeping the school doing what it is supposed to do through the process of generating a series of educational objectives and of systematic consideration of courses of action to achieve them. Programming is concerned with the generation of a series of alternative activities and the selection of a specific activity or a group of activities designed to bring about the achievement of an objective. It is the more specific assignment of the needed personnel, supplies and facilities. Budgeting is the allocation of financial resources to the activities selected according to established priorities. In Hartley's words:

> The program budget is a product of political economy combining economic and political rationality, with emphasis on the former; it is the connecting link between the program structure of a school and its available resources; and it is the focus for organizational planning, encompassing goal-setting resource allocation, evaluative review, and revision of objectives.
>
> --Hartley, 1968: 6-7

Recommendation 2:

It is recommended that three questions be considered in order to insure the likelihood of successful PPBS installation in Thai educational planning processes: (1) what resources (personnel, equipment, finance, and facilities) will be needed to install and operate PPBS? (2) how much time will be needed to accomplish the necessary tasks? (3) what specific strategy or steps for installing the system need to be considered?

Recommendation 3:

Concerning the resources needed, it is recommended that the current planning technicians at the provincial level be used and the Educational Planning Division staff provide leadership. These planning personnel need special training in PPBS. It is a further recommendation of this study that at least one of the Educational Planning Division staff be especially trained in PPBS so that he or they could be able to train others and provide supervision on the matters on nationwide basis. Re-orientation of administrators is also needed.

Recommendation 4:

It is recommended that the training program for PPBS staff include both theoretical insights and operational techniques, with emphasis on the latter. Training participants should receive advantages of close examination of "real" cases for the insights of technical "how to." The lecture sessions should include the following topics:

1. How is PPBS a composite of earlier administrative reforms?
2. What are recent projects involving PPBS installation?
3. What are the specific properties of a PPB system?
4. How should an institution go about a conversion to PPBS?
5. What roles do instructional personnel play in PPB system?
6. What is a desirable process for actual implementation?
7. What is the best way to develop a comprehensive program structure?
8. How should program designs be adapted to particular schools and other educational institutions?
9. What pitfalls must be avoided in PPBS installation?
10. How can desired outcomes and accomplishments be evaluated and improved?

11. What are the data files of a management information system?

12. What is the impact of the systems approach to educational planning and administration?

Recommendation 5:

Concerning time required for establishing a successful PPBS installation, it is recommended that Thailand schedule for one to three years for full installation, provided that the country has sufficient manpower and full commitment from the top-level administrators. The first year should be devoted to the training and preparation of professional staff, the second year for planning of installation strategies, and the third year for actual implementation. A pilot study is highly recommended.

Recommendation 6:

As for the strategies for the introduction of PPBS, Thailand should first endorse the PPBS ideas through the top-level administrators. Two PPBS task forces, afterward, should be established at provincial and national levels. The two task forces have similar responsibilities, at their respective levels, for the accomplishment of the following activities:

1. PPBS orientation, both for the task force and administrators

2. Preparation of the detailed installation plan

3. Design of the program structure

4. Preparation of objectives, establishment of priorities and evaluation of achievement

5. Preparation of program budget

6. Design of program accounting system

7. Provision for multi-year planning, program review, and analysis of alternatives

8. Preparation of PPBS document.

Recommendation 7:

To insure a fairly smooth adoption of the PPBS as new procedures, it is highly recommended that the PPBS task forces prepare technical manuals that describe in concise terms the concepts and operational procedures for planners and administrators. The following manuals are suggested to be prepared:

1. An introduction of Planning-Programming-Budgeting Systems, explaining PPBS concepts and implications to educational planning

2. Glossary of terms and acronyms used in Planning-Programming-Budgeting systems

3. An inventory of educational outputs

4. An inventory of educational inputs (resources)

5. An inventory of educational objectives by subject area

6. A program budget accounting procedures

7. Program structuring manual

8. Analysis of achievement manual

9. A manual for alternative analysis techniques

10. A manual for data processing and management information system.

An instructional technique should be the main theme of the manuals. A manual should be easy to read and to follow. If applicable, work sheets should be prepared and instructions presented, step by step.

Recommendation 8:

It is recommended that procedures for the preparation of a Five-Year Education Development Plan be devised in a PERT network form. PERT is a device for planning, controlling, monitoring, and evaluating complex projects, such as this one, that have been structured into component parts, time elements, and cost factors. To be effectively useful, it is recommended that a specific application of the Critical-Path Method (CPM) be constructed in the PERT network in order to identify the activities that have no slack time and will require the greatest expected time to accomplish. This method is used by planners, administrators and project directors to estimate the time to complete each event of a rigorously defined sequence of activities and to identify critical areas and corrective action for potential bottlenecks.

During the first year, time estimates can be based on planners and administrators' judgment. They should be revised, through systematic studies, during subsequent years to obtain the satisfactory time phased schedule.

Recommendation 9:

Specific methodologies in educational planning should receive attention from planners and academicians. Techniques for crucial areas such as enrollment and revenue projections should be carefully selected. Assumptions and conditions used in each projection should be carefully studied. Formulae and other factors used for projections should be periodically reviewed and updated and revised. Research in this area is needed.

Recommendation 10:

Educational planning should pay close attention not simply to growth, but to educational change, to the qualitative and not merely the quantitative aspects of educational development. It is generally accepted that quantitative planning in education will continue to be important but it will be far from sufficient. The necessity for a kind of educational planning which penetrates deeply beneath the outer surface and aggregate dimensions of the system is imperative. In responding to this strategy, it is recommended that special attention be put on "Instructional Program Area." The curricular program should be identified. Based upon operational instructional objectives, program structures appropriate for PPBS should be formulated. Priorities are developed for individual subject areas. The structure and process of education are considered in light of contemporary curriculum efforts.

Recommendation 11:

It is recommended that the information system be strengthened. Management information system is very essential in any effective planning process, particularly under PPBS. The primary function of the management information system is to aid in decision making, either in the present or in the future, by one or more persons within the organization or in the hierarchy of organizations. Strategies for planning an effective information system should include these phases: (1) the data collection or input, (2) the data manipulation or processing, and (3) the information dissemination or output. The following criteria in addition, are suggested to be considered in the establishment of information system:

1. Why is the information needed?
2. What information is needed?
3. How is the information to be used?
4. When is the information needed?
5. Who is to use the information?
6. Where should the information be collected and/or used?

Recommendation 12:

It is suggested that before PPBS is introduced to Thai educational planning system, like in any system, literature and specialists in diffusion of innovations be reviewed and consulted in order to bring about a smooth installation.

The process of PPBS will not abolish human conflicts that inevitably seem to accompany human groupings. Capozzala, a specialist in public administration, suggested that the analytical approach of PPBS sets in motion certain forces that may create severe organizational pressures and strains. (in Hartley, 1968: 231) Installation phases should be carefully planned. In addition, organizational structures of the country need to be considered; subsequent changes may occur.

Recommendation 13:

Because PPBS is a complex subject, it is highly recommended that Thailand seek regional and international cooperations in PPBS operations. Many school districts and higher education institutions in the United States have considerable experiences in this area and might be helpful. The Southeast Asia Ministers of Education Organization (SEAMEO), the UNESCO and the Agency for International Development (AID)

should be consulted. The Organization for Economic Cooperation and Development (OECD) has been interested in PPBS implementation. Technical exchange and/or cooperation with these organizations should be of great benefit.

APPENDIX A.1 THE PARMA CITY SCHOOLS "SEVENTH GRADE SOCIAL STUDIES" PROGRAM: PROGRAM GOALS AND OBJECTIVES, PROGRAM ALTERNATIVES AND CONSTRAINTS

Goal 1

To develop student understanding and interest in social-studies disciplines.

Objective 1. 70 percent of the class will achieve a score of at least 90 percent on a test designed to measure understanding of the various social-science disciplines.

Objective 2. An anonymous student survey will be administered to determine the amount of time spent volitionally on extra, unassigned work in each unit. 50 percent of the class will have been motivated to spend 1 hour or more on such extra work on each unit.

Goal 2

To develop in each student the skills to understand and appreciate the interdependence of man.

Objective 1. 70 percent of the students will achieve a score of at least 90 percent on a test designed to measure understanding of the interdependence of man.

Objective 2. All students will successfully complete, as determined by teacher evaluation, a project activity designed to demonstrate their ability to combine concepts, principles, and generalizations regarding the interdependence of man.

Objective 3. 70 percent of the students will improve their attitudes as measured by a pre- and post-attitudinal test designed to assess how students perceive the interdependence of man.

Goal 3

To help each student recognize the dignity and worth of all people.

Objective 1. All students will develop a functional definition of a culture which will contain at least three basic elements of a culture.

APPENDIX A.1 (continued)

Objective 2. All students by forming generalizations will demonstrate their ability to perceive at least ten reasons for cultural differences among peoples of the world.

Objective 3. 70 percent of the students will achieve a score of at least 90 percent on a teacher-designed test which will measure their understanding of the contributing factors which cause people to be intolerant.

Objective 4. 70 percent of the students will gain a greater understanding of their own self-worth through a series of activities (e.g., self-analysis inventory, role playing, peer group influence test, etc.) designed to measure their own attitudes about themselves and their relationship to their fellow man.

Objective 5. 70 percent of the students will improve their attitudes as measured by a pre- and post-attitudinal test designed to assess how students perceive the dignity and worth of all people.

Goal 4

To develop in each student the ability to evaluate the effects of social and technological change on mankind.

Objective 1. All students, by forming generalizations, will develop and test a functional hypothesis regarding the effects of differing levels of technologies on three cultures.

Objective 2. 70 percent of the students will achieve a score of at least 90 percent on a teacher-designed instrument which will measure their understanding of the process of social and technological diffusion.

Goal 5

To develop in each student a greater commitment to the democratic form of government.

Objective 1. Given statements about three different forms of government (authoritarian, aristocratic, and democratic), each student will identify the form of government.

APPENDIX A.1 (continued)

Objective 2. Each student will be able to list at least five advantages and five disadvantages of the three different forms of government.

Objective 3. Each student will be able to list eight rights and eight responsibilities of citizenship in a democratic society.

Objective 4. To measure the students' ability to apply their understanding of the rights of citizens in a democratic society to real life situations, 70 percent of the students will pass the National Citizenship Test with a score of at least 90 percent.

Program Alternatives and Constraints

Four program alternatives were identified. Several other program alternatives were considered (e.g., the use of closed-circuit television for some presentations, and the "parkway" or "community" school concept, etc.); however, these alternatives were not formally developed since known local constraints greatly restricted their feasibility.

A list of constraints was developed for each alternative. Several of the constraints were common to all alternatives. (For example, teacher background is generally weak in areas of anthropology, sociology, psychology, and to some extent economics; and the existing schedule of 40-minute periods restricts certain types of learning experiences.)

The four program alternatives with their corresponding constraints are as follows:

Alternative 1. The Current Program

The current 7th grade social studies program would be adapted to the PPBS structure. To implement this alternative the following would be necessary:

1. Special consultant services to help the staff design tests which would measure student performance for all objectives requiring performance measurement.

2. The design of performance measurement instruments.

3. In-service training for all 7th-grade social-studies teachers to review the proposed program and to orient the staff to PPBS. This in-service training would emphasize goals, objectives, and evaluation criteria.

APPENDIX A.1 (continued)

Constraints for Alternative 1:

1. The course is presently taught in conventional classrooms which greatly restrict flexibility. For example, there frequently is need for the class to have access to additional space where part of the students may work independent of the regular class. Such space is not currently available.

2. Modular scheduling would be desirable for some units, particularly where longer blocks of time are needed in some units to complete some of the learning experiences. The present 40-minute period makes completion of some learning experiences difficult.

3. Teacher background is generally weak in the areas of anthropology, sociology, psychology, and to some extent in economics.

Alternative 2. Current Program With Modified Units

Specified units in the present program would be rewritten to more fully achieve the goals and objectives. To implement this alternative, it would be necessary to:

1. Form a summer writing team to rewrite lessons in selected units

2. Secure new instructional materials to support the revised units

3. Employ special consultant services to help the staff design tests which will measure student performance for certain objectives requiring measurement by such tests

4. Design performance measurement instruments

5. Provide in-service training for all 7th-grade social-studies teachers to review the proposed program and to orient the staff to PPBS. Such in-service training would emphasize goals, objectives, and evaluation criteria.

Constraints for Alternative 2 are the same as those listed for Alternative 1.

APPENDIX A.1 (continued)

Alternative 3. Individualized Instruction

Each of the units in the program would be supplemented with appropriate supportive materials programmed for individualized instruction. In addition to the regular classroom activity, supplementary lessons would be designed so that the student could progress at his own rate. These lessons would be designed to achieve the program goals and objectives. The program itself would be structured to give the student three days of group instruction and approximately 2 days each week for the student to work at his own speed. To restructure the program as suggested in this alternative, it would be necessary to:

1. Remodel one classroom in each building to accommodate this activity. Work areas, shelving, etc., would be needed around the perimeter of the room. The classroom itself would contain tables rather than student desks to allow for maximum flexibility. In buildings where more than one section meets during the same period, it would be necessary for teachers to share use of the rooms so that the students could use the programmed materials at different times.

2. Provide individualized programmed material and equipment in this room, including filmstrip projectors, tape recorders, slide projectors, casette play-back equipment, etc.

3. Assemble a writing team of teachers to restructure the program in the direction of individualized instruction. Preliminary emphasis in the revision would be in designing programming materials so that the student could progress at his own rate of learning.

4. Employ special consultant services to help the staff design tests which will measure student performance for certain objectives requiring measurement by such tests.

5. Design performance measurement instruments.

6. Provide in-service training for all 7th-grade social-studies teachers to review the proposed program and to orient the staff to PPBS. Such in-service training would emphasize goals, objectives, and evaluation criteria.

Constraints for Alternative 3:

In addition to the constraints indicated for Alternative 1, few teachers have previous experiences in providing diagnosis, direction, and monitoring to individualized learning programs.

APPENDIX A.1 (continued)

Alternative 4. Modified Large-Group/ Small-Group Instruction

This alternative proposes that all students in the 7th-grade program meet 2 days per week for large-group instruction and 3 days per week for small-group discussion. The 7th-grade enrollment at each individual junior high school would be divided into three equal groups for the large-group instruction. One staff member, for each team, would be designated "team leader". The unique abilities of staff members would be utilized through the large-group, small-group organization. To implement this alternative, it would be necessary to

1. Assemble a writing team of teachers to restructure the program for large-group/small-group instruction.

2. Provide facilities to accommodate large-group instruction, as none exists in four of the five junior high schools.

3. Employ special consultant services to help the staff design tests which will measure student performance for certain objectives requiring measurement by such tests.

4. Design performance measurement instruments.

5. Provide in-service training for all 7th-grade social-studies teachers to review the proposed program and to orient the staff to PPBS. Such in-service training would emphasize goals, objectives, and evaluation criteria.

Constraints for Alternative 4:

1. There is a lack of large-group facilities in all of the buildings. Only one junior high school (Schaaf) has an auditorium which could be adapted to this purpose, but even this facility would not be optimal for large-group instruction.

2. The large groups (110-170 students) may not be appropriate for effective learning for all 7th grade students.

3. Staffing for large-group presentation would be a problem in some buildings. An unusually dynamic personality would be needed to hold the attention of 110-170 students.

APPENDIX A.2 PARMA CITY SCHOOL DISTRICT PROGRAM STRUCTURE

Level 1	Level 2	Level 3	Level 4
Regular Instruction			
	Preschool		
		Kindergarten	
	Language Arts 1-6		
		Reading	
		English	
		Spelling	
		Handwriting	
	English 7-12		
		English 7-9	(7)(b)
		English 10-12	(10)
		Afro-American Literature	(1)
		Speech & Debate	(4)
		Theater Arts	(3)
		Creative Writing & Journalism	(3)
		Newspaper Studies	(2)
		Film Study	(1)
	Mathematics 1-6		
	Mathematics 7-12		
		Mathematics 7-9	(10)
		Algebra 10-12	(5)
		General Math	(2)
		Industrial Math	(2)
		Geometry	(3)
		Trigonometry	(1)
		Math Functions	(1)
		Math Independent Study	(3)
		Calculus	(1)
	Social Studies 1-6		
	Social Studies 7-12		
		Social Studies 7-8	(2)
		Civics 9	(1)
		Urbanology 9	(1)
		History	(7)
		Humanities	(2)
		Economics	(1)
		Sociology	(1)
		Human Relations	(1)
		Government	(4)
		Current Problems	(1)
		Social Studies Ind. Study	(3)
	Science & Health 1-6		
		Health 1-6	
		Science	
	Science 7-12		
		Science 7-8	(2)
		Biology 9	(2)
		Biology 10-12	(2)
		Earth Science	(1)
		Chemistry	(3)

APPENDIX A.2 (continiued)

Level 1	Level 2	Level 3	Level 4
	Health & Physical Education 1-12		
		Physical Ed 1-6	
		Physical Ed 7-9	(6)
		Physical Ed 10-12	(6)
		Health Ed	(2)
		Leaders	(2)
		Health or P. E. Ind. Study	(3)
	Art 1-12		
		Art 1-6	
		Art 7-9	(4)
		Art 10-12	(4)
		Applied Fine Art	(2)
		Sign Painting	(2)
		Arts Seminar	(2)
		Vocational Commercial Art	(2)
		Art Ind. Study	(3)
	Music 1-12		
		Music 1-6	
		Music 7	(1)
		Choir, Glee, & Chorus 7-9	(8)
		Band 7-9	(9)
		Orchestra 7-9	(6)
		Choir, Glee, & Chorus 10-12	(9)
		Band 10-12	(4)
		Orchestra 10-12	(2)
		Music Theory 10-12	(1)
		Music Ind. Study 10-12	(3)
	Foreign Languages 9		
		French	
		German	
		Latin	
		Russian	
		Spanish	
	Foreign Languages 10-12		
		French	(7)
		German	(7)
		Latin	(7)
		Russian	(7)
		Spanish	(7)
	Industrial & Business Ed 7-9		
		Industrial Ed	(1)
		Personal Typing	(2)
	Business Education 10-12		
		Typing	(4)
		General Business	(1)
		Bookkeeping	(2)
		Shorthand	(2)
		Notehand	(1)
		Business Law	(1)
		Consumer Ed	(1)
		Salesmanship	(1)

APPENDIX A.2 (continued)

Level 1	Level 2	Level 3	Level 4
	Business Education 10-12 (Continued)		
		Office Machines	(1)
		Dictation Transcrp.	(1)
		Keypunch	(1)
		Business Ind. Study	(3)
	Vocational Business 11-12		
		Secretarial	(2)
		Data Accounting	(2)
		Accounting Clerical	(2)
		Typing Clerical	(2)
		Coop. Office Education	(1)
		Distributive Education	(2)
	Vocational Services 10-12		
		Food Services	(2)
		Cosmetology	(2)
		Medical Assistant	(2)
		Dental Assistant	(2)
		Voc. Indep. Study	(3)
	Industrial Education 9		
		Industrial Education 9	(2)
		Drafting	(1)
	Industrial Education 10-12		
		Drafting	(6)
		Electricity	(3)
		General Metals	(4)
		Welding	(2)
		Graphic Arts	(3)
		Machine Trades	(2)
		Transportation	(4)
		Wood	(4)
		Driver Education	(2)
		Industrial Crafts	(2)
	Vocational Education 9-12		
		OWA	(1)
		OWE	(3)
		Vocational Drafting	(2)
		Vocational Welding	(2)
		Vocational Printing	(4)
		Vocational Machine	(2)
		Vocational Auto. Mech.	(2)
		Vocational Electronics	(2)
	Home Economics		
		Home Economics 7-9	(4)
		Home Economics 10-12	(3)
		Foods 10-12	(3)
		Homemaking	(1)
		Clothing	(2)
		Home Ec. Ind. Study 10-12	(3)

APPENDIX A.2 (continued)

Level 1	Level 2	Level 3	Level 4
	Vocational Home Ec.		
		Home Economics 9-12	(2)
		Multi-Area Co-op	(1)
	Special Education		
		Special Ed. 1-6	
			Blind 1-6
			Orthopedic 1-6
			Other Handicapped 1-6
		Special Ed. 7-9	
			Blind 7-9
			Orthopedic 7-9
			Other Handicapped 7-9
		Special Ed. 10-12	
			Blind 10-12
			Orthopedic 10-12
			Other Handicapped 10-12
	Classroom Activity(c)		
Complementary Instruction			
	Federal Programs		
		Title I	
		Vocational – Disadvantaged	
		Vocational – Handicapped	
		Title III	
		Instructional Materials Center – Title VI	
		NDEA V	
	Continuing Education		
		Adult Education	
		Practical Nursing	(1)
		Apprenticeship	
	Summer School		
		Summer School 1-6	
		Summer School 7-12	
	Pilot Programs		
		Pilot Programs 1-6	
		Pilot Programs 7-12	
	Dual Enrollment Programs		
		Dual Enrollment 7-9	(3)
		Dual Enrollment 10-12	
	Programs for Handicapped		
		Tutoring	
		Other	
	Nonpublic Auxiliary Services		
Instructional Support			
	Instructional Media		
		Library and Audiovisual – District Supported	
		Library and Audiovisual – Title II	
		Educational TV	

APPENDIX A.2 (continued)

Level 1	Level 2	Level 3	Level 4
	Curriculum Development		
		Elementary Curriculum	
		Secondary Curriculum	
	Educational Research		
	Instructional Administration		
		Instructional Supervision	
			Supervision
			In-service Training
			Professional Leave
		Instructional Evaluation	
			Evaluation
			In-service Training
			Professional Leave
		Instructional Improvement	
			In-service Training
			Professional Leave
		Sick Leave	
	Student Supervision		
		Study Halls	
		Lunch Supervision	
		Detention	
		Bus Supervision	
		Attendance – School	
		Security	
Student Services			
	Pupil Personnel Services		
		Health	
		Attendance – District	
		Student Accounting	
		Psychological Services	
		Speech & Hearing Therapy	
		Guidance & Counseling	
		Testing	
	Student Activities		
		Student Government	
		Newspaper	
		Yearbook	
		Drama	
		Debate	
		Senior Class	
		Other	
	Athletics		
		Intramural	
			Elementary
			Secondary
		Interscholastic	
			Football
			Basketball
			Baseball
			Track

APPENDIX A.2 (continued)

Level 1	Level 2	Level 3	Level 4
	Athletics (Continued)		
		Interscholastic (Continued)	
			Tennis
			Golf
			Cross-Country
			Cheerleading
			Girls
	Recreation		
	Safety		
General Services			
	Pupil Transportation		
		Vehicle Replacement	
		Vehicle Operation	
		Vehicle Maintenance	
	Food Services		
		Equipment Replacement	
		Equipment Operation	
		Equipment Maintenance	
		Food Procurement and Preparation	
		Food Distribution and Service	
	Data Processing		
Administration			
	Board of Education		
		Internal Committees	
			Policy & Procedure
			Operations
			Finance
			Curriculum
		External Committees	
			Finance
			Building Needs
			Building Design
			Curriculum Council
	Central Administration		
		Inst. Administration	
		Personnel Administration	
		Business Administration	
	Supply Management		
		Purchasing	
		Quality Control	
		Distribution	
		Warehousing	
	Programming-Planning-Budgeting		
	Community Relations		
		Public Meetings	
		News Releases	
		Newsletters	
		Elections	

APPENDIX A.2 (continued)

Level 1	Level 2	Level 3	Level 4
	Finance		
		Accounting	
		Debt Service	
		Investments	
		Payroll	
Facilities			
	Facilities Planning and Management		
	Land Acquisition and Improvement		
	Architecture and Engineering		
	Building Construction, Acquisition & Improvements		
	Equipment Operation		
	Equipment Maintenance		
	Building Operation		
	Building Maintenance		
	Grounds Maintenance		
	Equipment Acquisition		
Community Services			
	Recreation		
	Civic Activities		
	Public Use of Facilities –		
	School-Related Groups		
	Civic Groups		
	Profit-making Groups		

APPENDIX A.3 SCHOOL DISTRICT OF PHILADELPHIA'S PROGRAM AREAS, PROGRAMS, AND ACTIVITIES

The School district's efforts are organized into four program areas, twenty four operating programs, and 223 operating activities. (Shedd, 1971: III-1 - III-17)

PROGRAM AREA ONE - 1. Health Services
2. School District Management

Program 07: Health Services

Activities:
1. Supervision and Clinical
2. Dental
3. Medical
4. Nurse Services

Program 19: School District Management

Activities:
1. Superintendent's Office
2. Office of Community Affairs
3. Field Operations
4. District Superintendents
5. Mobile Security Force
6. Informational Services
7. City Solicitor
8. City Controller
9. Legal Affairs
10. Internal Controller
11. School Board Office
12. Deputy Superintendent, Planning
13. Deputy Superintendent, Administration
14. Deputy Superintendent, Instruction
15. Auxiliary Instructional Service

PROGRAM AREA TWO - 1. Transportation
2. Plant Operations and Maintenance
3. Finance
4. Business Operations
5. Personnel
6. Data Processing
7. Debt Service and Insurance
8. Fringe Benefits

APPENDIX A.3 (continued)

Program 08: Transportation

Activities:
1. Warehouse Transportation
2. Transportation Operations
3. Transportation Maintenance

Program 09: Plant Operations and Maintenance

Activities:
1. Operations
2. Maintenance
3. Administration
4. Alterations & Improvements

Program 10: Finance

Activities:
1. Treasurer's Office
2. Financial Planning
3. Operating Budget
4. Subsidies
5. Division of Collections
6. Capital Budget
7. Revision of Taxes
8. Accounting
9. Payroll

Program 11: Business Operations

Activities:
1. Warehouse Administration
2. Print Shop
3. Surplus Property
4. Purchasing
5. Business Operations Administration
6. Mailroom
7. Duplicating
8. Warehouse Services

Program 12: Personnel

Activities:
1. Staff Relations
2. Administration
3. Recruitment
4. Classification & Compensation
5. Personnel Operations
6. Personnel Testing
7. Professional Personnel
8. Non-Instructional Personnel
9. Employee Grievances & Disputes
10. Personnel Development

APPENDIX A.3 (continued)

Program 13: Data Processing

Activities:
1. Administration
2. Data Processing Operations
3. Systems Planning and Development

Program 21: Debt Service and Insurance

Activities:
1. Insurance
2. Principal Payments on Bonded Indebtness
3. Interest Payments on Temporary Indebtness
4. Interest Payments on Bonded Indebtness
5. Lease Purchase
6. Interest Earned on Investments

Program 22: Fringe Benefits

Activities:
1. State Retirement Fund
2. Federal Social Security
3. Life, Health, and Medical Insurance
4. Termination
5. Sabbatical Leave
6. Health and Welfare Fund

PROGRAM AREA THREE -
1. Early Childhood
2. Elementary Education
3. Junior High Education
4. Senior and Technical High Education
5. Special Education
6. Community Education
7. Pupil Services
8. Instructional Services

Program 01: Early Childhood Program

Activities:
1. Kindergarten
2. Prekindergarten
3. Local Share-Federal Programs
4. Semi-Annual Req. Clearing Account
5. Central Services - Field Operations
6. Textbook Clearing Account
7. Reading Program

Program 02: Elementary Education

Activities:
1. Art
2. Basic Skills, Grade 1-3
3. Health & Physical Education
4. Music

APPENDIX A.3 (continued)

5. Remedial Education
6. Libraries
7. General Education Support
8. Counseling
9. Supervision and Clerical
10. Home Economics
11. Science
12. EIP Counseling Teachers
13. Basic Skills, Grade 4
14. Basic Skills, Grade 5
15. Basic Skills, Grade 6
16. Local Share
17. Reading Program
18. Semi-Annual Req. Clearing Account
19. Independent Urban Education
20. Central Service-Health & Physical Education
21. Central Services-Music
22. Central Services-Field Operations
23. Textbook Clearing Account

Program 03: Junior High Education

Activities:
1. Art
2. Health & Physical Education
3. Music
4. Remedial Education
5. Libraries
6. General Education Support
7. Counseling
8. Supervision & Clerical
9. English
10. Home Economics
11. Foreign Languages
12. Mathematics
13. Science
14. Social Studies
15. Business Education
16. Industrial Education
17. Common Learning
18. Basic Skills, Grade 8
19. Basic Skills, Grade 7
20. Semi-Annual Req. Clearing Account
21. After School Activities-Athletics
22. Reading Program
23. After School Activities-Non-Athletics
24. Central Services-Music
25. Central Services-Field Operations
26. Textbook Clearing Account
27. Pa. Advancement School
28. Benjamin Banneker Urban Center
29. General Service-General Education Support

APPENDIX A.3 (continued)

Program 04: Senior and Technical High Education

Activities:
1. Art
2. Health & Physical Education
3. Music
4. Remedial Education
5. Libraries
6. General Education Support
7. Counseling
8. Summer School
9. Supervision & Clerical
10. English
11. Home Economics
12. Foreign Languages
13. Mathematics
14. Science
15. Social Studies
16. Business Education
17. Industrial Education
18. Common Learning
19. Driver Education
20. Vocational Education in Technical High
21. Semi-Annual Req. Clearing Account
22. Parkway Project
23. Reading Program
24. Central Services-Music
25. Central Services-Field Operations
26. Central Services-Foreign Languages
27. Textbook Clearing Account
28. After School Activities-Athletics
29. Local Share-Federal Programs
30. After School Activities-Non-Athletics
31. University City High School-Staff & Curriculum Development
32. Central Services-General Education Support
33. Alternative Schools Project

Program 05: Special Education

Activities:
1. Libraries
2. Counseling
3. Supervision & Counseling
4. Disciplinary Education
5. Educationally Handicapped
6. Emotionally Handicapped
7. Physically Handicapped
8. Administration
9. Reading Program

APPENDIX A.3 (continued)

10. Semi-Annual Req. Clearing Account
11. Disruptive Students
12. Juvenile Gang Members
13. Central Services-Field Operations
14. Textbook Clearing Account
15. Central Services-Physically Handicapped
16. After School Activities-Non-Athletics
17. Local Share-Federal Programs

Program 06: Community Education

Activities:
1. Unemployment Retraining
2. School Extension
3. Community Education Centers

Program 17: Pupil Services

Activities:
1. Counseling
2. Attendance
3. Administration
4. Vocational Guidance Service

Program 18: Instructional Services

Activities:
1. Early Childhood Administration
2. Art Education
3. Health & Physical Education
4. Music
5. Library
6. Language Arts
7. Home Economics
8. Foreign Language
9. Mathematics
10. Science
11. Social Studies
12. Safety Education
13. Museum Education
14. Radio-Television
15. Staff Development
16. Curriculum Development
17. Administration
18. Audio-Visual
19. Vocational Business Education
20. Trade & Industrial Education
21. School Volunteer Services
22. Industrial Arts
23. Career Development
24. Engineering, Graphic Technology
25. Temporary Budget Holding Account

APPENDIX A.3 (continued)

PROGRAM AREA FOUR - 1. Research and Evaluation
2. Program Systems Planning
3. Development
4. School Facilities

Program 14: Research and Evaluation

Activities:
1. Instructional Research and Development
2. Testing
3. Resource Management
4. Administrative and Survey Research
5. Research and Evaluation

Program 15: Program Systems Planning

Activities:
1. Instructional Systems
2. Program Planning

Program 16: Development

Activities:
1. Policy Planning and Development
2. Long-Range Planning
3. Great Lakes College

Program 23: School Facilities

Activities:
1. Planning
2. Administration
3. Space Rentals
4. Architecture and Engineering

It is noted that a person is assigned to manage a Program Area and a Program or a Program and an Activity. The person is called a "manager."

APPENDIX A.4 WARWICK PUBLIC SCHOOLS' PROGRAM STRUCTURE

A. BASIC INSTRUCTIONAL AREAS

Programs:
1. Agriculture
2. Art
3. Business
4. English Language Arts
5. Foreign Language
6. Health & Family Life Education
7. Homemaking
8. Industrial Arts
9. Mathematics
10. Music
11. Physical Education
12. Science
13. Social Studies
14. Special Education

B. RELATED PROGRAM AREAS

Programs:
1. Athletics
2. Business-Industry-School Programs
3. Extended School Services
4. Gifted Program
5. Grant Programs
6. Library Services
7. Programs in Pupil Personnel Services

C. INSTRUCTIONAL SUPPORT

Programs:
1. Teacher-Related Activities
   a. Curriculum workshops
   b. Educational Technology
   c. In-service courses
   d. Publication of Guides
   e. Staff meetings
2. Pupil-Related Activities
   a. Attendance
   b. Guidance
   c. Health
   d. Psychology
   e. Tuition (1) Vocational
      (2) Special

APPENDIX A.4 (continued)

D. OPERATIONAL SERVICES

Programs:
1. Data Processing
2. Food Services
3. Maintenance of Plants
4. Operation of Plants
5. Transportation
6. Warehousing & Invent. Control

E. ADMINISTRATIVE SERVICES

Programs:
1. School Committee
2. Central Administration
3. Building Administration

F. FIXED COSTS

Programs:
1. Employee Benefits
   a. FICA
   b. Insurance
   c. Retirement
   d. Rentals

G. COMMUNITY SERVICES

Programs:
1. Adult Education
   a. Adult Basic Education
   b. Regular
2. Attendance
3. Facility Rental
4. Health
5. Home Teaching
6. Job Placement
7. Non-Public Texts
8. Speech and Hearing
9. Transportation

Source: Hunt and Alward, 1971, Attachment #12, 4 pp.

APPENDIX A.5 THE PARMA CITY SCHOOLS "SEVENTH GRADE SOCIAL STUDIES" PROGRAM: PREDICTED COST-EFFECTIVENESS FOR ALTERNATIVES

Goal	Objective	Effectiveness Measures	Predicted Effectiveness			
			Alt. 1	Alt. 2	Alt. 3	Alt. 4
1	1	Performance Test: Social Science Disciplines	70% of students score 90% or better	75% of students score 90% or better	85% of students score 90% or better	80% of students score 90% or better
1	2	Student Survey, Volitional Extra Work on Each Unit	50% of students 1 hr/unit	50% of students 1 hr/unit	70% of students 1 hr/unit	60% of students 1 hr/unit
2	1	Performance Test: Knowledge of Interdependence of Man	70% of students score 90% or better	75% of students score 90% or better	85% of students score 90% or better	75% of students score 90% or better
2	2	Project: Interdependence of Man	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better
2	3	Attitudinal Test: Interdependence of Man	50% of students improve 20%	80% of students improve 20%	70% of students improve 20%	80% of students improve 20%
3	1	Develop Functional Definition of Culture	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better
4	2	Form Generalization Incorporating 10 Reasons for Cultural Differences	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better	85% of students score 90% or better
3	3	Test on Understanding of Factors in Intolerance	70% of students score 90% or better	75% of students score 90% or better	80% of students score 90% or better	75% of students score 90% or better
3	4	Exercises to Measure Students Concepts of Self-Worth and Relations to Fellow-Man	40% of students improve 20%	50% of students improve 20%	70% of students improve 20%	50% of students improve 20%
3	5	Attitudinal Test: Dignity and Worth of All People	50% of students improve 20%	70% of students improve 20%	80% of students improve 20%	75% of students improve 20%
4	1	Formulation of Hypothesis on Technological and Social Change in Three Cultures	70% of students score 90% or better	80% of students score 90% or better	80% of students score 90% or better	80% of students score 90% or better
4	2	Test to Measure Understanding of Social and Technological Diffusion	70% of students score 90% or better	80% of students score 90% or better	90% of students score 90% or better	85% of students score 90% or better
5	1	Definition of Different Kinds of Government	75% of students score 90% or better	80% of students score 90% or better	80% of students score 90% or better	80% of students score 90% or better
5	2	Listing of Advantages and Disadvantages of Three Different Kinds of Government	70% of students score 90% or better	75% of students score 90% or better	85% of students score 90% or better	75% of students score 90% or better
5	3	List Eight Rights and Responsibilities of Citizenship	70% of students score 90% or better	75% of students score 90% or better	80% of students score 90% or better	75% of students score 90% or better
5	4	National Citizenship Test	70% of students score 90% or better	75% of students score 90% or better	85% of students score 90% or better	75% of students score 90% or better

APPENDIX B PROGRAM STRUCTURE FOR EDUCATIONAL DEVELOPMENT IN THAILAND

Program	Level I	II	III	IV
PROGRAM AREA ONE: ADMINISTRATION SERVICES	x			
1. Central Administration		x		
Elementary and Adult Education Administration			x	
Secondary Education Administration			x	
Vocational and Technical Education Administration			x	
Teacher Training Administration			x	
Physical Education Administration			x	
Educational Technique Administration			x	
Religious Affairs Administration			x	
Fine Arts Administration			x	
Under-Secretary Office			x	
General Administration				x
Administrative Cooperation				x
Educational Inspection				x
Educational Planning			x	
International Cooperation			x	
Information Services			x	
Private School Administration and Control			x	
2. Local Administration		x		
Changwad Education Administration			x	
Amphur Education Administration			x	
3. Professional Promotion		x		
Personnel Development			x	
Teachers' Qualification Promotion			x	
Kurusapha (Teachers' Council)			x	
PROGRAM AREA TWO: INSTRUCTIONAL PROGRAM	x			
1. Preschool and Kindergarten Instruction		x		
2. Elementary Education Instruction		x		

APPENDIX B (continued)

Program	Level I	II	III	IV
3. Secondary Education Instruction Program		x		
Quality Improvement			x	
4. Vocational and Technical Education Instruction		x		
Trade Schools Project			x	
Commercial and Industrial Arts School Project			x	
Technical Institutes Project			x	
Agricultural Schools Project			x	
Agricultural Engineering Project			x	
5. Teacher Training Instruction Project		x		
Certificate and Degree Training			x	
Vocational Education Teacher Training			x	
Physical Education Teacher Training			x	
6. Fine Arts Instruction Program		x		
PROGRAM AREA THREE: INSTRUCTIONAL SUPPORT PROGRAM	x			
1. Instructional Media Program		x		
Library			x	
Educational Materials			x	
Radio and Television			x	
Machine Services			x	
Children Center			x	
Planetarium			x	
2. Curriculum Development Program		x		
Curriculum Development			x	
Textbooks Production and Promotion			x	
Teachers' Manuals Production			x	
3. Educational Research Program		x		
General Education Research and Development			x	
Test Analysis and Research			x	
Teacher Education Research			x	
Educational Survey and Research			x	

APPENDIX B (continued)

Program	Level I	II	III	IV
4. Instructional Administration Program		x		
Elementary Education Supervision			x	
Secondary Education Supervision			x	
Vocational Education Supervision			x	
Teacher Training Supervision			x	
Physical Education Supervision			x	
Mobile Supervisory Unit			x	
Inservice Training			x	
Regional Education Supervision			x	
5. Educational Evaluation Program		x		
PROGRAM AREA FOUR: COMPLEMENTARY INSTRUCTION PROGRAM	x			
1. Non-formal Education Program		x		
Adult Education			x	
Mobile Library			x	
Short-Course Schools Project			x	
2. Special Education Program		x		
Education for the Blind			x	
Education for the Deaf			x	
Education for the Mentally Retarded			x	
3. Welfare Education Program		x		
Education for the Boatman Children			x	
Education for the Hilltribes			x	
Education for the Muslims			x	
PROGRAM AREA FIVE: FACILITIES OPERATION PROGRAM	x			
1. Land Acquisition Program		x		
Land Acquisition for Elementary Schools			x	
Land Acquisition for Secondary Schools			x	
Land Acquisition for Vocational & Technical Schools			x	
Land Acquisition for Teacher Training Institutions			x	

APPENDIX B (continued)

Program	Level I	II	III	IV
2. Building Construction and Improvement Program		x		
Elementary Schools Project			x	
Secondary Schools Project			x	
Vocational and Technical Schools Project			x	
Teacher Training Institutions Project			x	
3. Building Maintenance Program		x		
4. Plants Design and Control Program		x		
5. Equipment Acquisition Program		x		
6. Equipment Maintenance Program		x		
PROGRAM AREA SIX: STUDENT SERVICE PROGRAM	x			
1. Pupil Personnel Services Program		x		
Health			x	
Attendance			x	
Guidance			x	
2. Student Activities		x		
Student Government			x	
Newspaper and Yearbook			x	
Group Interest Clubs			x	
Boy Scout and Red Cross			x	
3. Athletics Program		x		
Games			x	
Team Sports			x	
Track			x	
4. Security and Discipline Program		x		
5. Recreation Program		x		

APPENDIX B (continued)

Program	Level I	II	III	IV
PROGRAM AREA SEVEN: PUBLIC SERVICES PROGRAM	x			
1. Religious Affairs Program		x		
Sangha Council Administration			x	
The Patriach's Administration			x	
Buddhism Promotion			x	
Other Religions' Patronage			x	
2. Fine Arts Program		x		
Literature and History Project			x	
Museum and Archiology Project			x	
Fine Arts Project			x	
Architecture				x
Thai Fine Arts				x
Arts Promotion Project			x	
Music and Drama Preservation and Diffusion				x
3. National Library and Archives Program		x		
National Library Project			x	
National Archive Project			x	
4. Cultural Improvement and Promotion		x		
5. National Stadium Program		x		

APPENDIX C

PPBS FORMS

PPBS FORM 1

ENROLLMENT FORECAST ANALYSIS

Educational Unit:

Grade Level	Current Enrollment	Projected Enrollment	Diff % (+-)	Comment
Kindergarten				
Primary				
Pratom 1				
2				
3				
4				
5				
6				
7				
Total				
Secondary Academic				
Maw Saw 1				
2				
3				
4				
5				
Total				
Secondary Vocational				
Year Level 1				
2				
3				
4				
5				
6				
.				
.				
.				
Total				
GRAND TOTAL				

PPBS FORM 1.1

ENROLLMENT FORECAST

Educational Unit:

Academic Year / Grade Level	Current Year	Year 1	Year 2	Year 3	Year 4	Year 5
Kindergarten						
Primary						
Pratom 1						
2						
3						
4						
5						
6						
7						
Total						
Secondary Academic						
Maw Saw 1						
2						
3						
4						
5						
Total						
Secondary Vocational						
Year Level 1						
2						
3						
4						
5						
6						
.						
.						
.						
Total						
GRAND TOTAL						

PPBS FORM 2

PERFORMANCE CRITERIA ANALYSIS				
Educational Unit:				
Criterion Variables	**Current Level**	**Desired Level**	**Difference (±)**	**Comment**
Prepared by:		**Reviewed by:**		

PPBS FORM 2.1

PERFORMANCE CRITERIA						
Educational Unit:						
Criterion Variables / Academic Year	Current Year	Year 1	Year 2	Year 3	Year 4	Year 5
Prepared by:			Reviewed by:			

PPBS FORM 3

REVENUE PROJECTION ANALYSIS

Educational Unit:

Programs	Current Budget	Projected Revenue	Difference (±)	% (±)	Comment

Prepared by:	Reviewed by:

PPBS FORM 3.1

NEW REVENUE PROJECTION						
Educational Unit:						
Fiscal Year / Programs	Current Year ฿	Year 1 ฿	Year 2 ฿	Year 3 ฿	Year 4 ฿	Year 5 ฿
Prepared by:			Reviewed by:			

PPBS FORM 4

PROGRAM ELEMENT: SUMMARY DATA	
Educational Unit:	**Program Area:**
	Program:
	Program Element:

OBJECTIVES:

DESCRIPTION:

PERFORMANCE CRITERIA:

COST AND PERSONNEL DATA	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Costs					
Capital Costs					
Personnel					
Enrollment (if appl.)					

Remarks:

PPBS FORM 5

PROPOSED PROGRAM CHANGE

Educational Unit:	Program Area:
	Program:
	Program Element:

Type of Program Change: ___Change in Existing Program ___New Program
___Expansion of Existing Program
___Deletion within Existing Program

Description of Change:

Rationale for Change:

Expected Achievement:	Evaluation Method:	Time Frame

Impact on Cost & Personnel	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Costs					
Capital Costs					
Personnel					
Enrollment (if appl.)					

Remarks:

PPBS FORM 6

NEW PROGRAM PROPOSAL					
Educational Unit:	**Program Area:**				
	Program:				
	Program Element:				
Rationale for Proposal:					
Objectives:					
Description:					
Performance Criteria:	**Evaluation Method:**				**Time Frame**
Impact on Cost & Personnel	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Operating Costs					
Capital Costs					
Personnel					
Enrollment (if appl.)					
Prepared by:		**Reviewed by:**			

PPBS FORM 7

MANPOWER REQUIREMENTS

Educational Unit:

Programs \ Academic Year	Current Year				Year 5			
	Type of Position				Type of Position			
	A	B	...	Z	A	B	...	Z

Prepared by:

Reviewed by:

PPBS FORM 8

PROGRAM STRUCTURE				
Educational Unit:				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Responsibility**
Program Area	**Program**	**Program Elements**	**Activities or Grade Level**	**Program Manager or Program Coordinator**
Prepared by:		**Reviewed by:**		

PPBS FORM 9

PROGRAM GOALS AND OBJECTIVES

Educational Unit:	Program Area:
	Program:
	Program Element:

Goals:

Objectives:	Evaluation Method:	Time Frame

Prepared by:	Reviewed by:

PPBS FORM 10

PROGRAM ELEMENT: SUMMARY DATA	
Educational Unit:	**Program Area:**
	Program:
	Program Element:

OBJECTIVES:

DESCRIPTION:

PERFORMANCE CRITERIA:

COST AND PERSONNEL DATA	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Costs Capital Costs Personnel Enrollment (if appl.)					

Remarks:

PPBS FORM 11

COST EFFECTIVENESS ANALYSIS: PERFORMANCE CRITERIA						
Educational Unit:			**Program Area:**			
			Program:			
			Program Element:			
Goal No.	Objective No.	Performance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Prepared by:			**Reviewed by:**			

PPBS FORM 12

COST-EFFECTIVENESS ANALYSIS: COSTS									
Educational Unit:				**Program Area:**					
				Program:					
				Program Element:					
Appropriation Account		**Alternative 1**		**Alternative 2**		**Alternative 3**		**Alternative 4**	
No.	**Description**	**Qty.**	**Cost**	**Qty.**	**Cost**	**Qty.**	**Cost**	**Qty.**	**Cost**
Prepared by:				**Reviewed by:**					

PPBS FORM 13

COST-EFFECTIVENESS ANALYSIS: LONG-RANGE COSTS

Educational Unit:	Program Area:
	Program:
	Program Element:

Year	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Operating Cost	Capital Cost	Operating Cost	Capital Cost	Operating Cost	Capital Cost	Operating Cost	Capital Cost

Prepared by:	Reviewed by:

PPBS FORM 14

PROGRAM SUMMARY--BUDGET						
Educational Unit:						
Fiscal Year / Programs	Current Year (฿)	Year 1 (฿)	Year 2 (฿)	Year 3 (฿)	Year 4 (฿)	Year 5 (฿)
Administrative Services						
Prepared by:			**Reviewed by:**			

PPBS FORM 15

PROGRAM CROSSWALK

Educational Unit:

Programs	Budget by Type of Expenditure											Total
	Account Number	1	2	3	4	5	6	7	8	9	10	
Administrative Services												
GRAND TOTAL	-	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXXXXX

Prepared by:

Reviewed by:

APPENDIX D.1 OUTLINES OF CHANGWAD KHONKAEN EDUCATIONAL DEVELOPMENT PLAN, 1970-1976

Following is a detailed outline of Changwad Khonkaen Educational Development Plan, 1970-1976, as formulated from its own provincial effort. (Changwad Khonkaen, 1970)

Chapter

-Changwad Khonkaen's Educational Planning Workshop Project

-Agenda for Educational Planning Workshop

-Committees of Plan Evaluation and Improvement

1. Khonkaen's Geographical, Economic and Social Conditions

2. Existing Conditions and Educational Problems

3. Objectives and Targets

4. Kindergarten and Lower Elementary Education Development

    -Existing Conditions
    -Problems
    -Objectives
    -Targets

    Project 1 Promotion of Teachers' Efficiency and Morale
    Project 2 Recruitment of Teachers and Janitors
    Project 3 Quality Improvement
    Project 4 Expansion of Classrooms, Buildings, Support Buildings, Facilities and Furniture
    Project 5 Expansion of Elementary Schools
    Project 6 Preservation and Acquisition of Educational Lands
    Project 7 Public Participation in Education

    -Budget

5. Upper Elementary Education Development

    -Existing Conditions
    -Problems
    -Objectives
    -Targets

    Project 1 Enrollments Improvement
    Project 2 Teachers and Janitors Development

APPENDIX D.1 (continued)

Project 3 School Building Development
Project 4 Support Building Development
Project 5 Facilities Acquisition Project
Project 6 General Development

-Budget

6. Academic Secondary Education Development

-Existing Conditions
-Problems
-Objectives
-Targets

Project 1 Pupils' Qualitative and Quantitative Expansion
Project 2 Teachers' Qualitative and Quantitative Expansion
Project 3 Expansion of School Buildings, Support Buildings, and Facilities
Project 4 Expansion of Schools
Project 5 Private Schools' Quality Promotion
Project 6 Upper Secondary Schools' Quality Promotion

-Budget

7. Vocational Secondary Education Development

-Existing Conditions
-Problems
-Objectives
-Targets

Project 1 Quantitative Expansion of Teachers and Pupils
Project 2 Teaching-Learning Improvement
Project 3 Trades Expansion
Project 4 Teachers' Further Training and Exchange
Project 5 School Building Construction and Improvement
Project 6 Agricultural Schools Establishment
Project 7 Alumni Association Organization

-Budget

8. Adult Education Development

-Existing Conditions
-Problems
-Objectives
-Targets

APPENDIX D.1 (continued)

Project 1 Occupational Education for Adults
Project 2 Occupational Adult Education Quality Improvement
Project 3 Public Library Expansion
Project 4 Mobile Public Education Improvement
Project 5 Cottage Industry Education Promotion
Project 6 Public Cooperation in Occupational Adult Education
Project 7 Alumni Association Organization

-Budget

9. Co-curricula Activities Promotion

-Existing Conditions
-Policies and Objectives

Project 1 Red-cross
Project 2 Boy Scout
Project 3 Physical Education
Project 4 Guidance
Project 5 Teachers' Welfare and Professional Growth
Project 6 Youth Center
Project 7 Educational Supervision
Project 8 Clubs and Associations
Project 9 Field Trip
Project 10 School Health
Project 11 Students Organization
Project 12 School Libraries

-Budget

APPENDIX D.2 PLANS AND PROJECTS FOR THE THIRD FIVE-YEAR PLAN

I. Office of Under-Secretary of State for Education

A. General Administration

1. General administration
2. Local education administration
3. Coordination
4. Educational inspection and supervision
5. Educational planning

B. Educational Improvement

1. Personnel development
2. Educational information and radio
3. Guidance service unit
4. International cooperation
5. Educational development

5.1 Regional Educational Development Project
5.2 Educational Region 2 Project

C. Cultural Diffusion, Improvement, and Promotion

II. Department of Elementary and Adult Education

A. General Administration

1. General administration

B. General Education Administration

1. Kindergarten
2. Elementary education
3. Special education
4. Adult education

C. Technical Development

1. Supervision and inservice-training
2. General education research and promotion

D. Rural Education Project with Cooperation of AID

1. Inservice-training at regional level
2. Mobile supervisory unit

APPENDIX D.2 (continued)

3. Teachers' manual production
4. Supervisory efficiency improvement in project areas
5. Demonstration schools improvement in rural education project
6. Educational materials distribution
7. Expansion and improvement of special schools
8. Adult education

III. Department of Secondary Education

A. General Administration

1. General administration
2. Supervision

    2.1 Supervision and inservice-training
    2.2 Teaching-learning improvement

3. Evaluation and scholarship

    3.1 Evaluation and scholarship
    3.2 Test analysis and research

B. Governmental Schools

1. Governmental school administration
2. District schools establishment
3. Quality improvement

C. Triem Udom Suksa School Administration

D. Private Schools Administration and Control

1. Private schools administration and control
2. Inservice-training center for private school teachers

IV. Department of Vocational Education

A. General Administration

B. Vocational Education Promotion

1. Trade schools
2. Commercial and industrial arts schools
3. Technical institutes
4. Agricultural schools

APPENDIX D.2 (continued)

5. Short course schools
6. Machine services
7. Agricultural engineering project

C. Design and Construction Control

D. Vocational Education Teachers Production

V. Department of Teacher Training

A. General Administration

1. General administration
2. Supervision

B. Teachers Production

1. Degree level
2. Certificate level

C. Qualification Promotion

D. Research

E. Standardized Test Construction

VI. Department of Educational Technique

A. General Administration

1. General administration
2. Resource personnel

B. Technical Programs

1. Curriculum
2. Production and promotion of textbooks
3. Educational survey and research
4. Educational Materials Center
5. Children Center
6. Planetarium

APPENDIX D.2 (continued)

VII. Department of Physical Education

A. General Administration

1. General administration

B. Teachers Production

1. Degree level
2. Higher certificate level in rural areas

C. Physical Education Promotion

1. Physical education promotion

D. Pupil and Citizen Athletics Promotion

1. Pupil and Citizen athletics promotion

E. Boy Scout

1. Boy scout

F. Red Cross

1. Red cross

G. National Stadium

1. National Stadium

H. Pupil and Youth Discipline Control

I. Inservice Training and Supervision

J. Pupil Health Promotion

VIII. Department of Religious Affairs

A. General Administration

1. General administration

B. Religious Preservation and Promotion

1. Sangha Council administration
2. The Patriach's administration

APPENDIX D.2 (continued)

3. Buddhism, promotion and expansion
4. Royal charity promotion
5. Other religion patronage

IX. Department of Fine Arts

A. General Administration

1. General administration

B. Literature and History Programs

1. Textbook and historical research

C. National Library and Archives

1. National Library
2. National Archives

D. Archiology

1. Museum and archiology

E. Fine Arts

1. Architecture
2. Thai fine arts

F. Practical Arts

1. Music and drama
2. Art education
3. Music and drama (at Chiengmai)

G. Promotion

1. Music and drama preservation and diffusion

APPENDIX E INTERVIEW GUIDELINES

1. At what stage of PPBS implementation are you at present?

2. What agencies are involved in the planning processes? What are their functions in the processes?

3. What is the planning process used in your system? How is PPBS applied to this process?

4. What is your program structure? What are the procedures for classifying programs and projects?

5. What seem to be big problems in the selection of courses for action to achieve an objective?

6. What is your management information system?

7. What types of personnel are involved in preparing educational development plans and in installing and implementing PPBS? What training in relation to educational planning and/or PPBS techniques did these people receive? How?

8. What are advantages and disadvantages of PPBS have you experienced?

9. What main problems did you face and/or are facing in installing and implementation of PPBS? What did you do about them?

10. What is your general comment on PPBS?

11. What are your suggestions for agencies desiring to adopt PPBS in their planning and administration processes?

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