Department of Economic and Social Affairs

A MANUAL FOR PROGRAMME AND PERFORMANCE BUDGETING

UNITED NATIONS
New York, 1965

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ST/ECA/89
ST/TAO/SER.C/75

UNITED NATIONS PUBLICATION

Sales No.: 66. XVI. 1

Price: $U.S. 2.00
(or equivalent in other currencies)

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PREFACE

The Secretary General in his report, *The United Nations Development Decade : Proposals for Action*, stated : "The budgetary systems of many developing countries have failed to keep pace with the new demands made on them by the greatly increasing scope of activity of the public sector and, in particular, by the adoption of a planned approach to economic development. Thus, the need is first for the development of new types of information on the public sector essential for drawing up long-term development plans, and second for changes in concepts and procedures in government budgeting required to make the annual budget an effective instrument for implementing the development plans and policies." [1]

With these objectives in view, the United Nations has made efforts during the past decade to improve the systems of government financial management in the developing countries. In the 1950's, the emphasis was placed on developing meaningful information on government transactions with a view to facilitate their macro-economic analysis and decision-making in the fiscal field. Two basic schemes of classifications, *viz.* economic and functional, were developed for this purpose. These classifications were discussed in a series of regional workshops on budget classification and management which were held in Asia, Africa and Latin America. Following these discussions, which primarily centred on the applicability of these schemes of classifications in various developing countries, *A Manual for Economic and Functional Classification of Government Transactions* [2] was published in 1958. This manual, together with the discussions prior and subsequent to its publication, have had a considerable impact on budget presentation and on the development of information of public sector transactions in a number of developing countries. More detailed reference to these important developments in the budget field, which took place during the late 1950's and early 1960's, is made in the report of the Inter-Regional Workshop on Problems of Budget Classification and Management, held in Copenhagen in 1964.[3]

While these efforts were being made, a number of developing countries were also engaged in formulating medium-and long-term plans for economic development. In the planning process, the government budgetary system naturally assumed great significance, and the need for its modernization soon became obvious and was recognized. It was found necessary to develop new budgetary techniques and methods of financial management which would strengthen the role of the budgetary system as an effective instrument in the implementation of development plans.

In this context, the techniques of programme and performance budgeting were found to be of considerable interest by the participants in the regional budget workshops. Such an interest was initially expressed in the Budget Workshops for Asia and the Far East held in 1955 [4] and 1957, largely due to the stimulus provided by the major budgetary reforms then being undertaken along these lines in the Philippines. The ECAFE Budget Workshop, held in 1957, made a recommendation, subsequently endorsed by the Economic Commission for Asia and the Far East at its seventeenth session, that a manual be prepared on the subject of programme and performance budgeting. This subject was further discussed at the South American Budget Workshop of 1959.

The Secretariat submitted a draft manual to the ECAFE Budget Workshop held in 1960 in which the management approach to budgeting and its advantages to the legislative, executive and other bodies in appraising a programme of government in fiscal and financial terms were explained. The Workshop suggested a cautious and gradual approach towards performance budgeting and believed that significant advantages could be obtained from the adoption of performance techniques without radical changes in budgeting and accounting structures in the initial stages.[5]

At the African Budget Workshop held in Addis Ababa in 1961, a revised and expanded version of the manual was submitted by the Secretariat; in particular, the chapter dealing with the relation between performance budgeting and accounting was considerably strengthened. The Workshop recommended the draft manual to Governments in the region for further study and experiment. At the South American Budget Workshop held in 1962 in Santiago, the Secretariat submitted, in addition to the manual, a paper which included an illustration of performance budgeting for capital projects.

The Workshop stressed the need for integrating government budget with short-term plans which could be prepared within the framework of long-term plans and recommended the introduction of programme and performance budgeting to the countries of the region within the framework of an integrated system of development accounting to the requirements of programme and performance budgeting.[6] The discussions held at the Central American Budget Workshop which met in 1963 in San José, Costa Rica, followed similar lines. The

[1] United Nations publication, Sales No. : 62. II. B. 2, p. 112.

[2] United Nations publication, Sales No. : 58.XVI.2.

[3] ST/TAO/SER/C.70.

[4] For the report of this Workshop and other Workshop reports referred to in this manual, see the selected bibliography.

[5] ST/TAO/SER/C.48.

[6] ST/TAO/SER/C.58.

Workshop attached special importance to the establishment of planning mechanism and budgetary system on a uniform basis with a view to facilitating the economic integration of the countries in that region.[7]

The Inter-Regional Budget Workshop, which met in 1964, discussed programme and performance budgeting within the framework of the relationship between the planning activity and the budget activity in developing countries. It recommended its application to developing countries but considered that a cautious and selective approach was needed, taking into account the specific situation and needs of each particular country. It further recommended that the draft *Manual for Programme and Performance Budgeting* should be published as soon as possible.[8]

This present version of the manual, therefore, reflects the discussions at and embodies the comments offered by the regional budget workshops held so far. It should not, however, be considered as representing either a definitive or a comprehensive discussion of the subject. The circumstances in each country might be considerably different and as such this manual is not expected to be of uniform applicability. The manual, therefore, is intended to be more of a guide than a standard text in this field.

The discussion of the subject in this manual is organized according to the principal structural characteristics of the system of programme and performance budgeting. Some of the reasons for the modernization of budgetary systems in the developing countries and the advantages of programme and performance budgeting in this context are stated in chapter I. This chapter also highlights the practical steps to be taken and the difficulties that may be encountered in a gradual introduction of programme and performance budgeting. Since, in the long run, a traditional budgetary system is intended to be formed through these new techniques of budgeting, it has been stressed here that it is necessary to proceed in an evolutionary and orderly fashion.

Chapter II presents a system of classification to be used in a programme and performance budget. In this, as in other chapters, illustrations have been drawn mainly from the budgets of the United States and the Philippines to explain a possible structure of a programme and performance classification. These are intended merely as examples and should not be construed as indicating a definitive or inflexible scheme of classification. Actual schemes of classification, i.e., possible sub-divisions of a function into meaningful management categories, would, of course, vary from country to country and may be largely determined by the scope and accuracy of available statistical material and the complex of organizational responsibilities in a government.

A system of financial methods and procedures most appropriate for programme and performance budgeting is described in chapter III. It includes a discussion of various bases of recording transactions, fund control, revolving fund techniques and problems of linking financial data to policy objectives. The general conclusion reached here is that the adoption of accrual accounting would provide maximum support to the management of a programme and performance budget. The more important consideration, however, is the general objectives to be served by accounting practices and these, it has been pointed out, could be met in a variety of ways. A management approach in accounting is the most crucial consideration to be recognized.

One of the principal characteristics of programme and performance budgeting is the measurement of performance or efficiency in management in both physical and financial terms. The introduction and use of an appropriate system of classification and methods of accounting facilitates work measurement. The various problems encountered in this area together with the discussion of basic concepts are discussed in chapter IV. The various stages in the process of work measurement are establishment of workload data, identification of work or activity to be measured, selection of an appropriate unit of measurement, accumulation of relevant cost data and development of relevant indicators of efficiency. There is no easy solution in this field and the difficulties of measurement are not always so readily apparent. The problem of choice in this respect would be largely determined by the type and level of activity concerned. The manual distinguishes three indicators of efficiency, *viz.* productivity ratios, performance ratios and work measurement ratios. These ratios measure performance at different levels and also differ in the combination of resources to which they refer. Although a brief reference has been made in chapter IV to the relevance and usefulness of cost benefit analysis, the distinction between these techniques and those of work measurement used in programme and performance budgeting must yet be clearly recognized. The former are directly relevant in the maximization of benefits from resources, given their competing uses. The latter techniques measure the direct output of work performed and are mostly used for purposes of internal management. The two sets of techniques are not, however, mutually exclusive and when used in combination they provide a wider framework for an analysis of resource use and allocation.

Chapters V and VI, in a sense, gather the main strands of the entire discussion contained in the preceding chapters. Chapter V illustrates the application of programme and performance budgeting to investment projects — an area of activity which is of particular interest in developing countries. The chapter uses the United States Bureau of Reclamation as an example and also highlights some specific problems encountered in this field. Chapter VI outlines various phases to be followed through in the adoption of programme and performance budgeting. It also discusses in detail the preparatory work to be done prior to the adoption of such a system of budgeting. This includes clear and complete definition of organizational responsibilities, training of staff, importance of work studies, selection of appropriate areas during the initial period and preparation of manuals of instruction. Caution, flexibility, selectivity and the development of a self-correcting mechanism are the principal considerations which have been stressed here in the introduction of programme and performance budgeting.

[7] ST/TAO/SER/C.66.

[8] ST/TAO/SER/C.70, pp. 31-32.

As stated before, the present version of the manual has emerged from the discussions on this subject at various budget workshops. The views expressed at these workshops, particularly on the installation of programme and performance budgeting, were very instructive and, therefore, it is suggested that this manual may be read and used in conjunction with the reports of these workshops.

The manual was prepared by the Fiscal and Financial Branch of the Department of Economic and Social Affairs of the United Nations with the help of Mr. Frank W. Krause of the United States Bureau of the Budget, as consultant. In addition to drafting chapter III on the financial management system and chapter V on programme and performance budgeting for investment projects, Mr. Krause also undertook a revision of the other chapters of the document.

Chapter I

THE PROGRAMME AND PERFORMANCE BUDGET, A MANAGEMENT APPROACH TO BUDGETING

A significant characteristic of planning in developing countries has been the importance accorded to the public sector. The Governments in these countries have assumed not only a centralized direction of resource use and availability, but also have been undertaking entrepreneurial activities. The growth of the public sector has become a dominating factor in the development process. During the last ten years, public outlays have increased significantly in many developing countries, bringing in their wake many important structural changes.

These structural changes have also brought about institutional adjustments in the organization of public sector activities. The enterprise activities are mostly excluded from a government budget and are entrusted to independent public enterprises. The balance of the public sector programme is included in the government budget for its implementation. In many instances, however the government budget also includes certain enterprise activities such as railways and post and telegraph, which are financially integrated with it.

The institutional separation of enterprise activities rests partly on management considerations; but this emphasis on management aspects, sound as it is, is rarely found in its application to public sector transactions included in a budget. A plan is essentially a blue-print for action while budgetary activity is mainly operational in nature. It would be therefore only logical to expect that management considerations should be of eminent importance in budgeting, and that the budget should be so devised as to highlight the truly operational characteristics, both physical and financial, of any given programme. Such, is however, not the experience in many developing countries. As a result, the operational character of a government budget and its links with planning are largely obscured.

Development of the management approach in budgeting

In a majority of countries, budgeting is conceived largely in financial terms. The financial accountability to the legislature is usually the overriding consideration and this permeates the entire budgetary process. Emphasis is placed mainly on the observance of appropriation limits. Moreover, the object-cum-organizational classification of expenditures in the budget does not enable identification of programmes or projects and, furthermore, is not related to the cost of major inputs or the work performed. In other words, the system of budgeting does not provide information on what a government is actually doing and what it gets for the money spent. Of course, it may be possible to compile such information from departmental reports or other supplementary documents, but in many cases this information cannot be linked directly with financial data as they appear in a budget or in the accounts because it does not constitute a basis for budget management. The absence of pertinent information of this type reduces the usefulness of this budgetary approach even for purposes of legislative review and appropriation. The sanctions resulting from this process then tend to be accorded to policy objectives that are not explicit in the budget.

The use of programme and performance budgeting developed essentially in response to the need for correcting this situation. It is intended to highlight management considerations in budgeting and in so doing to bring out the most significant economic, financial, and physical aspects of the budgetary activity. So far, this system has been given its most rigorous application at the Federal level in the United States.[1] In 1949, the first Hoover Commission recommended that "the whole budgetary concept of the Federal Government should be refashioned by the adoption of a budget based on functions, activities and projects" [2] and this was designated by the Commission as a "performance budget". It was pointed out that "such a budget would not detract from congressional responsibility and should greatly improve and expedite committee consideration". Following the recommendation, the Federal Government refashioned its budget in 1951 "to show programmes and activities under each appropriation request, and to introduce workload and other performance information in narrative form".[3] Initially, the appropriation structure was simplified, and programmes were established within broad functional categories. Thus, in its early stages of development, improvement of Congressional review provided the stimulus and the emphasis was placed mainly on a budget classification. In its subsequent evolution, the form and content of performance budgeting have undergone many substantial changes. Among the important adjustments

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[1] This system of budgeting was introduced in the Philippines in 1954. For more details, see the following chapters.

[2] Commission on the Organization of the Executive Branch of the Government, *Budgeting and Accounting* (Washington, 1949), p. 8.

[3] Joint Financial Management Improvement Programme, *Improvement of Financial Management in the United States Government : Progress, 1948-1963* (Washington, United States Government Printing Office, 1964), p. 8.

that have taken place, accounting support was provided for the programme classifications, accounting and budgeting have been integrated, and emphasis has been given to developing techniques of budgeting in terms of the cost of performance. In 1964, more than 80 per cent of the agencies provided costs information in their appropriation requests. These developments have strengthened the usefulness of the budget as a tool of management, and have provided effective means of both fund and programme control. The programme and performance budget provides unit cost data where such an approach is appropriate, and, as a supplement to this, current efforts are being directed towards developing productivity measures for different kinds of operations. In the initial attempt, productivity measures were evolved for selected organizations on an experimental basis,[4] and steps are being taken now to do the same thing in other agencies. Similar measures can be evolved in developing countries with respect to scarce resources.

Features of the programme and performance budget

The programme and performance approach to budgeting is based principally on the use, in budget management, of three sets of interrelated considerations. In the first place, under this approach, meaningful programmes and activities [5] are established for each function entrusted to an organization or an agency in order to show precisely the work objectives of various agencies. Secondly, the system of accounts and financial management are brought into line with this classification. Thirdly, under each programme and for its operational subdivisions, action is taken to establish programme and work measures that are useful for evaluation of performance. Thus, "a performance budget is one which presents the purposes and objectives for which funds are requested, the costs of the programmes proposed for achieving these objectives and quantitative data measuring the accomplishments and work performed under each programme." [6]

In modern Governments, organizational responsibilities often cut across various functions. A most conspicuous example in many developing countries is presented by a ministry of public works. Such a ministry usually undertakes a variety of functional tasks, such as construction of school buildings, hospitals, roads and highways, irrigation projects, and housing. It would be much less meaningful if the activities of such an agency, for example, were expressed solely in money terms and, furthermore, if the financial outlay were classified only into terms of object categories. On the other hand, much more could be gained for management purposes if the several functions of such an agency were clearly segregated and individual programmes and projects were identified under each function. A classification such as this would also contribute effectively to the over-all purposes of budgeting by improving executive and legislative review and decision-making and, further, by facilitating effective internal financial administration.

When the system of accounting and financial management is geared closely to the scheme of classification suggested above, a direct relationship can be established between programmes and their cost. The *purpose* of doing something and the *cost* of doing it are the twin considerations which are indivisible and indispensable to the most effective system of management. The calculation of cost in such a system, however, must be conceived in terms of actual receipt and use of resources required for the completion of a given project. In many countries, government accounts are kept either on a cash or obligation basis. Such accounts, although they are very useful for purposes of accountability and appropriation control, indicate only the payments made or obligations incurred and do not measure the true cost of providing various public services. However, if they are properly related to programmes, such accounts can initially be used in this budgetary approach, pending refinement of the accounting system.

Once the programmes and accounting data are interrelated, the development of physical measurement data and of the performance indicators for each programme and its sub-divisions provide a total perspective for effective budget management. In the process of budget execution, control of expenditure acquires a purpose and the accountability for operational activities becomes much more meaningful. An integrated view of these three factors helps to shift the emphasis from macro-considerations to micro-considerations in the appraisal and control of expenditures. The development of unit cost data and of productivity measures should enable, over a period of time, the establishment of norms and standards for comparison purposes. The use of such norms or standards in budget management in turn can bring about economy and efficiency in public expenditures. When finance is one of the limiting factors in the growth of developing countries, the need to economize this scarce resource and to get most out of public expenditures becomes overwhelmingly self-evident and impelling.

Between a plan and a programme and performance budget, there are certain structural similarities of form and common elements in the accounting for resource use. The basic features of a plan are its use, within a sector, of programmes or projects as operational units, the emphasis on their physical inputs and results or benefits and on their cost in relation to benefits. These are also the attributes of a programme and performance budget, in which objectives are first formulated at the functional level and then broken down, for operational purposes, into terms of specific programmes, projects or activities. Similarly, just as outlays in a plan represent the *cost* of providing goods and services and not merely expected disbursements or obligations to be incurred, a programme and performance budget can also lend significance, with proper accounting support, to workload data by developing their cost. Thus, in both cases, the intent and direction of resource use, the expected workload and its cost are related closely to each other. These similarities in form and operational orientation make

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[4] Bureau of the Budget, *Measuring Productivity of Federal Government Organizations*, (Washington, 1964).

[5] For a suggested detailed break down of programmes into activities, projects, subprojects, work units etc., see chapter II.

[6] Jesse Burkhead, *Government Budgeting* (New York, John Wiley and Sons, Inc, 1956), p. 142.

programme and performance budgeting particularly suited for plan implementation and evaluation of plan progress in developing countries. The data obtained from budget execution, both of a physical and financial nature, can, moreover, be helpful in the subsequent revisions of a plan or formulation of new plans.

Adoption of a programme and performance budget

Although the merits of a budgetary system based on programme and performance techniques are obvious, its introduction in practice must be approached with caution. Its total application assumes an existence of a number of factors or facilities. In its ultimate application, this approach involves a sound budgetary operation, financial discipline, skilled and responsible manpower both for budget formulation and execution, a frequent and efficient system of recording and reporting financial and physical data, and close co-ordination between various governmental agencies and the central budget agency. Some or all of these conditions may not exist in a given country. Their development must be given emphasis and continuing attention in considering and introducing the programme and performance techniques.

In the adoption of programme and performance budgeting, it is best to introduce the various elements of this approach in an evolutionary and orderly fashion. For this purpose, a useful distinction might be made between programme budgeting and performance budgeting. In programme budgeting, the principal emphasis is on a budget classification in which functions, programmes, and their sub-divisions are established for each agency, and these are related to accurate and meaningful financial data. Performance budgeting involves the development of more refined management tools, such as unit costs, work measurement, and performance standards. Of course, the measurement of work, both in a physical and financial sense, presumes an already formulated set of work units which can be derived only when programmes and their sub-divisions are first established. In this sense, performance budgeting is an all-inclusive concept embodying programme formulation as well as measurement of the performance of work in the accomplishment of programme objectives.

As a first step, therefore, the developing countries might find it desirable to emphasize the programme formulation aspect of this approach to budgeting, and to establish a clearly defined pattern of organizational responsibilities. In doing so, the budget classification could be closely related to projects included in a development plan. Such classifications of aims and responsibilities would contribute significantly to the over-all process of decision making.

The next logical step would be to bring the system of accounting and financial management into line with budget classification. Improving accounting systems might take considerable time and may require extended training programmes to provide for the needed new skills in accounting. Here again, a cautious approach could initially, be adopted. In the beginning, accounts should be kept as simple as possible. Certain refinements such as accrual accounting and the allocation of overheads or depreciation might be deferred to a later stage unless such information is urgently needed for clearer decision-making and better management. In the early stages, emphasis could be placed on planning and on providing prompt financial and related information for use in performance reporting so as to enable a comparison of actual results with original plans. As progress is made towards these objectives, the introduction of accrual accounting and the solution of more complicated accounting problems might be considered. Accrual or cost accounting could be applied either to all types of programmes or to such operations as commercial or industrial activities.

A third and final step consists of the introduction of a system of measuring physical progress and performance. This would depend largely on the availability of relevant statistical data and, in many cases, such data may have to be developed. Each programme would present its own problems in terms of determining proper units of measure and meaningful indicators of performance. Some measurement units may correspond to an end product while in other areas they may simply be indicative of the work involved in producing an end product. A start could be made by initiating work studies in certain selected agencies or for selected programmes to identify appropriate units for measuring work performed. Gradually the scope would be extended to cover other agencies and other activities. In government operations of a purely administrative type, personal services normally constitute the major item of cost. In such cases, effective control of staff is the major concern and might be dealt with satisfactorily through having broad measures of staffing and workload under each programme and activity classification. The application of a work measurement system may be desirable, however, when such activities are carried out at many locations. In such cases, a comparison of work measurement ratios at various locations may yield significant results. As another approach, a work measurement system might be initially applied to a development budget or services. In many countries, the bulk of plan expenditure is included in a development or capital budget, and the introduction of such a system of performance appraisal would not only improve plan implementation but would facilitate evaluation of plan progress.

It must be remembered that the concept of a work measurement system as discussed above serves essentially as a tool of internal management. It measures the work completed by various agencies, but does not necessarily identify the final outputs nor the total benefits resulting from the work. The immediate and final impact of government expenditures or services would be felt throughout the economy and it would be very useful to develop supplementary measures of such total contribution. Similarly, a work measurement system normally measures only the manpower costs and not the efficiency with which other factors of production are used in producing an end product or service. Such measures might also be needed, particularly in appraising the utilization of scarce resources. It must be recognized too, that the interpretation of measurement data requires judgement and caution. Qualitative differences in performance do not lend

themselves easily to measurement. Quantitative measures must, therefore, be weighed carefully.

Finally, it should be noted that in programme and performance budgeting the role of the object classification and the importance of financial accountability are not diminished. As has been pointed out before, a programme and performance budget would, if anything, strengthen the process of legislative review by providing additional material on programmes and accomplishments. Effective control over the use of available funds is still needed, and a properly conceived object classification throws significant light on the types of inputs used in programme execution. Essentially, there is no conflict between the programme and activity classification and other types of expenditure classifications. The complementary nature of the various systems of classification is discussed in chapter II.

Chapter II

CLASSIFICATIONS FOR PROGRAMME AND PERFORMANCE BUDGETING

The establishment of budget classifications is one of the most important steps in government administration. Its importance stems from the fact that the basic classification structure provides the framework for decision-making throughout the budget process. The classifications employed, therefore, must facilitate formulation of the budget in relation to policy objectives; effectively reflect in the budget what the government proposes to do with available resources; and provide an administrative control structure that will permit determining what has been done in relation to the budget approved by the legislature. The classification structure must serve these several purposes equally well; it follows that the same classifications must be used for budget formulation, presentation, and execution.

For a programme and performance budget, the establishment of appropriate classifications assumes even greater importance. In this approach to budgeting, attention in the decision-making process is directed also to the nature of proposed work, its relation to policy objectives, planned performance, and its cost. This involves establishing appropriate relationships between long- and short-range plans and that segment of the plans that is proposed to be carried out in the annual budget. Those relationships must be clear for budget review purposes; and the administrative control structure in budget execution must serve not only accountability needs, but must show also the physical and financial progress being made toward the goals set forth in the approved budget plan. Furthermore, these data must be developed in terms most useful for administration and control at the various levels of management in government.

Basic to a programme and performance budget is the establishment of programmes and activities that group work operations according to the way in which they contribute to the end products produced by government organizations. For purposes of overall consideration, the complete scheme of classification provides for use of a functional classification, which groups the programmes and activities in terms of the major purposes of government served by the basic work operations. In total, therefore, the classification structure for a programme and performance budget involves the identification of: (*a*) functions — broad groupings of operations that are directed toward accomplishing a major purpose of government; (*b*) programmes — broad categories within a function that identify the end products of major organizations; and (*c*) activities — segments of a programme that identify homogeneous types of work carried out by subsidiary organizations to produce the end products of a programme.

Properly developed, such a classification scheme enables better balanced judgement and decisions at all levels of responsibility in government. The classification by function, for example, facilitates top level decision-making on the distribution of available resources in accordance with policy objectives and long range plans. Those by programme and acitvity relate financial requirements to end products and work performed by specific organizations, which facilitates formulation of the budget in relation to long- and short-range goals; the review of work plans in relation to costs; and control over the performance of organizations in executing the authorized budget.

To be meaningful and useful for decision-making purposes, the plan of classification for programme and performance budgeting must be tailored to the situation in the individual country. The functions, programmes, and activities must reflect the purposes to be served by the budget plan of the government concerned. While certain functions may be common among various countries, differences in programmes, activities, and the administrative structure make a uniform classification scheme for all governments impracticable.

Functional classification

A function may be defined as a major division of the total organized effort of government, which identifies distinct and separate services provided to the public — such as national defence, education, health, or agriculture. A classification of this kind provides helpful information on purposes served by governmental expenditures, irrespective of the organization making the expenditure. This is accomplished by grouping programmes and activities of organizations according to the basic services provided, each of which has significance from the standpoint of the duties and responsibilities of the government as a whole. Thus, a functional classification aggregates budget data to show the share of public expenditures devoted to each public service. Budget information summarized in this way is more meaningful and informative for the general public. In the administrative processes of government, it is most useful for formulation, review, and implementation of broad policy objectives, and therefore is of primary interest for top level legislative and executive review.

As indicated above, the term "purpose" relates to services provided rather than to the broad, long-range

policy objectives of government. The object of this classification is to utilize functional and subfunctional categories to aggregate governmental expenditures according to the immediate or short-run purposes served. Such expenditures might also contribute to the attainment of broad policy objectives like promotion of economic development. If long-range objectives such as the latter were used as the base of the functional classification, it would be difficult to define significant categories that would be mutually exclusive. Moreover, there are few expenditures that could not be regarded as contributing in some way to economic development.

The fact that most governments furnish certain common types of services has led to the identification of basic functional and subfunctional categories that can be adapted or modified as required by circumstances in individual countries. This already has been described in *A Manual for Economic and Functional Classification of Government Transactions*,[7] which sets forth a functional classification in relation to a scheme for economic classification, for the purpose of bringing together meaningful data that are essential to developing economic and social policies. That document outlines the two schemes, and demonstrates how they are combined to form an "economic functional classification". It fully describes a series of functional categories and the problems that are encountered in establishing such a classification. The manual points out that a functional classification provides information that permits analyses of the priorities involved in various types of governmental expenditure for decisions on the desirability of spending more or less on a particular service.

The manual for economic and functional classification has been the subject of discussion at a series of budget workshops held at regional commission headquarters in Bangkok in 1957, in Santiago in 1959 and 1962, at Addis Ababa in 1961, at Costa Rica in 1963, and at an interregional workshop in Copenhagen in 1964. It has been used as a base for gradually developing functional classifications suited to the needs of the various regions and countries. The Central AmericanWorkshop, for example, recommended the development of a standard functional classification for Central American countries, along the following lines :[8]

Functional classification of government transactions

General services
- General administration
- Justice and police
- General research and scientific services

Defence

Social and community services
- Education
- Health
- Social security and special welfare services
- Community services

Economic services
- Agriculture and non-mineral resources
- Fuel and power
- Other mineral resources, manufacturing and construction
- Transport, storage and communications
- Other economic services
- Multi-purpose projects

Unallocable expenditure

This kind of a classification is employed for aggregating programmes and activities by the government purposes served in most countries that have adopted the programme and performance budget. This is true in most Central American and South American countries, and in many countries of Africa, Asia, and the Far East. It is also employed in the Philippines and the United States, as reflected in appendices A and B.

Appendix A sets forth the functional classification prescribed by the Philippine Government, and reflects the distribution among functional categories of programmes and projects carried out by specific organization units of the Department of Public Works and Communications. This illustrates how a functional classification serves to bring together the expenditures for a given service, regardless of the organizational units responsible for providing parts of that service. This segment of the total classification scheme of the Philippine Government shows, for example, that the activities of the Department of Public Works and Communications are classifiable in ten of the fourteen functional categories. Thus, this approach permits a summation of total governmental effort by major purposes served, in contrast to the conventional budget, where the division by departments does not give a full picture of the total effort in any one functional area. In this connexion, it should be recognized that even though a number of organizations may contribute to an individual service or function of government, this does not imply that departmental responsibilities should be changed to conform to functional categories; rather, it emphasizes the need for providing a classification of departmental expenditures according to the purposes served.

The usefulness of the functional classification for budget presentation and review is demonstrated in exhibit 1 of appendix B. In the United States, the President's message that accompanies the detailed budget submitted to Congress is prepared in terms of major functions and subfunctions. In total, it presents the President's plan of operations for the budget year, with the narrative discussion highlighting the organizations responsible for carrying out the programmes and activities that are combined under each function, the broad objectives being sought, major issues, and the related financial requirements.

Exhibit 1 of appendix B reflects the total budget expenditures proposed for fiscal year 1962, broken down by the major functional categories used by the United States at that time. It also includes an excerpt of the total message relating to the Natural Resources function, which shows a subfunctional break down of the total expenditures for Natural Resources, and identifies the

[7] United Nations publication, Sales No. : 58.XVI.2.

[8] See *Report of the Workshop on Budgetary Classification and Management in Central America and Panama* (ST/TAO/SER.C/66).

major agencies that carry out the supporting programmes and activities. The portion of the supporting narrative discussion that is reflected in the exhibit is indicative of how the functional presentation can be used to outline broad objectives and financing requirements, and to provide a setting for the detailed presentation of agency plans, costs, and requirements in the detailed appropriation requests. The expenditure data for summaries of this kind are derived from a functional coding of the appropriations that present the programmes and activities carried out by the various operating agencies and departments. In this manner, financial data for each element of the work plan in the United States budget is summarized into the major services provided by the government.

Programme classification

For a programme and performance budget, a programme is the highest level of classification of work performed by an agency in carrying out assigned responsibilities. It is used to designate that portion of the work that produces an end product or service which is representative of the purposes for which an agency is established. As such, it generally reflects the responsibilities of major organizational units, and represents a grouping of activities that is of significance from the standpoint of the agency's substantive responsibilities. The programme classification furnishes a framework for developing an agency budget, and a broad basis for review of proposed plans, estimates of requirements, and progress of work in relation to approved plans. For purposes of government wide consideration, a programme is established within a functional area to identify its relationship with one of the basic services of government.

Differences in organizational structure and in the nature and scope of assigned operations in individual governments result in a considerable degree of variation in programme classifications. A thorough examination of the authorities and responsibilities of individual departments or agencies, and the organizational arrangements for carrying out assigned operations, generally will provide the basis for establishing the most appropriate classifications and their relationship to government wide functions. Once the total effort of an agency is divided into programme categories, it is essential for management purposes to clearly identify the organizational location of responsibility for carrying out an identified programme.

As indicated above, a desirable characteristic of a programme is that it produces an end product — one that is identifiable and measurable. This is more feasible for some programmes than it is for others. A highway programme, for example, can be measured by the mileage of road constructed; while the end product of a medical research programme may be difficult to identify and measure. The lack of a measurable end product should not militate against the establishment of a programme that otherwise meets the criteria of providing a suitable basis for planning, reviewing budget proposals, and evaluating performance against plans.

In some agencies, it may be found that the total work assigned to the organization is so limited and interrelated that a break-down into more than one programme is undesirable. Or, programmes with the same basic purpose and end product may, for otherwise good reasons, be carried out by separate organizations. In such cases, care should be taken to identify the separate programmes in a manner that will properly disclose their relationship. In other agencies, a logical programme may be divided into two or more segments because of such reasons as the relative importance of some parts of the work, or the need for special methods or skills. For instance, vocational education in the Philippines is treated as a single programme. In another country, the size and nature of that programme and the way in which it is conducted may make it preferable to identify trade and industry education, training in home industries etc., as separate segments of vocational education. In such complex programme situations, it may be desirable to establish separate elements of the programme as subprogrammes. In each application of the programme and performance budget, therefore, the establishment of programme categories requires careful study and the exercise of sound judgment, so as to produce a classification that is most meaningful for that country.

By way of example, exhibit 2 of appendix B sets forth the budget presentation of the International Boundary and Water Commission, a constituent unit of the Department of State in the United States. It consists of three appropriations, which have been established in terms of the programme responsibilities of the agency. The first appropriation finances the general administration and developmental responsibilities of the agency; the second, the operation and maintenance activities; and the third, the construction programme. Each of these encompasses a set of activities; and, by reference to exhibit 1, it can be seen that all of them are classified under the Land and Water Resources subfunction of the Natural Resources function. Thus, the programme classification in a programme and performance budget provides the link between the broad governmental services shown in the functional categories, and the activities that reflect the work plan of the operating agencies.

Activity classification

An activity in a programme and performance budget may be defined as a division of the total effort under a programme or subprogramme into reasonably homogeneous type of work — the purpose of which is to contribute to the accomplishment of the end product of a programme. It represents a grouping of work operations or tasks that generally are carried out by lower level administrative units within an organization in order to attain the programme goals and objectives of the agency.

Activities in a programme and performance budget serve as the focal point for management, providing the primary basis for developing and presenting the budget, and for accounting and reporting on budget execution. The distinctive feature of an activity is that it represents a grouping of work operations or tasks that is useful to agency officials for management decisions and performance analysis. To be of maximum value for these purposes, it is desirable that activities be capable of some

form of statistical measurement — in such terms as workload, employee utilization, unit costs etc. Such measurements, however, should be developed on a practical basis in relation to the specific needs of management for evaluation of work performance under an activity. There is no standard form of measurement required for every activity in a programme and performance budget.

An examination of the organizational structure, and the assigned responsibilities, work processes, or tasks of an agency will suggest the most appropriate subdivisions of a programme. The activities can be broad or narrow in coverage, depending upon the nature and size of the programme, the work involved, and the management needs to be met. In some cases, these factors will make it desirable to identify the subsidiary work processes or tasks that are employed to carry out broad activities. To cite contrasting illustrations, the single programme of the United States Internal Revenue Service — the administration of Federal tax laws — was recently reflected in two activities, with a total of fourteen subsidiary work operations; the same programme in the Philippine budget has been presented in terms of four activities :

Activities of the United States Internal Revenue Service

(*a*) Revenue accounting and returns processing
- (i) District manual operations
- (ii) Service centre automated operations
- (iii) Statistical reporting
- (iv) Internal audit and security
- (v) Executive direction

(*b*) Securing and maintaining compliance with tax laws
- (i) Audit of tax returns
- (ii) Collection of delinquent accounts and securing delinquent returns
- (iii) Tax fraud and special investigations
- (iv) Alcohol and tobacco tax regulatory work
- (v) Taxpayer conferences and appeals
- (vi) Rulings, technical planning, and special technical services
- (vii) Legal services
- (viii) Internal audit and security
- (ix) Executive direction

Activities of the Philippine Bureau of Internal Revenue

(*a*) Tax ruling and other legal services
(*b*) Tax assessment
(*c*) Tax collection
(*d*) General administration

The number of activity categories should be kept at a minimum, consistent with the need for sound appraisal of work progress under a programme. Performance analysis should not be unduly complicated by dividing a programme into numerous categories that may complicate rather than facilitate effective budgeting, reporting, and performance analysis. In all cases, however, the activities in total should cover all work carried out under a programme. It is also important that where a single type of activity is common to more than one programme, it should be identified in a consistent manner under each programme. This holds true, too, where work operations are identified under broad activities. For example, the United States illustration above shows — by means of identical titles — the internal audit work chargeable to each of the two activities.

Basically, to meet most efficiently management needs in developing, presenting, and executing a budget, each activity category should reflect the work efforts of a complete organizational entity. In other words, the activity classifications should coincide with the organizational structure of an agency, so that a single set of workload and financial data will serve the needs of control and performance evaluation under each classification. In those cases where attempts to identify meaningful programme sub-divisions do not satisfy these objectives, the activity categories can be adapted to existing organizational arrangements as a step to meet immediate needs. Subsequently, action can be taken to provide the most appropriate presentation and relationship — either by development of more suitable activities or by improving the organizational structure. Throughout this effort, it should be recognized that the basic objective is to identify the costs of programme activities and organizational performance on the most practical basis — in a form that is suited to management requirements.

On the other hand, the cost of work operations of an overhead or service nature — like executive direction and general administration — should, ideally, be distributed among the programme sub-divisions served. The ultimate objective in a programme and performance budget is to identify the full costs of each programme category, including both direct and indirect costs. The United States and Philippine examples above illustrate different approaches to this problem. In the Philippine presentation, the overhead costs of general administration are not distributed; while the costs of executive direction in the United States schedule are spread between the two activities. Either practice can be used — the United States practice in this case reflects a refinement that provides more accurate disclosure of the total costs of an activity. It might be noted that this is a recent development. In earlier presentations of the United States Internal Revenue Service budget, all executive direction costs were shown as a separate activity.

Object of expenditure classification

Under the traditional form of budgeting in government, the primary classification of data generally used for review and analysis of fund requests and for control of operations is the classification by object of expenditure, i.e., the things to be purchased with appropriated funds. In programme and performance budgeting, the emphasis in review, analysis, and control is shifted to the things to be accomplished — the planned programmes and activities. The classification by object of expenditure is still retained, however, as a secondary classification, supporting the programme and activity presentation. As such, the object categories provide a standard basis for the classification of items being purchased by all agencies, regardless of the purposes for which those

objects will be used. In use, the object classification furnishes a base for developing estimates of requirements, permits a review of the character of actual and planned purchases, and provides data useful for making economic analyses.

While classifications by object of expenditure in different countries follow a generally consistent over-all pattern, they may vary in the number and detail of the categories employed. The budget presentation at the Federal level in the United States embodies the following object classification :

United States uniform classification by objects

Personal services and benefits
- Personnel compensation
- Personnel benefits
- Benefits for former personnel

Contractual services and supplies
- Travel and transportation of persons
- Transportation of things
- Rent, communications, and utilities
- Printing and reproduction
- Other services
- Supplies and materials

Acquisition of capital assets
- Equipment
- Lands and structures
- Investments and loans

Grants and fixed charges
- Grants, subsidies, and contributions
- Insurance claims and indemnities
- Interest and dividends
- Refunds

Regardless of differences between countries, however, a uniform classification such as this facilitates the determination of requirements under programmes and activities within an individual country. To illustrate :

(*a*) The cost of personal services for a planned activity may be estimated by multiplying the number of employees needed within a homogeneous group by the average salary currently paid to such a group of employees.

(*b*) The estimated cost of an object that bears a direct relationship to employment — e.g., travel expenses — may be developed by multiplying the anticipated average employment by the average travel cost per employee experienced in recent years.

(*c*) The estimated cost of objects that are not directly related to personal services, such as objects required for maintenance and repair of facilities and equipment, may be developed by using past experience on the relationship of maintenance and repair costs to the original cost or value of the specific types of facility or equipment in use.

(*d*) The estimated cost of objects like printing and reproduction — for which an average unit price can be ascertained — may be developed by multiplying the quantity estimated to be needed by the average unit price experienced in the past.

Thus, while the object classification in programme and performance budgeting is not the basis for presenting budget plans and proposals, it is useful in developing estimates of requirements under programmes and activities, and can be of assistance in detailed management of operations.

In the United States budget, data by object class are required at the appropriation level, to permit development of analyses of the economic impact of government operations, and review of the character of actual and planned purchases for the programmes and activities presented in the work plan. In the Philippine application, the object classification is incorporated in the fund control process, where allotments are categorized according to personal services, maintenance and other operating expenses, and equipment.

In both cases, however, the object classification identifies the inputs required for work involved in planned programmes and activities. As such, it is a base classification that can serve as a link between government purchases and over-all economic categories, thus contributing to economic classification and analyses; it furnishes a uniform basis for review of fund requirements for work and programme outputs at various levels of management; and it provides operating managers with a subsidiary basis of control — as appropriate to the programmes and activities being carried out.

The various types of classifications — functional, economic, programme and activity, and object — can be related to and reconciled with each other, given a common basis of recording transactions. An integrated use of these classifications enhances their value for an appraisal of government transactions and for policy-making purposes. The problems arising in such a reconciliation, together with a tentative statement on their interrelations, were discussed in a Secretariat paper submitted to the Inter-Regional Budget Workshop held in 1964.[9]

The application and use of object classifications in a programme and performance budget in individual countries will vary according to economic analysis needs and the programme and financial planning and control practices employed. It will depend upon such factors as the economic problems to be dealt with, the kinds of operations conducted, practices followed in the delegation and assignment of responsibility, and the degree of financial control exercised at the various levels of management.

Classification of capital outlay

A basic aim of programme and performance budgeting is to develop classifications that are appropriate for the measurement and evaluation of performance in relation to assigned responsibilities. To attain that objective in an equitable manner, it is desirable to exclude from operating programmes and activities those outlays that are of an extraordinary nature, i.e., outlays that will provide a benefit over a lengthy period — for example, more than a year. This is particularly true if the financial data are recorded on a cash or obligation basis, where

[9] *The Links Between Economic and Functional Classification of Government Transactions and Classifications in Programme and Performance Budgeting* (IBRW.1/L.9). See also *Report of the Inter-Regional Budget Workshop* (ST/TAO/SER.C/70).

the total outlay would be recorded against the programme or project in one accounting period. For example, if the obligations incurred or disbursements made in building a new school one year are charged to the operating cost of an educational programme, the cost per student enrolled in that year will not be comparable to the cost per student enrolled in the following year. In such situations, performance data on past, present, and future programmes in the same field cannot properly be analysed in relation to each other. Similarly, the unit costs or total costs of otherwise comparable programmes and activities would have little comparative value and could not equitably be used as a basis for management decisions.

For best results, therefore, capital outlays in a programme and performance budget under the conditions outlined above should be separated from current outlays and treated as distinct programme or activity classifications, as appropriate to the nature of the work involved. Care should be taken in such cases to identify current and capital outlays that serve the same purpose by the same title, to enable proper understanding of their relationship.

Where a country employs a separate capital budget, problems of this kind may be resolved in part by segregations already being made, or by other practices being followed under the budget procedures of a particular country. Depending on the nature of the segregation already required, for example, this problem may be of little consequence in a country that employs a separate capital account which is linked in the over-all budget with a current account. On the other hand, in a country like the United States — where capital and current accounts may be combined, and financial transactions are charged against activities on a cost basis (see chapter III) — a complete separation of capital outlays may not be necessary, because the benefits of the outlay are charged to the activity in terms of use. Even in such cases, however, it may be desirable to identify separately the amount of capital outlay involved in a given accounting period for other analysis purposes — such as an evaluation of the desirability of such outlays in either of two competing programmes.

Guides for classification

The consideration of classification problems by United Nations Budget workshops held in recent years showed the desirability — particularly in developing countries — of separating operating programmes intended for the production of services from investment programmes directed toward the production of capital goods. It was suggested also that standardized terminology and definitions of the programmes and component categories, and the supporting object classification, would be helpful for use as guidelines in setting up budget categories that can be co-ordinated with medium-term investment plans and long-term economic development plans. As an example, the workshops identified the following terms and summary definitions for the programme sub-divisions :

Operating categories	*Investment categories*
Programme : An instrument for performing functions by which goals could be set and undertaken, in principle, by high-level administrative units.	*Programme :* An instrument for establishing targets to be achieved through an integrated set of investment projects.
Subprogramme : A division of complex programmes to facilitate execution in a specific field for which partial goals could be set and achieved by specific operating units.	*Subprogramme :* A division of complex programmes covering specific areas in which investment projects are carried out.
Activity : A more limited division of actions toward goals of an operating programme or subprogramme, involving processes for which an intermediate or lower-level administrative unit is responsible.	*Project :* A series of works in an investment programme or subprogramme for formation of capital goods, which are carried out by a production unit capable of functioning independently.
Tasks : A specific operation forming part of a process aimed at achieving a particular result.	*Works :* A part of a stage in formation of a capital good that is a segment of a project.[10]

From the above, it will be noted that the sub-divisions of programme categories differ in the two groupings. In the operating group, the next lower sub-divisions are activities and tasks, while the comparable categories in the investment group are projects and works. These distinctions help to clarify variations in terminology like those apparent in the Philippine and United States examples used in this manual. This approach has further merit for developing countries, in that it more accurately reflects differences in the components of operating and investment programmes, and can promote better understanding and consistency across country lines. For convenience of presentation in this manual, however, the term "activity" is used to refer to a sub-division of a programme, regardless of its operating or investment nature.

[10] For more complete discussion and guides for object classification, see *Report of the Workshop on Budgetary Classification and Management in South America* (ST/TAO/SER.C/58); and *Report of the Workshop on Budgetary Classification and Management in Central America and Panama* (ST/TAO/SER.C/66).

CHART OF FUNCTIONAL CLASSIFICATION OF GOVERNMENT ACTIVITIES

I. ARRANGED BY DEPARTMENT AND AGENCY, PROGRAM AND PROJECT, AND FUNCTION

Department and Agency	Program and Project	Function														
		Legislative Services	Administration of Justice	General Government	National Defense	Maintenance of Peace and Order	Debt Service	Pensions and Gratuities	Agriculture and Natural Resources	Commerce and Industry	Transportation and Communication	Other Economic Development	Education	Public Health and Medical Care	Labor and Welfare
8. DEPARTMENT OF PUBLIC WORKS AND COMMUNICATIONS																
(1) Office of the Secretary	I. General Administration and Staff Services			x												
	1. Technical Staff Services															
	2. Subvention to Steamship Companies															
	3. General Administration															
1 Irrigation Service Unit	I. Control and Supervision over Irrigation Pump Systems								x							
	1. Installation and Supervision of Pump Units															
	2. General Administration															
2 Radio Control Division	I. Enforcement of Radio Laws and Regulation										x					
	1. Licensing of Radio Stations and Radio Operators															
	2. Inspection and Investigation of Radio Stations															
	3. Monitoring Service															
	4. General Administration															
3 National Planning Commission	I. Regional and Local Master Planning for Physical Development			x												
	1. Planning and Regulating Activities															
(2) Bureau of Public Works	I. Field Surveys and Plan Preparation															
	1. Irrigation								x							
	2. Buildings	x	x	x					x	x	x		x	x	x	
	3. River Control and Drainage								x							
	4. Port Facilities										x					
	II. Operation, Maintenance and Repair Services															
	1. Irrigation								x							
	2. Buildings	x	x	x					x	x	x		x	x	x	
	3. River Control and Drainage								x							
	4. Port Facilities										x					
	5. Equipment											x				

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I. ARRANGED BY DEPARTMENT AND AGENCY, PROGRAM AND PROJECT, AND FUNCTION

Department and Agency	Program and Project	Function														
		Legislative Services	Administration of Justice	General Government	National Defense	Maintenance of Peace and Order	Debt Service	Pensions and Gratuities	Agriculture and Natural Resources	Commerce and Industry	Transportation and Communication	Other Economic Development	Education	Public Health and Medical Care	Labor and Welfare
	III. General Administration			x											
	1. General Administration														
	IV. Construction *														
	1. Irrigation								x						
	2. Buildings	x	x	x					x	x	x		x	x	x
	3. River Control and Drainage								x						
	4. Port Facilities										x				
	V. Acquisition of Equipment *											x			
	1. Equipment Purchases														
(3) Bureau of Posts	I. Mail Services										x				
	1. Surface Mail														
	2. Air Mail														
	II. Money Order and Telegraphic Transfer Services									x					
	1. Money Order Service														
	2. Telegraphic Transfer Service														
	III. Postal Savings Bank Service									x					
	1. Bank Operations														
	IV. General Administration										x				
	1. General Administration														
(4) Bureau of Telecommunications	I. Operation of Government Telecommunication Services										x				
	1. Telegraph, Telephone and Radio Services														
	2. Transmission Lines														
	II. Operation of Government Telephone System										x				
	1. Government Telephone System														

* Capital Outlays

CHART OF FUNCTIONAL CLASSIFICATION OF GOVERNMENT ACTIVITIES

I. ARRANGED BY DEPARTMENT AND AGENCY, PROGRAM AND PROJECT, AND FUNCTION

Department and Agency	Program and Project	Function														
		Legislative Services	Administration of Justice	General Government	National Defense	Maintenance of Peace and Order	Debt Service	Pensions and Gratuities	Agriculture and Natural Resources	Commerce and Industry	Transportation and Communication	Other Economic Development	Education	Public Health and Medical Care	Labor and Welfare
	III. General Administration										x				
	1. General Administration														
	IV. Extension of Government Telecommunication Services *										x				
	1. Telegraph, Telephone and Radio Services														
	2. Transmission Lines														
	V. Extension of Government Telephone System *										x				
	1. Government Telephone System														
	2. Government Telephone System (conversion of manual to automatic telephone system)														
(5) Bureau of Public Highways	I. Field Surveys and Preliminary Plan Preparation										x				
	1. National Roads and Bridges														
	2. Provincial Roads and Bridges														
	II. Maintenance and Repair Services										x				
	1. National Roads and Bridges														
	2. Provincial Roads and Bridges														
	III. Operation of Equipment Depots, Laboratories and Quarries										x				
	1. Heavy Construction Equipment and Shops														
	2. Los Baños Quarry														
	3. Research and Testing														
	IV. General Administration										x				
	1. Field Supervision														
	2. General Administration														
	3. Toll Bridges														

* Capital Outlays

CHART OF FUNCTIONAL CLASSIFICATION OF GOVERNMENT ACTIVITIES

I. ARRANGED BY DEPARTMENT AND AGENCY, PROGRAM AND PROJECT, AND FUNCTION

Department and Agency	Program and Project	Function														
		Legislative Services	Administration of Justice	General Government	National Defense	Maintenance of Peace and Order	Debt Service	Pensions and Gratuities	Agriculture and Natural Resources	Commerce and Industry	Transportation and Communication	Other Economic Development	Education	Public Health and Medical Care	Labor and Welfare
	V. Construction, Reconstruction and Improvement *										x				
	1. National Roads and Bridges														
	2. Provincial Roads and Bridges														
	3. Municipal Roads and Bridges														
	4. Toll Roads and Bridges														
	5. Equipment Shops														
	VI. Acquisition of Equipment *										x				
	1. Equipment Purchases														
(6) Bureau of Land Transportation	I. Administration of Motor Vehicles Laws										x				
	1. Recording Registrations and Licenses														
	2. Policy Guidance and Consultative Services														
	3. Compliance and Enforcement Activities														
	4. General Administration														
(7) National Waterworks and Sewerage Authority	I. Field Surveys and Preliminary Plan Preparation													x	
	1. Waterworks														
	II. Operation, Maintenance and Repair Services													x	
	1. Artesian Wells														
	III. General Administration													x	
	1. General Administration														
	IV. Construction *													x	
	1. Waterworks														
	2. Artesian Wells														
	V. Acquisition of Equipment *													x	
	1. Equipment purchases														

* Capital Outlays

CHART OF FUNCTIONAL CLASSIFICATION OF GOVERNMENT ACTIVITIES

I. ARRANGED BY DEPARTMENT AND AGENCY, PROGRAM AND PROJECT, AND FUNCTION

Department and Agency	Program and Project	Function														
		Legislative Services	Administration of Justice	General Government	National Defense	Maintenance of Peace and Order	Debt Service	Pensions and Gratuities	Agriculture and Natural Resources	Commerce and Industry	Transportation and Communication	Other Economic Development	Education	Public Health and Medical Care	Labor and Welfare
(8) Civil Aeronautics Administration	I. Administration of Civil Aviation										x				
	1. Maintenance and Operation of National Airports														
	2. Maintenance and Operation of Air Navigation Facilities														
	3. General Administration														
	II. Construction of Airports and Air Navigation Facilities *										x				
	1. Construction of Airports and Air Navigation Facilities														
(9) Weather Bureau	I. Weather and Allied Services									x			x		
	1. Meteorological, Astronomical, Geo-physical and Related Services														
	2. General Administration														
(10) Public Utilities Commission	I. Authorization and Regulation of Public Utilities									x					
	1. Certification of Public Convenience and Necessity														
	2. Inspection of Industrial Public Utilities														
	3. General Administration														

* Capital Outlays

Appendix B, Exhibit 1

BUDGET OF THE UNITED STATES

Message of the President

REVIEW OF AUTHORIZATIONS AND EXPENDITURES BY MAJOR FUNCTIONS

The remaining sections of this message discuss the budget and legislative proposals for 1962 in terms of the functions they serve. In the following table, estimated expenditures for 1962 are compared with the actual figures for 1960 and the current estimates for 1961 for each of 9 major functional categories.

The expenditure total for 1962 includes an allowance for contingencies, which is intended to provide for unforeseen developments in existing programs and for programs proposed in this budget but not itemized separately.

Budget expenditures

[Fiscal years. In billions]

Function	*1960 actual*	*1961 estimate*	*1962 estimate*
	$	$	$
Major national security	45.6	45.9	47.4
International affairs and finance	1.8	2.3	2.7
Commerce, housing, and space technology	2.8	3.8	3.4
Agriculture and agricultural resources	4.8	4.9	5.1
Natural resources	1.7	2.0	2.1
Labor and welfare	4.4	4.5	4.8
Veterans services and benefits	5.1	5.2	5.3
Interest	9.3	9.0	8.6
General government	1.7	2.0 [a]	2.1
Allowance for contingencies			.1
TOTAL	77.2	79.6	81.5
Deduct interfund transactions (included in both receipts and expenditures)	.7	.7	.7
BUDGET EXPENDITURES	76.5	78.9	80.9

[a] Less than $50 million.

MAJOR NATIONAL SECURITY

The deterrent power of our Armed Forces and the forces of our allies is based on a carefully planned combination of nuclear retaliatory weapons systems together with worldwide deployment to ground, naval, and air forces in essential forward areas, backed up by strong ready reserves. These forces make up a collective security system for the Free World more versatile and powerful than any military alliance in world history.

NATURAL RESOURCES

Sound development of our natural resources is necessary to meet the needs of our growing population and expanding economy. The budget recommendations for the fiscal year 1962 provide for appropriate Federal participation in the development, conservation, and use of these resources, in cooperation with State and local agencies and private interests.

Federal expenditures for natural resources are estimated to be $2.1 billion in 1962 compared with $2 billion in 1961. These expenditures are higher than in any previous year.

Water resources. Approximately two-thirds of the Federal expenditures for natural resources in 1962 will be for water resources activities. The programs of the Corps of Engineers and the Bureau of Reclamation will require expenditures estimated at $1.2 billion—a record level. Of this amount, $1 billion will be spent on construction. This includes $976 million for continuation of work on projects started in 1961 or prior years, $11 million for first-year expenditures on 37 proposed new project starts, and $13 million for advance planning of projects needed in later years. A large share of the construction expenditures of these agencies will be for multiple-purpose river basin projects, including flood control, navigation, irrigation, water supply, hydroelectric power, and in some cases related recreational and fish and wildlife benefits.

For the Corps of Engineers, the budget includes appropriations of $15 million for starting 31 new projects and an additional number of smaller projects costing less than $400 thousand each. The estimated total cost of building these new projects is $302 million. Appropriations of $6 million are also recommended to enable the Bureau of Reclamation to begin construction on five new projects, with an estimated total cost of $141 million, and to make a loan for one small reclamation project for which the total Federal commitment will be $5 million.

The 1962 program of the Bureau of Reclamation includes protective works for the Rainbow Bridge National Monument, as required by law in connection with construction of Glen Canyon Dam.

Natural resources:

BUDGET TOTALS *(In billions)*

	1960 actual	*1961 estimate*	*1962 estimate*
	$	$	$
Expenditures	1.7	2.0	2.1
New obligational authority	2.5	2.0	2.0

LEGISLATIVE PROPOSALS

1. Authorize Fryingpan-Arkansas project.
2. Authorize establishment of river basin planning commissions.
3. Require non-Federal interests to bear at least 30% of the cost of local flood protection projects.
4. Complete acquisition of unique wilderness area in Superior National Forest for public use.
5. Preserve three undeveloped seashore areas for public use.

It is again recommended that the Congress authorize construction by the Bureau of Reclamation of the Fryingpan-Arkansas project in Colorado.

A few months ago agreement was reached between the United States and Canada on the basic terms of a treaty for the cooperative development of the water resources of the Columbia River Basin. The proposal envisages the construction in Canada, within a 10-year period, of three major reservoirs and the construction by the United States of the authorized Libby project in northern Montana. The substantial flood control and power benefits which will result from this agreement will be realized at a much earlier date with materially less cost than would be the case if they were provided by unilateral rather than by cooperative endeavor. The location of the proposed storage reservoirs will not interfere with the cycle for salmon and other anadromous fish, which constitute an important economic and recreational asset of the Pacific Northwest. The Senate should give prompt attention to the ratification of the treaty when it is presented. Following this ratification, preconstruction planning of Libby Dam should be started by the Corps of Engineers.

The previous Congress enacted legislation to authorize negotiation of an agreement between the United States and Mexico for the joint construction of Amistad (Friendship) Dam on the Rio Grande, and appropriated $5 million for this project. The 1962 budget includes $12 million to finance further work on the dam as soon as the technical details relating to its construction are approved by the two Governments.

Natural resources

(Fiscal years. In millions)

Program or agency	Budget expenditures			Recommended new obligational authority for 1962
	1960 actual	1961 estimate	1962 estimate	
Land and water resources:	$	$	$	$
Corps of Engineers	867	930	930	932
Department of the Interior:				
Bureau of Reclamation	209	240	305	290
Power marketing agencies	34	41	36	36
Indian lands resources	59	68	63	64
Public domain lands and other	35	45	50	50
Tennessee Valley Authority	12	55	103	30
Federal Power Commission	7	8	9	9
International Boundary and Water Commission and other	12	15	19	20
Forest resources	220	263	311	248
Mineral resources	65	66	67	82
Recreational resources	74	87	101	105
Fish and wildlife resources	68	75	84	85
General resource surveys and administration	51	58	60	61
TOTAL	1,713	1,951	2,138	2,012 [a]

[a] Compares with new obligational authority of $2,533 million enacted for 1960 and $2,049 million (including $139 million of anticipated supplemental appropriations) estimated for 1961.

Legislation should be enacted to place the financing of the Bureau of Reclamation and the power marketing agencies of the Department of the Interior on a revolving fund basis, retaining annual review and control by the Congress.

Net budget expenditures of the Tennessee, Valley Authority are estimated at $103 million in the fiscal year 1962. The increase of $48 million over the current year will be largely for construction of power and navigation facilities. Under the authority to sell revenue bonds, enacted in August 1959, the TVA issued $50 million of such bonds in November 1960. The Authority plans to issue an additional $140 million in the fiscal year 1962 which, together with power revenues, will provide funds for continuing construction of power facilities and for starting construction of a new steam powerplant in the eastern part of the TVA power area. Construction will continue on Wheeler and Wilson locks and on the navigation features of the Melton Hill project, financed by appropriated funds. The Authority plans to make a payment of $50 million from power proceeds to the Treasury in fiscal year 1962, of which $40 million is a dividend and $10 million is a return of Government capital. A similar payment, estimated at $51 million, is being made in 1961.

The 1961 and 1962 programs of the TVA contemplate the acquisition of certain coal land or mining rights, on which options have been taken, in the eastern portion of its coal supply area. Since it has not been clearly established that such acquisitions are necessary to assure an adequate reserve of coal for TVA's operations, I have directed that these actions not be taken without specific Presidential approval.

Research conducted by the Department of the Interior over the past several years has reduced substantially the cost of obtaining fresh water from saline water. Two demonstration plants for conversion of sea and brackish water into fresh water will be completed in the fiscal year 1962. Appropriations of $3.5 million are recommended for starting two additional plants in 1962, one at Roswell, N. Mex., and the other at a location to be selected on the east coast.

River basin planning commissions. In addition to the Corps of Engineers, Bureau of Reclamation, Tennessee Valley Authority, and International Boundary and Water Commission, several other Federal agencies participate in phases of water resources programs. The Department of Agriculture assists local groups in watershed protection and flood prevention; the Department of Health, Education, and Welfare has responsibility relating to control of water pollution; and the Federal Power Commission has broad river basin planning authority in connection with licensing construction of private power projects. The Fish and Wildlife Service, National Park Service, and other agencies also participate in certain aspects of water resources projects. Furthermore, activities of State and local agencies and private interests in the field of water resources are of increasing importance. Only with coordinated planning on the part of all groups concerned can there be assurance that all possible uses of water are adequately considered.

To provide for comprehensive, coordinated planning, legislation is being submitted to authorize the President to establish water resources planning commissions as needed in the various river basins or regions. These commissions would be composed of Presidentially appointed members from the various Federal agencies and the States. They would prepare and keep current comprehensive, integrated river basin plans. This proposed general authority would be an improvement over separate laws such as those which established the two *ad hoc* river basin study commissions for the Southeastern and Texas areas.

Cost sharing for local flood protection. The varied requirements for financial participation by State and local interests in local flood protection projects have resulted in inequities among the various beneficiaries of such projects. In the case of projects of the Corps of Engineers, the Bureau of Reclamation, and the Department of Agriculture, non-Federal contributions range from zero to over 60% of flood protection costs. In previous budget messages, legislation has been recommended to provide an equitable, uniform minimum of 30%.

Appendix B, Exhibit 2

PRESENTATION OF UNITED STATES APPROPRIATION REQUESTS

DEPARTMENT OF STATE

INTERNATIONAL COMMISSIONS

Current authorizations:

INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO

The Commission consists of a U.S. section, with headquarters at El Paso, Tex., and a Mexican section, with headquarters at Ciudad Juarez, Chihuahua, and has the status of an international body. It was created in 1889 by the United States and Mexico to provide a practical means for solving mutual boundary problems.

For expenses necessary to enable the United States to meet its obligations under the treaties of 1884, 1889, 1905, 1906, 1933, and 1944 between the United States and Mexico, and to comply with the other laws applicable to the United States Section, International Boundary and Water Commission, United States and Mexico, including operation and maintenance of the Rio Grande rectification, canalization, flood control, bank protection, water supply, power, irrigation, boundary demarcation, and sanitation projects; detailed plan preparation and construction (including surveys and operation and maintenance and protection during construction); Rio Grande emergency flood protection; expenditures for the purposes set forth in sections 101 through 104 of the Act of September 13, 1950 (22 U.S.C. 277d–1—277d–4); purchase of [four] *nine* passenger motor vehicles *of which four shall be* for replacement only; purchase of planographs and lithographs; uniforms or allowances therefor, as authorized by the Act of September 1, 1954, as amended (5 U.S.C. 2131); and leasing of private property to remove therefrom sand, gravel, stone, and other materials, without regard to section 3709 of the Revised Statutes, as amended (41 U.S.C. 5); as follows: (*Department of State Appropriation Act, 1961.*)

SALARIES AND EXPENSES

For salaries and expenses not otherwise provided for, including examinations, preliminary surveys, and investigations, [$578,000] *$618,000.* (*Treaties of Feb. 2, 1948, Dec. 30, 1853, Nov. 12, 1884, March 20, 1905, May 21, 1906, Feb. 1, 1933, Feb. 3, 1944; U.S.C. 277–277e; Act of Sept. 13, 1950, Public Law 786; Department of State Appropriation Act, 1961.*)

Program and Financing (in thousands of dollars)

	1960 actual	1961 estimate	1962 estimate
Program by activities:			
Operating costs:			
1. General administration	341	368	369
2. General engineering	177	194	207
3. Project investigations	43	70	46
Total operating costs	561	632	622
4. Unfunded adjustment to total operating costs: Depreciation included above (—)	—5	—5	—5
Total operating costs, funded	556	627	617
Capital outlay:			
5. Operating program	8	1	1
Total program costs, funded	564	628	618
6. Relation of costs to obligations:			
Costs financed from obligations of other years, net (—)	----------	—12	---------
Obligations incurred for costs of other years, net	9	----------	---------
Total obligations	573	616	618
Financing:			
New obligational authority	573	616	618
New obligational authority:			
Appropriation	573	578	618
Proposed supplemental due to pay increases	----------	38	---------

1. *General administration.*—Activities include overall control of the operations of the U.S. section of the Commission, formulation of policies and procedures, financial management, and negotiation with Mexico to solve international problems.

2. *General engineering.*—This provides for (a) measurement and determination of the national ownership of boundary waters, (b) technical engineering guidance and supervision of the planning, construction, and operation of international projects, and (c) studies relating to international problems of a continuing nature.

3. *Project investigations.*—Preliminary investigations are made to determine the feasibility of joint projects for the solution of international problems arising along the boundary. The proposed program for 1962 includes in-

vestigations of the following projects: (a) Lower Colorado River flood control, (b) Tijuana River development, and (c) Rio Grande-Fort Quitman to Upper Presidio.

6. *Relation of costs to obligations.*—Year-end balances of unpaid undelivered orders are as follows: 1959, $7 thousand; 1959 (adjusted), $6 thousand; 1960, $15 thousand; 1961, $3 thousand; 1962, $3 thousand.

Object Classification (in thousands of dollars)

		1960 actual	1961 estimate	1962 estimate
11	Personnel compensation:			
	Permanent positions	471	507	519
	Positions other than permanent	----	1	1
	Other personnel compensation	25	21	19
	Total personnel compensation	496	529	539
12	Personnel benefits	33	40	40
21	Travel and transportation of persons	4	5	5
22	Transportation of things	1	2	2
23	Rent, communications, and utilities	8	20	20
24	Printing and reproduction	1	1	1
25	Other services	15	11	3
26	Supplies and materials	10	7	7
31	Equipment	5	1	1
	Total obligations	573	616	618

Personnel Summary

	1960 actual	1961 estimate	1962 estimate
Total number of permanent positions	74	75	75
Average number of all employees	70	71	72
Number of employees at end of year	72	75	75
Average GS grade	7.6	7.5	7.5
Average GS salary	$6,539	$6,975	$7,041
Average salary of ungraded positions	$4,601	$4,670	$4,670

OPERATION AND MAINTENANCE

For operation and maintenance of projects or parts thereof, as enumerated above, including gaging stations, [$1,982,000] *$1,966,000*: *Provided*, That expenditures for the Rio Grande bank protection project shall be subject to the provisions and conditions contained in the appropriation for said project as provided by the Act approved April 25, 1945 (59 Stat. 89). (*Department of State Appropriation Act, 1961.*)

Program and Financing (in thousands of dollars)

	1960 actual	1961 estimate	1962 estimate
Program by activities:			
Operating costs:			
1. El Paso projects	1,304	748	689
2. Lower Rio Grande flood control project	683	669	713
3. Falcon dam and powerplant	264	293	290
4. International gaging stations	257	283	285
5. Rio Grande emergency flood protection	338	----	----
Total operating costs	2,846	1,993	1,977
6. Unfunded adjustment to total operating costs: Depreciation included above (—)	—140	—150	—150
Total operating costs, funded	2,706	1,843	1,827
Capital outlay:			
7. Replacement of equipment	207	178	139
Total program costs, funded	2,913	2,021	1,966
8. Relation of costs to obligations: Costs financed from obligations of other years, net (—)	—305	----	----
Total obligations	2,608	2,021	1,966

Program and Financing (in thousands of dollars)—**Continued**

	1960 actual	1961 estimate	1962 estimate
Financing:			
Unobligated balance lapsing	2	----	----
New obligational authority	**2,610**	**2,021**	**1,966**
New obligational authority:			
Appropriation	**2,610**	**1,982**	**1,966**
Proposed supplemental due to pay increases	----	**39**	----

This appropriation finances the operation and maintenance of flood control dams and other structures, a powerplant, and stream gaging stations on the international rivers and tributaries.

The following table summarizes the major maintenance workload:

PROGRAM WORKLOAD SUMMARY

Item	*Unit*	*Quantities performed, 1960*	*Quantities proposed, 1961*	*Quantities proposed, 1962*
1. River channel:				
(a) Clearing	Acre	743	700	700
(b) Revetment placing	Mile	21.2	3.8	----
(c) Excavation	Cubic yard	1,506,508	674,880	550,000
2. Levees:				
(a) Clearing	Acre	5,700	5,700	5,960
(b) Surfacing	Mile	20.38	20	20
(c) Road maintenance	Mile	474	480	480
(d) Embankment	Cubic yard	32,207	23,125	23,125
(e) Rodent control	Acre	1,202	1,200	1,200
(f) Reconditioning	Mile	59	55	55
(g) Road surfacing	Mile	33.19	16.5	16.5
3. Floodways:				
(a) Clearing	Acre	8,900	12,000	14,500
(b) Leveling	Acre	953	700	700
(c) Rodent control	Acre	6,786	9,200	9,200
4. Pilot channel:				
(a) Excavation	Cubic yard	40,662	30,000	30,000
(b) Earthwork	Cubic yard	15,100	12,000	12,000
(c) Road maintenance	Mile	41.5	40	40
(d) Rock riprap	Cubic yard	1,470	500	500
5. Canal: Maintenance	Mile	15	15	15
6. Arroyo control: Earthwork	Cubic yard	244,234	240,000	240,000

7. *Replacement of equipment.*—Provides for replacement of heavy duty maintenance equipment.

8. *Relation of costs to obligations.*—The relationship is derived from year-end balances of selected resources and applicable adjustment as reflected in the following table (in thousands of dollars):

	1959 actual	*1960 actual*	*1961 estimate*	*1962 estimate*
Selected resources at end of year: Inventories and items on order:				
Stores (goods unconsumed by activities)	165	176	176	176
Unpaid undelivered orders (appropriation balances obligated for goods and services on order not yet received)	394	77	77	77
Total selected resources at end of year	559	253	253	253
Selected resources at start of year (—)		—559	—253	—253
Adjustment of selected resources reported at start of year		1	----	----
Costs financed from obligations of other years, net (—)		—305	----	----

Object Classification (in thousands of dollars)

		1960 actual	1961 estimate	1962 estimate
11	Personnel compensation:			
	Permanent positions	1,238	1,330	1,335

INTERNATIONAL COMMISSIONS—Continued

Current authorizations—Continued

INTERNATIONAL BOUNDARY AND WATER COMMISSION, UNITED STATES AND MEXICO—Continued

OPERATION AND MAINTENANCE—continued

Object Classification (in thousands of dollars)—Continued

	1960 actual	1961 estimate	1962 estimate
11 Personnel compensation—Continued			
Positions other than permanent	22	18	18
Other personnel compensation	58	23	17
Total personnel compensation	1,318	1,371	1,371
12 Personnel benefits	82	97	97
21 Travel and transportation of persons	10	10	10
22 Transportation of things	9	10	10
23 Rent, communications, and utilities	47	33	33
25 Other services	710	100	76
26 Supplies and materials	238	238	246
31 Equipment	179	180	141
32 Lands and structures	32		
Subtotal	2,625	2,039	1,984
Deduct quarters and subsistence charges	17	18	18
Total obligations	2,608	2,021	1,966

Personnel Summary

Total number of permanent positions	258	273	267
Full-time equivalent of other positions	6	5	5
Average number of all employees	259	265	265

Personnel Summary—Continued

	1960 actual	1961 estimate	1962 estimate
Number of employees at end of year	271	264	264
Average GS grade	6.0	6.2	6.2
Average GS salary	$5,519	$6,076	$6,145
Average salary of ungraded positions	$4,577	$4,684	$4,689

CONSTRUCTION

For detailed plan preparation and construction of projects authorized by the convention concluded February 1, 1933, between the United States and Mexico, the Acts approved August 19, 1935, as amended (22 U.S.C. 277–277f), August 29, 1935 (49 Stat.961), June 4, 1936 (49 Stat. 1463), June 28, 1941 (22 U.S.C. 277f), September 13, 1950 (22 U.S.C. 277d–1–9), and the projects stipulated in the treaty between the United States and Mexico signed at Washington on February 3, 1944, [$4,000,000] *$15,173,000*, to remain available until expended: *Provided*, That no expenditures shall be made for the Lower Rio Grande flood-control project for construction on any land, site, or easement in connection with this project except such as has been acquired by donation and the title thereto has been approved by the Attorney General of the United States: *Provided further*, That the Anzalduas diversion dam shall not be operated for irrigation or water supply purposes in the United States unless suitable arrangements have been made with the prospective water users for repayment to the Government of such portions of the costs of said dam as shall have been allocated to such purposes by the Secretary of State.

[For an additional amount for "Construction", $5,225,000.] (*Department of State Appropriation Act, 1961; Supplemental Appropriation Act, 1961.*)

Program and Financing (in thousands of dollars)

	Costs to this appropriation					Analysis of 1962 financing			
	Total estimate	To June 30, 1959	1960 actual	1961 estimate	1962 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required for 1962	Appropriation required to complete
Program by activities:									
1. Rio Grande international dams program:									
(a) Falcon Dam and powerplant	36,827	35,502	390	935					
(b) Upper dam investigations	1,537	1,512	24	1					
(c) Amistad Dam and Reservoir	53,646			4,750	11,925	250	325	12,000	36,646
2. Lower Rio Grande flood control:									
(a) Anzalduas Dam and related works	6,725	4,011	488	2,226					
(b) Modification of levee system	11,240			2,800	2,990	200	210	3,000	5,240
3. Rio Grande gaging stations	500			77	173			173	250
4. Douglas-Agua Prieta sanitation project	25			25					
5. Tijuana valley sanitation project	225			225					
Total program costs	110,725	41,025	902	11,039	15,088	450	535	15,173	42,136
6. Relation of costs to obligations:									
Costs financed from obligations of other years, net (—)				—95					
Obligations incurred for costs of other years, net			177		85				
Total obligations			1,079	10,944	15,173				
Financing:									
Unobligated balance brought forward			—1,397	—1,719					
Unobligated balance carried forward			1,719						
New obligational authority (appropriation)			1,400	9,225	15,173				

1. *Rio Grande international dams program.*—The negotiation of an agreement for construction of Amistad Dam, the second major international storage dam on the Rio Grande contemplated by the 1944 Water Treaty, was authorized by Public Law 86–605. Work will be initiated in 1961 on the preparation of final detailed designs and specifications, railroad relocation, acquisition of rights-of-way, and construction of access roads and the Government camp. This work, preparatory to the actual building of the dam, is scheduled for completion in 1962.

2. *Lower Rio Grande flood control.*—Work will continue on the modification of the flood control levee system, consisting largely of raising existing levees, constructing new levees, and making floodway channel improvements.

3. *Rio Grande gaging stations.*—Improvements to water measurement facilities of the gaging stations on the Rio Grande will continue to be made to provide a higher degree of accuracy in measuring river flows.

6. *Relation of costs to obligations.*—The relationship is derived from year-end balances of selected resources as reflected in the following table (in thousands of dollars):

	1959 actual	*1960 actual*	*1961 estimate*	*1962 estimate*
Selected resources at end of year: Inventories and items on order:				
Unpaid undelivered orders (appropriation balances obligated for goods and services on order not yet received)	339	536	415	485
Equipment (acquisition value of facilities used on projects, less depreciation charged to project costs)	30	9	35	50
Total selected resources at end of year	368	545	450	535
Selected resources at start of year (−)		−368	−545	−450
Costs financed from obligations of other years, net (−)			−95	
Obligations incurred for costs of other years, net		177		85

Object Classification (in thousands of dollars)

		1960 actual	1961 estimate	1962 estimate
11	Personnel compensation:			
	Permanent positions	151	571	556
	Positions other than permanent	3	25	22
	Other personnel compensation	10	10	6
	Total personnel compensation	164	606	584
12	Personnel benefits	9	44	46
21	Travel and transportation of persons	6	9	8
22	Transportation of things		8	7
23	Rent, communications, and utilities	6	10	7
25	Other services	53	335	15
26	Supplies and materials	60	150	180
31	Equipment	9	57	55
32	Lands and structures	763	9,725	14,271
43	Interest and dividends	10		
	Subtotal	1,080	10,944	15,173
	Deduct quarters and subsistence charges	1		
	Total obligations	1,079	10,944	15,173

Personnel Summary

	1960 actual	1961 estimate	1962 estimate
Total number of permanent positions	25	132	115
Full-time equivalent of other positions	1	5	4
Average number of all employees	26	115	113
Number of employees at end of year	23	126	113
Average GS grade	8.0	6.6	6.5
Average GS salary	$6,657	$5,556	$5,595
Average salary of ungraded positions	$3,882	$3,450	$3,450

Chapter III

THE FINANCIAL MANAGEMENT SYSTEM

Along with the growth of activities and related increased expenditures, effective financial management in the conduct of government affairs is assuming an increasing importance. The strengthening of that function constitutes a high priority need among the administrative goals of government.

The financial management function might be described as a continuous cycle of related operations that contribute to necessary management decisions, as illustrated in appendix C. In relation to that cycle, the application of programme and performance budgeting raises questions concerning the kinds of classifications needed for the various operations; the best methods for relating one operation to another; the accounting basis and the kinds of financial data to be developed; and the most appropriate financing, reporting, and control practices.

Data requirements

Within the financial management cycle, the accounts are the official source of the financial information used in the budget. Such data must be developed in the accounts in a form that will support budget requests and provide for adequate control of budget execution. To do that in an efficient manner, the programming, budgeting, accounting, and reporting operations should be integrated through the use of common classifications, i.e., the primary classifications used for developing and presenting the budget should be identified in the accounting system and in the related reports. The use of such an integrated system best provides the financial data needed for management decisions.

Traditionally, accounting in government has been developed as a mechanism for financial control. It has been used primarily as the means by which operating officials in the executive have met their responsibility for control of the funds provided by the legislature. In the conventional system that is operated on an integrated basis, the operating officials' accountability for budgeted funds is generally satisfied through the use of information classified in terms of the source of funds, the responsible organizations, and the objects for which funds were expended.

The same accountability requirements apply in programme and performance budgeting, but more recognition is given to serving the management needs of the operating officials. That type of budgeting is a programme-oriented technique that requires additional classifications of basic financial information, appropriately developed in an integrated system. Besides the conventional budget needs for data by fund, organization, and object, a programme and performance budget requires accurate and timely information by function, programme, and activity; in addition, all of these data must be presented in a manner and form that will permit effective operational and fund control, and show the progress being made towards goals. While these added requirements might imply a need for more accounting facilities, the effect of conversion will vary in individual applications. The actual need for additional accounting in each case is dependent upon many factors, such as the degree to which the country's financial system has been developed and is being used as a management tool; the extent to which it has been mechanized; the relative efficiency of the existing operation; and the capacity of the accounting personnel to broaden their scope, and to adapt to the data requirements of this technique.

The administrative costs of programme and performance budgeting will not necessarily be greater because of the additional management information required. If the conversion to that type of budgeting is approached in a spirit of modernization and improvement, with appropriate attention given to the selection and training of personnel, effective results can be obtained without additional — and possibly even less — costs. The potential benefits to be derived from programme and performance budgeting are, of course, not merely a question of costs of financial administration, but rather refer in a larger sense to improved analyses, strengthened control, more efficiency, and greater achievements over the entire spectrum of government operations.

In this connexion, mechanization and electronic data processing techniques are particularly appropriate to use in programme and performance budgeting, because of the capability of such facilities for rapidly developing accurate data in a variety of classifications. The adoption of a mechanized system, however, should be approached with caution to ensure the use of methods that will most efficiently serve identified management needs. As a first step, for example, a decision to convert to a mechanized system should be preceded by a study to determine the minimum data needs to be met, and to obtain maximum simplification of existing practices. With the basic practices simplified to the greatest extent possible, if a mechanized system is still warranted, steps should be taken to ensure that it is economically worth while. This involves identifying the type of equipment best suited to the needs to be met, and determining the costs of installation and maintenance for comparison with the costs of the simplified manual practices. With an

approach of this kind, the adaptation of the financial management system to a mechanized operation can be most helpful and beneficial in programme and performance budgeting.

The financial plan

One of the paramount values of the programme and performance budget is its management usefulness in the conduct of economic development and long-range programmes. Through its function, programme, and activity structure, this type of budgeting provides a programming framework for the development of detailed agency plans that can be related to long-term objectives and goals. The underlying technique that gives fiscal substance to this relationship is the financial plan.

In the formulation of a programme and performance budget, a financial plan reflects the substantive and work goals of the long- and short-range programme plans, identifies the organizations that will conduct the proposed programmes, and outlines the related financial requirements. In budgetary review, these data provide the basis for management decisions on the merits of the respective programme proposals and on the amounts of funds required. When the financial plan is amended to reflect the decisions of the legislature in granting the requested funds, it becomes an operating budget that sets the pattern for carrying out approved programmes. Properly established along fund, organizational, and programme lines, the operating budget provides the responsible officials with a set of objectives that govern operating decisions, and furnishes a basis for financial and performance reporting that enables management, at the various levels of government, to review the progress being made against the approved plan. A financial plan and operating budget of the type discussed here is one of the most important elements of the programme and performance budget. It is the technique that correlates objectives, authorities, responsibilities, and resources — in a way that keeps management at the various levels better informed on budget proposals and performance in the attainment of approved goals, thus providing an improved basis for decision-making throughout the budget process.

An integrated financial management system that incorporates appropriate programming, budgeting, accounting, and reporting practices — including the financial and work planning technique described above — also provides a framework for more effective audit. Besides permitting determinations that the legal requirements have been met in adequate fashion, this system provides the auditor with the opportunity to evaluate how well and how efficiently operating management has carried out its assigned responsibilities. Through the programme and performance budget approach, the auditor is enabled to conduct a systematic review that is directed towards evaluation of organizational performance.

In summary, much of the success of programme and performance budgeting is dependent upon the financial management structure that is developed in relation to the function, programme and activity categories. The use of an integrated budget and accounting system that is based on common classifications is a prerequisite of good management. For effective control of operations, such a system should incorporate a financial planning and reporting process that translates the programme and budget plans into organizational, work, and financial responsibilities, and enables management review and appraisal of the effectiveness of performance.

The accounting approach

Given an appropriate financial management structure, the application of programme and performance budgeting directs attention to the kinds of financial information that will be most useful for management purposes. Experience in industry and in government identifies many practices that can be used under the conditions that exist in individual countries.

Those practices range from a relatively simple cash basis of accounting to a refined accrual basis that produces actual costs per unit of work or programme accomplishment. The various bases of accounting are defined below, and the significance of the differences between them are identified. Programme and performance budgeting can be installed utilizing any of these accounting approaches, as long as the budget and the accounts are maintained as part of an integrated system. Refinements in the kinds of financial data produced by the accounts subsequently can be made to the extent desired on the basis of experience.

The accounting basis

In government, accounting has traditionally been maintained on a cash basis — one that recognizes the availability of resources upon receipt of cash, and the use of such resources at the time that payments (disbursements) are made. In its simplest form, this approach provides a minimum of the kinds of financial information that can be developed. Under this type of system, management and control information is developed in terms of disbursements — or as they are often called — in terms of expenditures. In the British Government, for example, accounting for appropriations ("votes") is on a cash basis.

In many Governments, a desire for strengthened control over the use of funds has led to recognition in the accounts of commitments, or obligations, as well as actual payments. This step is generally taken to identify the point at which the government is actually committed to the future payment of funds. In this obligation type of system, fund control information is usually developed in terms of obligations — to ensure staying within the limits of the appropriated authority; and management data can be developed in terms of obligations or disbursements. The French system includes elements of this approach, which is also utilized by the Philippine Government.

In industry, in government enterprises, and to some extent in government agencies financed by appropriate funds, the accrual basis of accounting is in general use. The latter is true particularly in the United States Government. This type of system may be installed in varying degrees of refinement according to the requirements of the individual installation. In addition to the obligation

and disbursement information developed in the more conventional government accounts, the accrual system provides data in terms of accrued expenditures and costs. In general, an accrual system in a government agency reflects the funds, inventories, and other resources available, the receipt of goods and services, the use of available resources in relation to work performed in a given time period, and the liabilities of the agency. It incorporates monetary property records and establishes financial controls that are consistent with assigned management responsibilities. Thus, the system provides for full disclosure, reflecting not only the availability and status of funds, but also showing all resources on hand and the actual use of such resources.

In considering these various approaches, it should be recognized that combinations of elements of the different systems might be used. For example, general ledger asset and liability accounts, identified above as a normal adjunct of accrual accounting, may also be developed in a cash or an obligation system. However, in those types of systems, the effect of application of the physical assets to programme objectives is not generally reflected — at the time of use — in the programme management data that are produced.

A general idea of the relationship of the different approaches is shown in appendix D, in terms of a simplified set of ledger accounts. Under either of the accounting approaches, fund control in a programme and performance budget would be maintained through the budgetary accounts. In a cash or obligation system, programme control would be exercised through detailed classifications in that same series of accounts. In an accrual system, however programme control would be exercised through the operating cost accounts. The distinction between the systems is in the kind of data provided for management control of programmes, and in the more complete financial disclosure that is required under the accrual system.

The significance of financial data

To determine the most suitable basis of accounting for use in given situations, consideration should be given to the nature of the different kinds of financial data, their relationship, and their significance for the purposes of programme and performance budgeting. Basically, each complete financial transaction has four significant phases. These phases are identified below :

Obligations represent goods and services ordered, without regard to when delivered, paid, or consumed. This is a vital point in procurement and in the control of funds.

Accrued expenditures represent goods and services received, without regard to when ordered, consumed, or paid. This is the point at which liabilities are incurred and inventory and property accounting begins.

Disbursements represent bills paid without regard to when the goods or services were ordered, delivered, or consumed. This phase is significant for determining cash requirements in relation to available receipts.

Costs represent goods and services consumed, without regard to when ordered, delivered, or paid. This is a meaningful point of programme control, since it best reflects the resources used and the financial status of work on the programme.

For the purposes of financial analysis, these phases have significance from the standpoint of the time period within which they occur. This is brought out through the illustration shown in appendix E. From the illustrative timing shown in that appendix, the entire sequence was completed in calendar year 1960. However, assuming that the fiscal year ends in June, the obligation and the accrued expenditure occurred in fiscal year 1960, while the disbursement and the cost took place in the following fiscal year. Under this set of facts, if work performed is measured in terms of obligations, it would be overstated for fiscal year 1960. More accurately, measurement in terms of cost would show that the work was actually performed during fiscal year 1961.

Another difference in the significance of these data is shown in appendix F, which illustrates the treatment of various transactions in accrual accounting. That exhibit brings out the degree of error that would result if a financial measure other than costs was used in relation to the programme and work classifications. For example, if obligations were used to measure performance, the progress made would be overstated by almost half a million dollars (10 per cent). On the other hand, if disbursements were used, the progress would be understated by almost a quarter of a million dollars (5 per cent).

A question to be considered in selecting the basis of accounting to be used centres on the significance of such differences for management purposes. Appendix G, which shows the relationship between the various financial measures, identifies some of the factors that should be considered. For example, the determination of whether costs or obligations are a suitable measure requires an evaluation of the significance of changes that occur in the inventory on hand ("B" in appendix G), and in the amount of goods and services that have been ordered but not yet received ("D" in appendix G). The development of cost information has its greatest value in programmes where large inventory changes are involved, or where there is considerable time lag between the placement of an order and the delivery of the goods and services ordered.

Applicability to various programmes

Among the different kinds of government programmes, the reconciling factors between costs and obligations vary in significance according to the type of programme. In capital outlay and construction activities, which generally are long-term in nature, those factors, can be important. Such programmes usually involve contracts that are obligated in full at the beginning, and call for delivery of goods and services over some period of time. This requires sound financial planning and, at any particular point in time, a financial measure of what has taken place and what is still planned. The determination of costs in such a programme is a prime consideration. Any other financial measure would give an inaccurate picture of the status of work.

Cost data are also appropriate to programmes like those involving the operation of a hospital. In hospitals,

the accrual approach permits the development of accurate unit cost information that is useful for comparisons and for arriving at sound management decisions. Appendix H is an example of a report used by the Veterans Administration in the United States. It is based on an accrual system that produces monthly data on the operation of individual hospitals for use at various management levels. Comparative data are shown for the cost of the operation of the hospital, the personal services involved, the cost per patient day, and the dietetic costs — in total and per ration. Such indicators, provided on a continuous basis, enable more effective management of this kind of facility.

On the other hand, for an administrative agency where the inventory is minor, the time lag between orders and deliveries is small, and personal services might account for as much as 90-95 per cent of the total funds, there may be little management difference between the various kinds of data. Even in such agencies, however, there are some distorting factors that should be considered. For example, if obligations are recorded at the beginning of a year to cover the personal services for the full year, then costs would be the more significant financial measure since they would be recorded at the time the employees actually worked. If the agency is one in which accurate unit costs are needed, the accrual approach — under which the cost of vacation leave can be recognized as it is earned — would be desirable. If those kinds of factors are not present, either one of the accounting approaches identified above may serve adequately the management purposes of that kind of an administrative agency.

Thus, the adoption of programme and performance budgeting and the establishment of an integrated financial management system is not necessarily dependent upon the use of any particular accounting basis. A performance budget can be installed using either the cash, the obligation, or the accrual approach. Regardless of the approach used, management can derive benefits from the appropriate identification of substantive classifications in relation to the accounts and the organizational responsibilities, and through the use of sound financial planning and reporting practices. It should be recognized, however, that the ultimate degree of refinement in accounting for this type of budget is the determination of accurate programme and performance costs. This can add appreciably to the benefits of the system, and has the added value of promoting a cost consciousness in the conduct of government operations.

Selected techniques of financial management

The financial management techniques employed are an important consideration in the application of programme and performance budgeting. In particular, the financing and control practices have a significant effect on the results achieved. The financing structure, for example, is important because it is through that structure that the substantive classifications and the related financial data are presented in the budget in support of fund requests. The control practices, on the other hand, are of significance because they are the medium through which the management benefits of this approach are derived.

The appropriation technique

Generally, government operations are financed through appropriations of spending authority by the legislature. In programme and performance budgeting, an appropriation essentially is a device for making funds available to responsible organizations for the accomplishment of specific programmes. As such, it gives the legislature a control over the scope of programmes, establishes legal accountability, and provides a basis for reporting and auditing on the adequate discharge of that legal and administrative responsibility. Appropriations, therefore, should be in terms of programmes, and should be directly related to the manner in which the agency is organized and controls its operations.

To enable use of the most efficient recording, reporting, and control practices, the number of appropriations to a responsible organization should be kept to a minimum. The multiple financing of organizations should be avoided to the extent practicable, to reduce the problem of distributing financial charges for individual programmes and activities among a number of separate appropriations. Ideally, for maximum flexibility, a major organization unit should be financed through a single appropriation. With such an arrangement, the substantive categories would be identified through the programme and activity classification under that appropriation, and a single accounting system that reflected those categories would provide the necessary management information. Departures from this ideal may be necessary, however, for a variety of reasons. More than one appropriation would be required in cases where separate government funds are involved; where different periods of availability are desired; or where capital outlay, as a matter of practice, is financed separately from operating expenses. In such cases, the supporting accounts would have to establish the identity of each separate appropriation, and would have to segregate the financial transactions attributable to each one.

In installing a programme and performance budget, the existing appropriation pattern should be reviewed to determine its suitability. Action should be taken to eliminate those features of the structure that would impede or otherwise complicate attainment of the programme management objectives of this type of budgeting. The development of a simple pattern for each agency must be accomplished on an individual basis, giving attention to such factors as the programmes of the agency, the types of operations, the financing requirements, and the organization structure used for operational control.

Evidence of the benefits that can be obtained through this approach is provided in the example of the National Park Service, which is part of the Interior Department in the United States. Before the adoption of the performance budget in fiscal year 1951, that agency had nineteen separate financing items. They included:

(*a*) Salaries and expenses;
(*b*) Regional parks;
(*c*) National parks;
(*d*) National monuments, historical and military areas;
(*e*) Recreational areas;
(*f*) Emergency reconstruction and fighting forest fires;

(g) Appomattox Court House; National Historical Monument;
(h) Great Smoky National Park;
(i) Saratoga National Historial Park;
(j) Water rights;
(k) Travel division;
(l) Recreational demonstration areas;
(m) Salaries and expenses, National Capital Parks;
(n) River basin studies;
(o) Acquisition of lands;
(p) Independence National Historical Park;
(q) Parkways;
(r) Roads and trails;
(s) Physical improvements, buildings and utilities.

Subsequently in the course of installation of performance budgeting that structure was reduced to the following four appropriations :

(a) Management and protection;
(b) Maintenance and rehabilitation of physical facilities;
(c) Construction and land acquisition;
(d) General administrative expenses.

As a result of this change, the National Park Service has been in a better position to programme and control its operations because all like items (such as the capital investment programmes) were grouped within a single appropriation. In addition, the national and the regional offices previously were financed from a number of the different appropriations; it was difficult and time consuming to determine the funds available for particular programmes, to identify the monetary value of accomplishments, and to plan work programmes for subsequent years. Through this improved structure, the work planning and control procedures were strengthened, there was more flexibility in the use of funds, and the focus of legislative review was raised to higher programme levels.

Inter-agency transactions

Many times in government, funds appropriated to an agency are augmented by free goods and services provided from sources outside the agency. In other cases, inter-agency agreements result in work performed by one agency for the purposes of another — subject to a reimbursement by the ordering agency. To get an accurate picture of the total work programme of an agency in relation to its available resources, it is necessary that accounts be established in the agencies concerned to reflect such transactions in a meaningful manner, and that the budget plans, presentations, and reports reflect accurately the facts in each case.

For full disclosure of the receipt of free goods and services, estimated values should be recorded in the accounts of the receiving agency to show the augmentation of available resources. The actual use of free goods and services should be recognized in the operating accounts at their estimated value, and reflected as part of the cost of work performed. Reports and budget presentations would include a negative adjustment to enable reconciliation to appropriated funds. Similar action of a reverse nature should be taken in the agency furnishing the resources. Appendix I, an appropriation presentation of the Coast Guard in the United States, illustrates the disclosure of a net receipt of free goods and services in item 9 of the schedule.

That exhibit also shows the Coast Guard's reimbursable programme in this account. In this case also, the monetary value of the work performed for another agency and the expected reimbursement for such services should be identified in the accounts, reports, and budget presentations. The work to be done for the ordering agency should be reflected in the financial and work plan of the performing agency to show the full programme of work contemplated. The additional resources provided by the payment from the ordering agency should be shown as a financing item, along with the amount of the appropriation involved (see appendix I). Since such reimbursements usually provide obligating and spending authority in the same way as the appropriation, the accounting treatment outlined above is provided through the budgetary accounts.

In these types of transactions, the financial management system should record and disclose the full value of the programmes and activities actually carried out by the individual agencies. It is through this approach that the most equitable financial measures of work performed can be developed for review and evaluation purposes.

The revolving fund technique

In addition to appropriations, revolving funds (sometimes called "working capital funds" or "reimbursable funds") are often used to finance certain types of programmes and operations. Such funds usually require legislative authority to retain and to use the receipts generated by the operations financed. The fund may be based on working capital originally provided through an appropriation, but thereafter it is generally expected to operate through the use of earned receipts. This technique is useful for application to operations that are similar to the activities of government enterprises but do not have all of the characteristics necessary to warrant such identification. In addition, it can be selectively applied to specific operations of individual agencies in a manner that will provide the operating officials in such agencies with many of the management benefits of accrual accounting.

For example, revolving funds are useful for strengthened control and management of inventories or service equipment. In such cases, the supplies or equipment on hand may be used to establish the working capital of the fund. As receipts are received from stock issues or from the rental of equipment, they are used to replenish the supply level or to operate and replace the equipment as needed. In an inventory operation, this approach generally enables more efficient management of stock and maintenance of economic supply levels; in an equipment operation, it usually enables more efficient operation and better maintenance of the service level needed for the programmes utilizing these services. These kinds of applications can be particularly useful in obtaining the benefits of accrual accounting in an agency that conducts programmes which otherwise consist primarily of personal services. The revolving fund serves to isolate items that may be

difficult to charge to individual programmes at the time they are obtained. By procuring such items through the revolving fund, they can be charged to the programme served at the time of use — a primary objective of performance budgeting.

Appendix J shows the budget presentation for a revolving fund of the type described above as reflected in the United States budget. This exhibit covers the Service and Supply Fund of the Public Health Service in the Department of Health, Education, and Welfare. Generally speaking, the schedules are of a business-type nature, showing for the actual year the receipts earned, how the funds were used, and the effect on budget expenditures; the profit and loss position by kind of activity; a balance sheet for the fund; and the uniform classification of costs by object. Projections are furnished in the schedules for the current and budget years. This approach has the benefit of putting the inventory management and service operations on a business-like basis which, in turn, permits more effective review and analysis of the results of operations in important areas of assigned responsibility.

A similar kind of application is useful for central administrative service operations that may provide personnel, payroll, and other types of services to constituent organizations. If the central service operation, including staffing, supplies, equipment etc., is financed through a revolving fund, charges for the services rendered to constituent organizations will replenish the working capital, and will establish the cost of the services for the recipient organizations.

This approach is also particularly appropriate for programmes that involve a manufacturing operation. Illustrations of such applications in the United States are the Bureau of Engraving and Printing in the Treasury Department, which manufactures currency, stamps, and other evidences of a financial character, and the Government Printing Office, which does the printing for the United States Congress, some printing for executive agencies, and sells government publications. In both of those applications, accrual accounting is used for efficient management and to determine prices that will permit continued operation.

Another variation of a revolving fund application is one in which use of the receipts of the fund is subject to appropriation by the legislature. In the United States, for example, revenue from the Post Office operations is placed in a Postal Fund. That Fund is available for use by the Post Office only in accordance with limitations (appropriations) that are enacted by the legislature. The accrual approach is used in this application, to provide business-type statements for the Postal Fund, and to assist in establishing rates for the postal services. In the British Post Office, different yet similar techniques are followed. Cash receipts of the Post Office go into the Exchequer, and an appropriation is made to finance the expenses of the Post Office. The accounting for the appropriation is on a cash basis, but the Post Office also maintains "commercial" accounts (the accrual approach), which are used for management of the business and to determine the rates to be charged for services.

In these kinds of situations, regardless of variations, the accurate determination of costs within a given time period, including depreciation, inventory use, etc., is of primary importance. This better serves management needs, and provides a basic factor for use in establishing the prices to be charged to the customers of the fund. Like in government enterprises, accrual accounting is most appropriate for the revolving fund type of financing, since it enables the development of balance sheets and other business-type statements that permit thorough analysis of the programme involved.

Fund control techniques

In government agencies, a primary objective of financial management is to control operations within available funds. This is necessitated by the legal limitations in the appropriation acts of the legislature. Unlike private industry, where credit and financing arrangements permit the conduct of operations in accordance with more flexible financial targets, a government agency has to operate within strictly identified financial boundaries in so far as funds are concerned. This is attested to be the fact that one of the foremost interests of the government auditor is the legality of agency expenditures.

The need for fund control exists under any type of budgeting system. In programme and performance budgeting, regardless of whether the accounts are maintained on a cash, an obligation, or an accrual basis, budgetary fund control accounts are needed for compliance with legal restrictions. Such control accounts may be operated in a variety of ways. The choice of methods depends on such factors as the kinds of programmes and their financing, the financial management concepts employed, the capabilities of the personnel, and the degree of flexibility that reasonably may be granted to operating management.

Within the limits of available funds, sound management calls for allocating the total amount into segments that identify the time period within which they may be used. The intent of this break-down is to spread the use of the appropriation by months, quarters, or other time period, so that its objectives may be attained without additional financing. Beyond that, there may be need for allocations into smaller segments that have operational significance under the country's budget system. This secondary breakdown may be in terms of programmes, activities, organizations, types of procurement, or some combination thereof. Finally, budgetary control reports are needed to enable periodic review of the use of funds in relation to the approved allocations.

Programme and operating control techniques

In programme and performance budgeting, an appropriation by the legislature also serves as a control over the scope and cost of performance of executive programmes. The financial management system employed by the executive, therefore, should produce meaningful data to enable effective control along these lines. The operating control methods, directed towards the attainment of approved programme goals at a minimum cost, are equal in importance to those used for fund control.

To satisfy adequately those operating management needs requires determinations of the kinds of financial and work information that would be most useful for

control of individual programmes. Regardless of the accounting approach employed, the financial and work measures incorporated in the system must be oriented to the pattern of assigned responsibilities and the kinds of decisions to be made. There is no "right" measure for all activities, and neither the operating nor the financial personnel should consider the establishment of the necessary measures as their exclusive province. The selection of suitable measures in each agency should be a team effort that includes representatives of both the operating and the financial management areas as parties of mutual interest. This kind of a team effort is indispensable for effective results since operating management, in the decision-making process, must use and interpret the data that are produced by the system. Without effective management use, the most precise and technically correct system has little value.

Determinations will also be needed on the degree of refinement desired in the system. Those determinations must take into account such factors as the stage of development of the existing management system, the capabilities of the personnel, the programme and operational control needs to be met, and the administrative problems involved in making the proposed changes. Properly tied into the programme, activity, and organization structure, an integrated financial management system that is correlated with meaningful work measures can produce data of significance for operating control. Decisions will be required, however, on the degree to which detailed refinements will be sought in each of the types of measures employed.

The considerations involved in the selection of appropriate physical measures of programme and work are discussed in chapter IV. On the financial side, the use of obligations, accrued expenditures, disbursements, or actual costs as a measure cannot be considered as mutually exclusive approaches. The value of obligations as a fund control device, of accrued expenditures as a measure of resources on hand, of disbursements as an indicator of cash needs, and of costs as a programme measure have been noted. Each has its place and usefulness, and should be employed for the purposes it serves. Their respective values should be considered in relation to the management needs at the various levels of each country's government. Final determinations should be made, however, in the knowledge that the development of all of these several kinds of data in appropriate relationships will provide full disclosure of financial affairs, and will promote more efficient operations.

To illustrate the manner in which fund and operational controls are exercised in existing performance budget applications, there is furnished in appendix K an outline of the control techniques in the Philippine and United States systems. That review of those two applications demonstrates the principles and concepts discussed above.

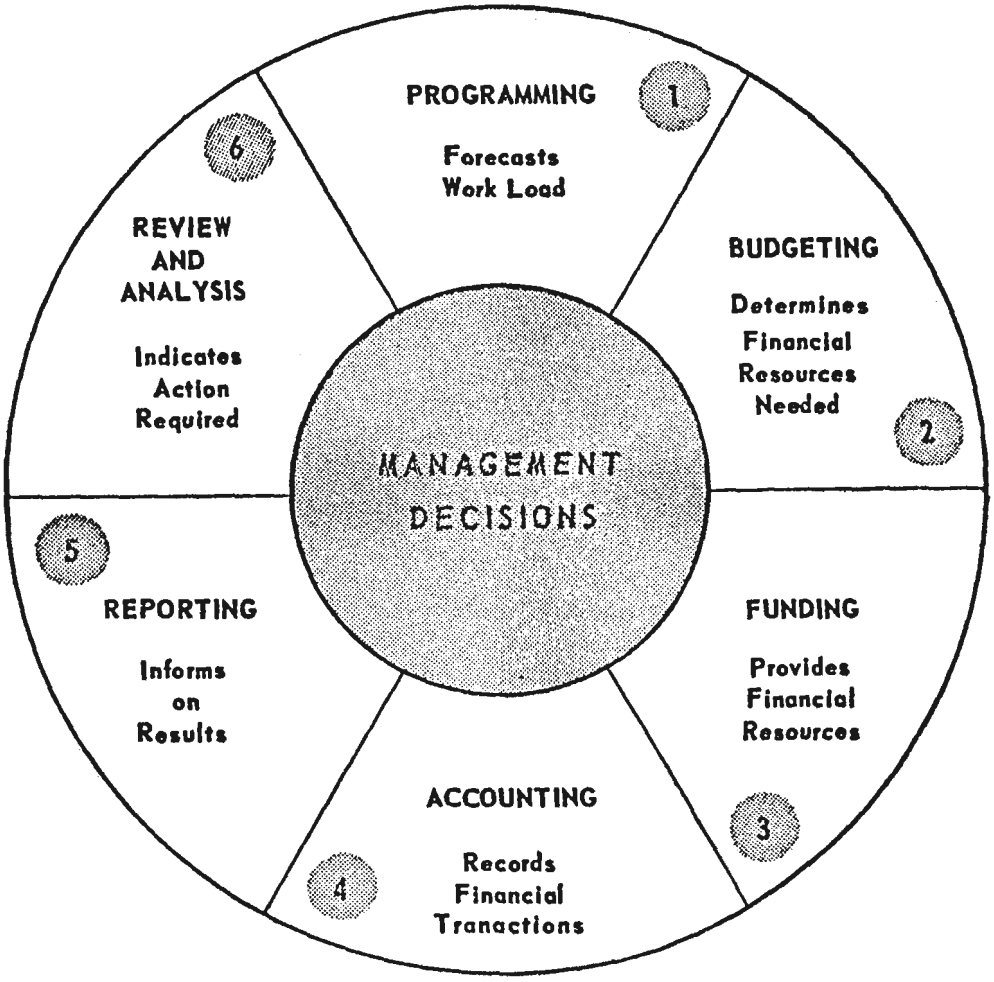
Conclusions

This chapter has been directed toward explaining and identifying the ways in which financial management can be exercised under programme and performance budgeting. The illustrations and various appendices demonstrate that the basic objectives of that type of budgeting can be attained in a variety of ways. In each of the cases discussed in appendix K, separate elements of the system have been chosen for further refinement; e.g., the emphasis on providing performance ratios in the Philippine system, and the emphasis on developing actual cost data in the United States system. In these countries, regardless of the different emphases, benefits have been derived in the better management of growing programme operations.

These applications also demonstrate that programme and performance budgeting can be applied even though different financial measures are used in relation to programme and work accomplishments. While it is clear that the accounting approach in use has a bearing on the accuracy of the financial measures, there has been sufficient experience in these different applications to bring out the relative advantages of programme and performance budgeting over previous practices. In both the Philippine and United States Governments, there is now a more informed basis for management decisions in the development and approval of programme proposals, and in the control of execution of approved programmes. This, in turn, promotes more effective and economical attainment of programme objectives in relation to long-range social and economic goals.

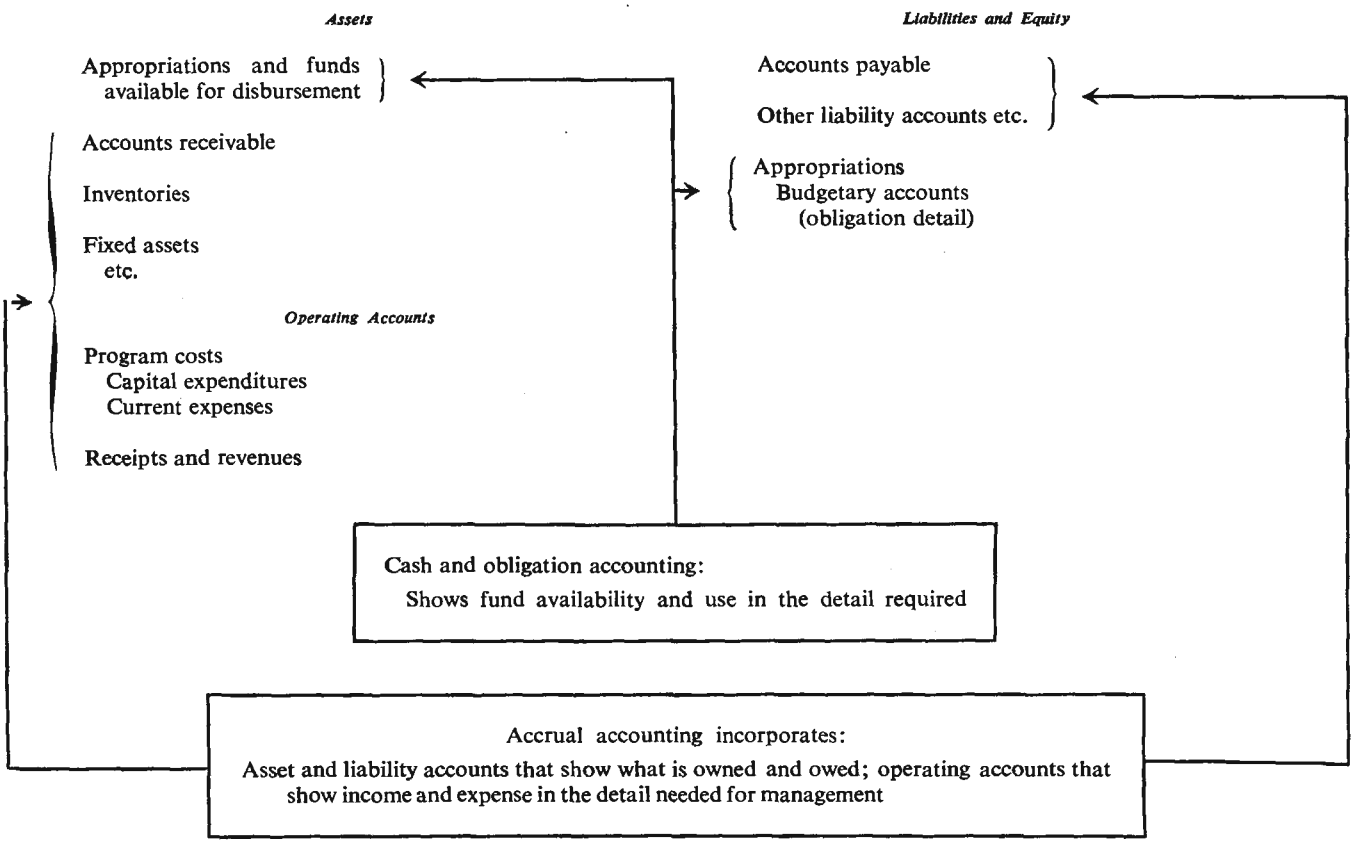
Appendix C

THE FINANCIAL MANAGEMENT CYCLE



Appendix D

THE ACCOUNTING SYSTEM AS A WHOLE



Appendix E

RECORDING A TRANSACTION ON THE ACCRUAL BASIS

(with illustrative timing)

Phases of a transaction	*Recorded in the time period in which*			
	Ordered	*Received*	*Paid*	*Used*
Placing an order for goods and services . . .	As an obligation (in March 1960)			
Receipt of the goods and services ordered . .		As an accrued expenditure (in June 1960)		
Payment made			As a disbursement (in July 1960)	
Goods and services applied or consumed . .				As a cost of work performed (in Dec. 1960)

Appendix F

TREATMENT OF VARIOUS TRANSACTIONS IN ACCRUAL ACCOUNTING

THE DIFFERENCE BETWEEN ACCRUED COSTS, ACCRUED EXPENDITURES, OBLIGATIONS AND DISBURSEMENTS MAY BE OBSERVED BY CONSIDERING THE EFFECT OF THE FOLLOWING TYPICAL TRANSACTIONS

TRANSACTION	ACCRUED COSTS		INVENTORY OF CONSUMABLE MATERIALS	INVENTORY OF CAPITAL EQUIPMENT	DISBURSEMENTS	UNDELIVERED ORDERS	LIABILITIES AND RESERVES			OBLIGATION INCURRED	ACCRUED EXPENDITURES
	CURRENT EXPENSES	CAPITAL EXPENDITURES					ACCOUNTS PAYABLE	RESERVE FOR DEPRECIATION	RESERVE FOR LEAVE		
BEGINNING BALANCES	$-	$-	$50,000	$500,000	$-	$25,000	$50,000	$200,000	$100,000	$-	$-
(1) AGENCY PLACES ORDERS AND CONTRACTS FOR:											
PERSONAL AND CONTRACTUAL SERVICES						5,000,000				5,000,000	
CONSUMABLE MATERIALS						400,000				400,000	
CAPITAL EQUIPMENT						300,000				300,000	
(2) AGENCY RECEIVES:											
PERSONAL SERVICES	4,800,000					4,800,000(-)	4,800,000				4,800,000
CONSUMABLE MATERIALS			300,000			300,000(-)	300,000				300,000
CAPITAL EQUIPMENT		200,000				200,000(-)	200,000				200,000
CONTRACTUAL SERVICES FOR INSTALLING EQUIPMENT		25,000				25,000(-)	25,000				25,000
(3) AGENCY USES CONSUMABLE MATERIALS	100,000	25,000	125,000(-)								
(4) EMPLOYEES EARN MORE LEAVE THAN THEY TAKE	25,000								25,000		
(5) DEPRECIATION IS CHARGED FOR USE OF EQUIPMENT	50,000							50,000			
(6) AGENCY PAYS FOR PART OF PERSONAL SERVICES, ETC.					5,000,000		5,000,000(-)				
SUBTOTAL	4,975,000	250,000	225,000	500,000	5,000,000	400,000	375,000	250,000	125,000	5,700,000	5,325,000
DEDUCT BEGINNING BALANCES	-	-	50,000	500,000	-	25,000	50,000	200,000	100,000	-	-
CHANGE FOR YEAR	4,975,000	250,000	175,000	-0-	5,000,000	375,000	325,000	50,000	25,000	5,700,000	5,325,000

ACCRUED COSTS —

CURRENT EXPENSES	$4,975,000
CAPITAL EXPENDITURES	250,000
TOTAL	5,225,000

DISBURSEMENTS $5,000,000

OR

$225,000 LESS THAN ACCRUED COSTS

OBLIGATIONS $5,700,000

OR

$475,000 MORE THAN ACCRUED COSTS

ACCRUED EXPENDITURES .. $5,325,000

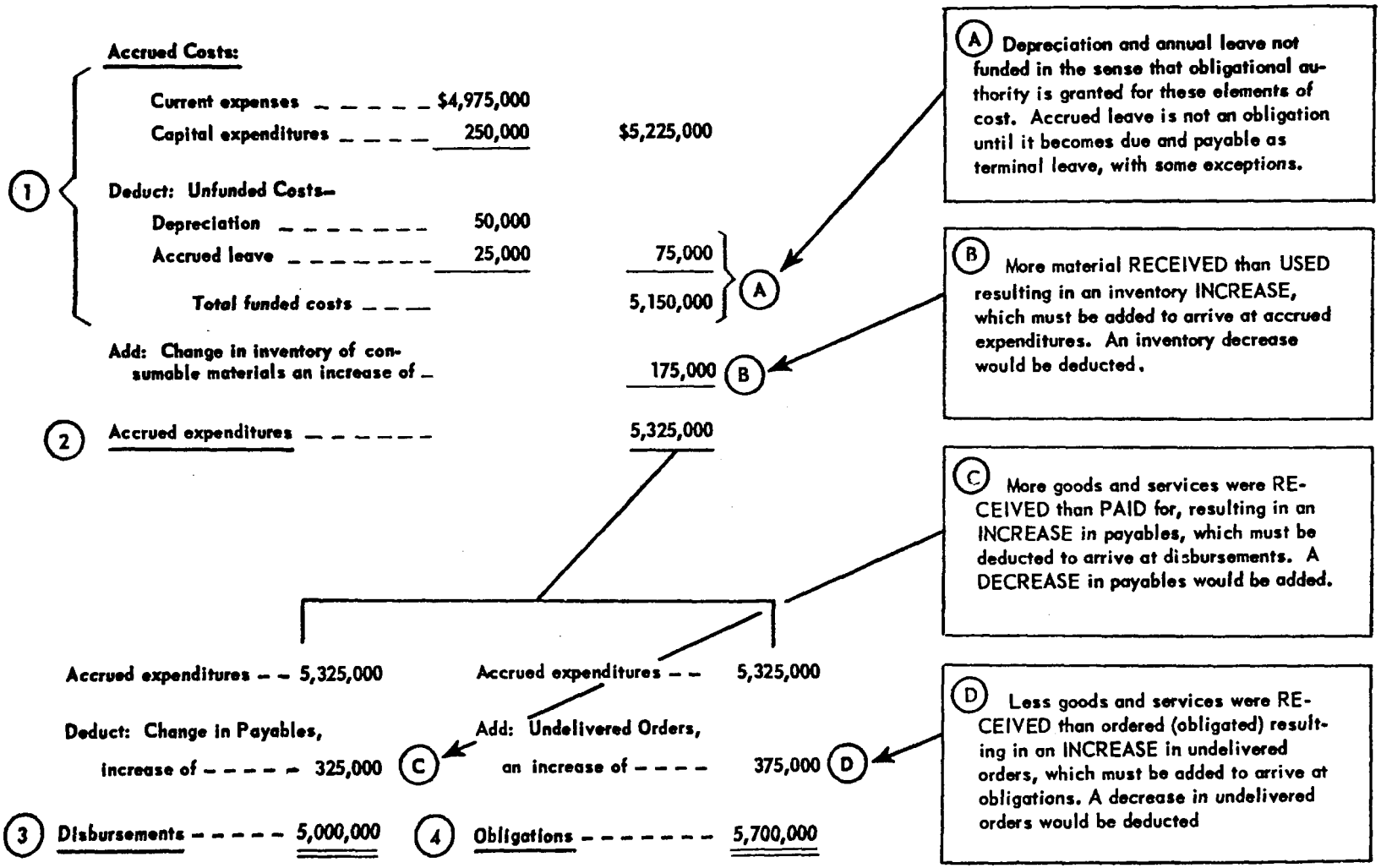
OR

$100,000 MORE THAN ACCRUED COSTS

Appendix G

SIGNIFICANCE OF VARIOUS ACCOUNTING CATEGORIES FOR MANAGEMENT

The relationship between (1) ACCRUED COSTS, (2) ACCRUED EXPENDITURES, (3) DISBURSEMENTS, and (4) OBLIGATIONS is further illustrated by the following, using the same facts set forth in the preceding tabulation:



COST ACCOUNTING AND BUDGETARY REPORT

REPORTS CONTROL SYMBOL 10-129: 3345157

TO: Department of Medicine & Surgery
Veterans Administration
Central Office
Washington 25, D.C.
ATTN: Office of Controller
Dir., Audit & Acctg. Service

STATION NUMBER AND LOCATION: Veterans Administration Hospital #5209 Fort Wayne, Indiana

DATE REPORT PREPARED: January 12, 1960

CUMULATIVE REPORT FOR PERIOD JULY 1, 1959 THROUGH December 31, 1959

PART I -- HOSPITAL-DOMICILIARY ACTIVITY

SECTION I

MRAS NO.	LINE NO.	DESCRIPTION	SYMBOL (A)	CUMULATIVE NET INPATIENT (MEMBER) OPERATING COST (B)	CUMULATIVE NET COST PER INPATIENT (MEMBER) DAY (C)	CUMULATIVE NET BUDGETED PERSONAL SERVICE COST (D)	CUMULATIVE NET AVERAGE F.T. EQUIV. EMPLOYMENT (E)
1	1	OFFICE OF MANAGER	8 43 1.10	18,514	.542	18,229	4.0
1	2	REGISTRAR DIVISION	8 43 1.20	54,067	1.637	48,980	21.6
1	3	FISCAL DIVISION	8 43 1.30	17,181	.536	16,892	5.8
3	8	PROFESSIONAL MED. SERV.	8 43 2.20	95,038	2.954	84,965	13.3
3	9	ANCILLARY MEDICAL SERV.	8 43 2.30	67,168	2.173	44,666	13.7
4	16	CARE OF PATIENTS (MEMBERS)	8 2.00	427,392	13.461	390,110	122.1
5	17	DIETETIC SERVICE	8 3.00	105,292	3.386	72,278	34.1
0	21	TOTAL INPATIENT (MEMBER) COST	843 1.43 7	803,703	25.013	691,900	245.2
7	22	OTHER HOSPITAL (DOMICILIARY) COST	8 43 8.00	1,900			
8	23	OPERATION OF HOSPITAL (DOM.)	8 43 0.00	805,603		691,900	245.2

SECTION II

MRAS NO.	LINE NO.	DIETETIC COSTS	TOTAL COSTS		COST PER RATION	
			CUMULATIVE (A)	CURRENT MONTH (B)	CUMULATIVE (C)	CURRENT MONTH (D)
1	24	TOTAL	114,468	19,521	3.383	3,363
2	25	PROVISIONS	36,304	5,866	1.073	1.010
2	26	SALARIES	72,831	12,790	2.153	2.204
2	27	OTHER	5,333	865	.157	.149

SECTION III

MRAS	LINE	DESCRIPTION	(A)	NUMBER (B)
3	28	TOTAL RATIONS		33,827 C27

Appendix I

CURRENT AUTHORIZATIONS—COAST GUARD

Operating expenses

PROGRAM AND FINANCING

(In thousands of dollars)

	1960 actual	*1961 estimate*	*1962 estimate*
Program by activities:			
Direct program:			
1. Vessel operations	50,975	53,241	54,444
2. Aviation operations	22,700	26,145	26,628
3. Shore stations and aids operations	53,300	57,447	62,528
4. Repair and supply facilities	4,750	5,077	4,493
5. Training and recruiting facilities	7,300	7,747	8,026
6. Administration and operational control	25,860	27,988	28,090
7. Other military personnel expense	20,490	22,833	21,304
8. Supporting programs	6,402	7,622	9,253
TOTAL, direct program costs	191,777	208,100	214,766
9. Unfunded adjustment to total direct program costs: Property or services transferred in (—) without charge, net	— 10,653	— 5,241	— 4,679
TOTAL, direct program costs, funded	181,124	202,859	210,087
10. Relation of costs to obligations: Obligations incurred for costs of other years, net	8,113	2,591	2,413
TOTAL, direct obligations	189,237	205,450	212,500
Reimbursable program:			
11. Operation of ocean stations (Navy)	16,885	16,980	16,980
12. Miscellaneous services to other accounts	11,966	16,719	17,120
TOTAL, reimbursable program costs	28,851	33,699	34,100
13. Relation of costs to obligations: Costs financed from obligations of other years, net (—)	— 434	.....	.....
TOTAL, reimbursable obligations	28,417	33,699	34,100
TOTAL, obligations	217,654	239,149	246,600
Financing:			
Advances and reimbursements from—			
Other accounts	— 28,209	— 33,499	— 33,900
Non-Federal sources (40 U.S.C. 481(c))	— 207	— 200	— 200
Unobligated balance lapsing	562	.....	.....
NEW OBLIGATIONAL AUTHORITY	189,800	205,450	212,500

Appendix J

REVOLVING FUND BUDGET PRESENTATION

UNITED STATES DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE—Continued

Intragovernmental funds—Continued

Service and Supply Fund

This fund finances the providing of certain supplies, services, and equipment to programs of the Service. It is reimbursed from the appropriations supporting the programs benefited (42 U.S.C. 231).

Budget program.—The principal operations under the fund are carried out at (a) the medical supply depot at Perry Point, Md., which maintains stocks of drugs and other medical supplies to meet in part the requirements of the Service and requisitions of other Government organizations; and (b) the activity at the National Institutes of Health which maintains a central supply of scientific and general-use materials, supplies, and special equipment and also provides services such as animal production, statistical processing, and instrumentation for the laboratories and offices at Bethesda, Md.

Operating results.—Retained earnings amounted to $128 thousand as of June 30, 1960, and are being retained in the fund against the possibility of future losses.

Sources and Application of Funds (Operations) (in thousands of dollars)

	1960 actual	1961 estimate	1962 estimate
Gross expenditures (funds applied):			
Supply depot activities:			
Acquisition of equipment	14	23	2
Expense:			
Purchase of commodities for sale	2,558	2,567	2,630
Other expense	280	303	302
Adjustment of prior revenue	13		
Increase in selected working capital		48	7
Total, supply depot activities	2,865	2,941	2,941
National Institutes of Health activities:			
Acquisition of equipment	9	23	14
Expense:			
Purchase of commodities for sale	2,137	2,016	2,091
Other expense	869	2,276	2,276
Increase in selected working capital		135	
Total, National Institutes of Health activities	3,015	4,450	4,381
Total gross expenditures	5,880	7,391	7,322
Receipts from operations (funds provided):			
Supply depot activities:			
Revenue	2,781	2,941	2,941
Decrease in selected working capital	125		
Total, supply depot activities	2,906	2,941	2,941
National Institutes of Health activities:			
Revenue	2,876	4,381	4,381
Decrease in selected working capital	114		
Total, National Institutes of Health activities	2,990	4,381	4,381
Total receipts from operations	5,896	7,322	7,322
Budget expenditures	−16	69	

Revenue, Expense, and Retained Earnings (in thousands of dollars)

Supply depot activities:			
Revenue	2,781	2,941	2,941
Expense	2,789	2,941	2,941
Net operating loss (−), supply depot activities	−8		
National Institutes of Health activities:			
Revenue	2,876	4,381	4,381
Expense	2,874	4,381	4,381
Net operating income, National Institutes of Health activities	2		
Nonoperating loss (−): Writeoff of equipment	−1		
Net loss (−) for the year	−7		
Analysis of retained earnings:			
Retained earnings, beginning of year	148	128	128
Adjustment of prior year revenue	−13		
Retained earnings, end of year	128	128	128

Financial Condition (in thousands of dollars)

Assets:			
Cash with Treasury	698	629	629
Accounts receivable, net	176	339	346
Commodities for sale	1,635	1,497	1,497
Supplies inventory	5	5	5
Equipment, net	139	163	156
Total assets	2,653	2,633	2,633
Liabilities:			
Current	526	506	506
Government investment:			
Non-interest-bearing capital:			
Start of year	1,997	1,999	1,999
Donated equipment during year	2		
End of year	1,999	1,999	1,999
Retained earnings	128	128	128
Total Government investment	2,127	2,127	2,127

Object Classification (in thousands of dollars)

11	Personnel compensation:			
	Permanent positions	757	1,578	1,583
	Positions other than permanent	1	7	7
	Other personnel compensation	29	89	83
	Total personnel compensation	787	1,674	1,673
12	Personnel benefits	54	126	126
21	Travel and transportation of persons	3	5	5
22	Transportation of things	41	20	20
23	Rent, communications, and utilities	19	367	367
24	Printing and reproduction	144	140	140
25	Other services	508	550	550
26	Supplies and materials	4,145	4,123	4,262
31	Equipment	170	206	175
	Subtotal	5,871	7,211	7,318
	Deduct quarters and subsistence charges	4	3	3
	Net change in supplies inventory	2		
	Total accrued expenditures—costs	5,869	7,208	7,315
	Net change in unpaid undelivered orders	72		
	Total obligations	5,941	7,208	7,315

Personnel Summary

Total number of permanent positions	186	318	318
Full-time equivalent of other positions		1	1
Average number of all employees	177	307	308
Number of employees at end of year	164	312	312
Average GS grade	3.5	6.8	6.8
Average GS salary	$3,994	$5,894	$5,894
Average salary of ungraded positions	$4,379	$4,115	$4,115

Appendix K

AN OUTLINE OF CONTROL TECHNIQUES IN PROGRAMME AND PERFORMANCE BUDGETING

Philippine Government

In the Philippine application of programme and performance budgeting, a selected number of the agencies receive appropriations on a programme basis, while others continue to receive appropriations on a line-item basis. However, even those agencies that receive their appropriations on a line-item basis prepare and execute their budgets on a programme and performance basis. The operations of the agencies that receive programme appropriations are controlled in the manner described below.

Fund control. Under its programme and performance budget, the Philippine Government employs a system that is based on central fund control along organization, programme, and object lines. Under the law, the system is administered by the Commissioner of the Budget, who allots funds to each agency in accordance with the planned levels of work under an appropriation. The allotments are made on a quarterly basis, by programme and project, and in three major objects—personal services, maintenance and other operating expenses, and equipment. The Budget Commissioner can withhold allotments when the income proves to be lower than budgeted, or when the funds are not needed by the agency. In addition, he can approve transfers between projects and modifications of work plans when desirable.

The quarterly allotments control the release of funds for each agency's use, based on its financial and work plan for the year. When the Budget Commissioner issues an advice of allotment, the receiving agency draws a treasury warrant and transfers the funds to an account it maintains in a commercial bank. The cash balance of such an account consists of current allotments plus the carry-overs of unspent allotments received in prior years. Agency withdrawals from its commercial bank account represent agency disbursements. Unspent allotments at the end of a period generally are considered to represent accounts payable.

Budget Commission control of fund use by an agency is exercised in terms of obligations. The allotments received in an agency are broken down to the three broad object classifications identified above, but the agency head has discretion to transfer funds among these categories when justified and to the extent permitted by law. Within the allotment limits, the agencies establish such suballotments as are considered necessary for operational purposes. Agency officials are responsible for employing a system of internal control over the use of obligations and the accomplishment of planned work. Monthly reports are required to provide data that permit comparison of plans and actual results. Combined, these allotting and reporting techniques are designed to prevent deficits and waste, to provide management flexibility, and to promote efficiency and effectiveness.

Programme and operating control. A major feature of the operational control system in the Philippine Government is the financial planning process, which is based on long-range plans that reflect economic and social development needs. Those long-range plans project what the Government intends to accomplish over a number of years, and give rough estimates of fiscal requirements. This provides the framework for programme and policy decisions that lead to the establishment of budgetary programmes, organizational responsibilities, and administrative policies. The annual budget plans identify the nature and amount of work to be done, the work schedule, the production and quality standards, and the resources required. For fiscal year 1961, for example, the financial and work plan in the budget was developed within the context of a "Five-Year Fiscal Plan."

With the centrally prescribed fund control structure as a base, each Philippine agency develops its detailed financial and work plan, which establishes the accounting and reporting pattern used for control purposes. Thus, the allotments are directly related to the work plan. Generally, the agency suballotments follow the pattern of programme responsibility. This results in a breakdown by projects and subprojects, and allocation of funds to the responsible organization units. Where necessary to meet the demand, supporting distribution or analysis accounts are used, to produce desired financial data as a by-product of the allotment accounting process. On that basis, the agency head establishes an internal pattern for control of organization performance against the work plan.

The accounting approach in the Philippine Government produces obligation data as the primary financial measure for use of agency management. Obligations are recorded in the budgetary accounts, in the detail required by the subaccount structure established by the individual agencies. When an obligation is incurred, the funds are considered to have been expended. Through these practices, financial data are related to organizations, programmes, and work in the same terms as they were set up in the budget, thus permitting an evaluation of obligation and work performance against the approved budget.

The disbursements of an agency, representing cash withdrawals from the agency's commercial bank account, are not related to organizational units, programmes, and work. Similarly, the development of cost information in such terms is not prescribed, nor are such data requested in centrally required reports. Within the budgetary system, however, recognition is given to the possibility of developing actual cost information — to the degree considered desirable by agency management.

Each agency submits an annual estimate of its monthly income, and monthly reports on income received — which permit analysis of the deviations, and necessary adjustments of the allotments. Monthly reports of operations are also prepared to show for each project the work and obligation levels achieved and any deviations from plans. Those data reflect the work units accomplished in relation to obligation data and manpower used. Analysis of these operational reports supply information for remedial action by management. On the basis of those agency submissions, national income and operational reports are developed monthly to bring out government-wide results and the performance of departments, bureaus, and offices. The national operational report shows income and obligations related to the work plan, and identifies the percentage of work accomplished and the degree to which planned rates of production are being achieved. In addition, a summary report is prepared monthly, on the condition of income, appropriations, obligations, and cash for the General Fund.

Within this over-all reporting structure, each agency develops internal reports, in the detail required for its own purposes. Provision is made for comparative reports at the levels of the departments.

bureaus, and agency control centres, following the principles incorporated in the centrally prescribed reports. Through this planning, accounting, and reporting process, the Philippine application of programme and performance budgeting provides the various levels of government with related data on programmes, work accomplishments, manpower utilization, and financial results.

A brief but illustrative picture of the Philippine programme and performance budget practice is provided in exhibit 1. The subject covered by that exhibit is the Cadastral Surveys project of the Bureau of Lands in the Department of Agriculture and Natural Resources. It consists of four parts, as follows :

Part A presents the estimate for the project as it is shown in the budget. This bring out the amount of the obligation request, together with data on actual and planned work units, production rates, manpower, the cost per unit in obligation terms, and a supporting explanatory narrative.

Part B is the agency request for allotment of funds, showing the obligation authority requested under each fund for the project, in terms of the three prescribed object classifications. It also shows the time phasing for use of funds, supported by the work units and manpower provided for in the work plan.

Part C reflects the Budget Commission's allotment advice, which sets forth the financing plan approved for the project in the first quarter.

Part D is the agency's report of actual results — in terms of obligations, work, and manpower. The relationship to the plan of work and financing is not shown on this report since that is brought out at the end of each quarter.

Appendix K, Exhibit 1, Part A

BUDGET ESTIMATE FOR CADASTRAL SURVEYS PROJECT, PHILIPPINES

Project 2. Cadastral Surveys

	1958 actual	*1959 estimate*	*1960 estimate*
	(P)	(P)	(P)
Total obligations	2,512,588	1,344,834	1,776,322

Cadastral Surveys are surveys made for all holders, possessors or occupants of land inside municipalities or cities to clear titles of ownership by registration as contemplated by the Cadastral Law (Act 2259). Cadastral Surveys are executed when authorized by the President of the Philippines and when public interest requires that titles to the land be settled and adjudicated.

The Director of Lands represented by the Solicitor General, institutes registration proceedings so that ownership to such lands as are occupied, held or possessed by claimants may be settled and adjudicated.

Cadastral Surveys follow the extent of the possession of the holder, possessor, or occupant. The boundaries of each lot are irregular. Hence, they are more costly than ordinary public land surveys and subdivision.

Personnel work measurement

Unit of work measurement	*Fiscal year*	*Units of backlog beginning of year*	*Total work units on hand during the year*	*Total work units accomplished or estimated*	*Rate of production per man — year*	*Man-years*		*Cost per unit of work*
						Total	*Direct operations*	
								P
Lots surveyed by administration	1958	.....	5,520	5,520	38	146	146	42.82
	1959	.....	11,532	11,532	55	208	208	34.73
	1960	.....	14,722	14,722	64	231	231	34.73
Lots surveyed by contract	1958	.....	43,289	43,289	4,328	10	10	34.73
	1959	.....	27,190	27,190	2,719	10	10	34.73
	1960	.....	24,906	24,906	2,491	10	10	34.73
Lots surveyed by photogrammetry . . .	1958	.....	.....	.....	.....	.....	.....	.....
	1959	.....	.....	.....	.....	.....	.....	.....
	1960	.....	23,259	23,259	176	132	132	17.00
Total man-years	1958	.....	.....	.....	.....	156	156	.....
	1959	.....	.....	.....	.....	218	218	.....
	1960	.....	.....	.....	.....	373	373	.....

Cadastral Surveys by administration

In 1958, 5,520 lots were surveyed by Bureau personnel at an expenditure of P236,395 or at a unit cost of P42.82. For current year 1959, 11,532 lots are expected to be surveyed at an estimated expenditure of P400,500 or at unit cost of P34.73 and for budget year 1960, at the same unit cost, 14,722 lots will be surveyed at a cost of P511,322.

Cadastral Surveys by contract

In 1958, 43,289 lots were actually surveyed by contract with private surveyors at an expenditure of P2,276,193. With an estimated obligation of P944,334, it is expected that only 27,190 lots will be surveyed in 1959 and in 1960, with an estimated expenditure of P865,000, 24,906 lots are anticipated to be surveyed.

Cadastral Survey by aerial photogrammetry

This is a new method of land survey by aerial photogrammetry. For FY 1960, the amount of P400,000 is proposed to be spent for this work to yield 23,250 lots to be surveyed at a unit cost of P17.00.

Appendix K, Exhibit 1, Part B

CADASTRAL SURVEYS PROJECT, PLAN OF WORK AND REQUEST FOR ALLOTMENT, PHILIPPINES

SAMPLE 1

BUDGET FORM 121 (Revised ....., 19.....)

FOR FISCAL YEAR 19xx.60

Department: Agriculture and Natural Resources *Code:* 08

Bureau or Office: Bureau of Lands *Code:* 16

Program I - LAND SURVEYS Cadastral Surveys *Code:* 1

Republic Act No.: 5000

Original Request	X
Request for Change in Financial Plan	☐
Request for Change in Work Plan	☐

DESCRIPTION	Project Code 02 : Cadastral Surveys : X Project plan completed in this section. ☒ Project plan continued in next section.				Project Code 02 : Cadastral Surveys : ☐ Project plan completed in this section. ☒ Project plan continued in next section.				Project Code 02 : Cadastral Surveys : ☐ Project plan completed in this section. ☒ Project plan continued in next section.			
	Fund: Total All Funds, Special Fund Code: 28				Fund: General Fund Code: 01				Fund: Cad. Surv. Fund, Act 3077 Code: 12			
FINANCIAL PLAN	Appropriation Total	Allocation of Appropriation: Personal Services Code (1)	Maintenance and Other Operating Expenses Code (2)	Equipment Code (3)	Appropriation Total	Allocation of Appropriation: Personal Services Code (1)	Maintenance and Other Operating Expenses Code (2)	Equipment Code (3)	Appropriation Total	Allocation of Appropriation: Personal Services Code (1)	Maintenance and Other Operating Expenses Code (2)	Equipment Code (3)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Appropriated Amounts	₱ 1,762,822	₱ 711,536,000	₱ 1,019,284,000	₱ 32,000,000	₱ 1,334,300	₱ 322,016	₱ 982,284	₱ 30,000	₱ 428,522	₱ 389,522	₱ 37,000	₱ 2,000
Deduct: Reserves and Unprogrammed *	181,430	31,430,000	150,000	-	153,000*	3,000	150,000	-	28,430	28,430	-	-
	₱ 1,581,392	₱ 680,106,000	₱ 869,284	₱ 32,000	₱ 1,181,300	₱ 319,016	₱ 832,284	₱ 30,000	₱ 400,092	₱ 361,092	₱ 37,000	₱ 2,000
	₱440,000	₱290,000	₱100,000	₱50,000								
Allotments Requested:												
First Quarter	₱ 961,220	₱ 170,027,500	₱ 763,096,000	₱ 32,000,000	₱ 863,600	₱ 79,754	₱ 753,846	₱ 30,000	₱ 101,523	₱ 90,273	₱ 9,250	₱ 2,000
Second Quarter	205,224,200	170,027,500	35,196,700	25,000	105,900	79,754	26,146	-	99,523	90,273	9,250	-
Third Quarter	205,224,200	170,027,500	35,196,700	-	105,900	79,754	26,146	-	99,523	90,273	9,250	-
Fourth Quarter	205,224,200	170,027,500	35,196,700	-	105,900	79,754	26,146	-	99,523	90,273	9,250	-
TOTAL ALLOTMENTS	₱ 1,581,392	₱ 680,106,000	₱ 869,284,000	₱ 32,000,000	₱ 1,181,300	₱ 319,016	₱ 832,284	₱ 30,000	₱ 400,092	₱ 361,092	₱ 37,000	₱ 2,000

WORK PLAN	Unit 1: No. of Rates surveyed by Adm.	Unit 2: No. of lots surveyed by contract	Unit 3: No. of lots surveyed by Aerial Photogrammetry	Unit 1:	Unit 2:	Unit 3:	Unit 1:	Unit 2:	Unit 3:
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
Budgetary Units of Work Measurement:									
First Quarter	3,680 12,500	6,226	6,406						
Second Quarter	3,680 12,500	6,226	6,012						
Third Quarter	3,681 12,500	6,227	6,111						
Fourth Quarter	3,681 12,500	6,227	4,730						
TOTAL UNITS	14,722 50,000	24,906	23,259						
Manpower Utilization:									
First Quarter —(Man-quarters)	231 450	10	132						
Second Quarter—(Man-quarters)	231 450	10	132						
Third Quarter —(Man-quarters)	231 450	10	132						
Fourth Quarter—(Man-quarters)	231 450	10	132						
TOTAL MAN-YEARS {Divide Man-qtrs. by 4.}	231 450	10	132						

(SGD.) ZOILO CASTRILLO
Director of Lands

SUBMITTED BY: Juan de la Cruz
Director of Bureau or Chief of Office

Date: July 30, 1959

* Show separate entries for Reserves and Unprogrammed Amounts, indicating the latter by an asterisk (*).

₱ 3,000 original 5% reserve
150,000 additional 5% reserve
₱ 153,000* Total reserve

For Budget Commission Use:

Approval Covered by Advices of Allotment (Budget Form 122)

Nos. ....., ..., ..., ...

The reduction in workload will be effected due to the 5% additional reserve on the following unit of measurement: a) 736 lots surveyed by Adm.
b) 1,245 " " " Contract
c) 1,163 " " " Aerial Photogrammetry

APPROVED: (SGD.) F. SY-CHANGCO
Deputy Commissioner of the Budget

RECOMMENDED: .....
Budget Commissioner

Date: October 6, 1959

Appendix K, Exhibit 1, Part C

CADASTRAL SURVEYS PROJECT, ADVICE OF ALLOTMENT, PHILIPPINES

REPUBLIC OF THE PHILIPPINES

BUDGET COMMISSION

Cadastral Surveys' Project - **ADVICE OF ALLOTMENT**

ADVICE NO. 1

PAGE 1 OF 4

FOR PERIOD ENDING Sept. 30, 1959

THE FOLLOWING ALLOTMENTS OF LEGISLATIVE APPROPRIATIONS HAVE BEEN MADE AVAILABLE FOR EXPENDITURE. IT IS THE PRIMARY RESPONSIBILITY OF THE BUREAU OR AGENCY CONCERNED TO KEEP EXPENDITURES WITHIN THE LIMITS OF THE AMOUNTS ALLOTTED. NO PURCHASE REQUISITIONS, PAYROLLS, OR EXPENSE VOUCHERS WHICH WILL RESULT IN THE OVEREXPENDITURE OF ANY ALLOTMENT WILL BE APPROVED.

AGENCY DEPT.	AGENCY BUREAU	REP. ACT NO.	PROGRAM	PROJECT	FUND	EXP. CLASS	APPROPRIATION	RESERVE	PREVIOUS ALLOTMENT	CURRENT ALLOTMENT	TOTAL ALLOTMENTS	BALANCE OF APPROPRIATION
08	16	BUREAU OF LANDS										
08	16	2300	1	01	01	1	2,928,180.00			732,045.00	732,045.00	2,196,135.00
08	16	2300	1	01	01	2	2,326,140.00	409,510.00		1,454,450.00	1,454,450.00	462,180.00
08	16	2300	1	01	01	3	48,700.00			48,700.00	48,700.00	
							5,303,020.00	409,510.00		2,235,195.00	2,235,195.00	2,658,315.00
08	16	2300	1	01	11	1	400,524.00			100,131.00	100,131.00	300,393.00
08	16	2300	1	01	11	2	212,300.00	34,000.00		44,575.00	44,575.00	133,725.00
08	16	2300	1	01	11	3	6,300.00			6,300.00	6,300.00	
							619,124.00	34,000.00		151,006.00	151,006.00	434,118.00
							5,922,144.00	443,510.00		2,386,201.00	2,386,201.00	3,092,433.00
08	16	2300	1	02	01	1	322,016.00	3,000.00		79,754.00	79,754.00	239,262.00
08	16	2300	1	02	01	2	982,284.00			903,846.00	903,846.00	78,438.00
08	16	2300	1	02	01	3	30,000.00			30,000.00	30,000.00	
							1,334,300.00	3,000.00		1,013,600.00	1,013,600.00	317,700.00
08	16	2300	1	02	12	1	389,522.00	28,430.00		90,273.00	90,273.00	270,819.00
08	16	2300	1	02	12	2	37,000.00			9,250.00	9,250.00	27,750.00
08	16	2300	1	02	12	3	2,000.00			2,000.00	2,000.00	
							428,522.00	28,430.00		101,523.00	101,523.00	298,569.00
							1,762,822.00	31,430.00		1,115,123.00	1,115,123.00	616,269.00
08	16	2300	1	03	01	1	818,000.00	8,360.00		202,410.00	202,410.00	607,230.00
08	16	2300	1	03	01	2	498,000.00	45,000.00		230,250.00	230,250.00	222,750.00
08	16	2300	1	03	01	3	35,000.00			35,000.00	35,000.00	
							1,351,000.00	53,360.00		467,660.00	467,660.00	829,980.00
08	16	2300	1	03	11	1	139,279.00			34,820.00	34,820.00	104,459.00
							139,279.00			34,820.00	34,820.00	104,459.00
08	16	2300	1	03	12	1	64,117.00			16,030.00	16,030.00	48,087.00
							64,117.00			16,030.00	16,030.00	48,087.00
							1,554,396.00	53,360.00		518,510.00	518,510.00	982,526.00

DOMINADOR R. AYTONA
Commissioner of the Budget
By:

A TRUE COPY
Fdb

APPROVED: (SGD) FERNANDO DIZON
Chief, Budget Operations Service

DATE: 6/30/59

Appendix K, Exhibit 1, Part D

CADASTRAL SURVEYS PROJECT, REPORT OF OPERATIONS, PHILIPPINES

REPORT OF OPERATIONS

FOR THE MONTH OF AUGUST, 1959

Department: Agriculture and Natural Resources *Code:* 08

Bureau or Office: BUREAU OF LANDS *Code:* 16

Republic Act No. 2300

PROGRAM: I - LAND SURVEYES

CODE: 1

Project Title—Unit of Measurement	Acct. No.	Fund Code	Expense Class. Code	Obligations Incurred: Current Month Actual	Obligations Incurred: Year to Date Actual	Obligations Incurred: Year to Date * Deviation From Goal		Work Performed: Current Month Actual	Work Performed: Year to Date Actual	Work Performed: Year to Date * Deviation From Goal		Manpower Used: Current Month Actual Man-Months	Manpower Used: Year to Date Actual Man-Months	Manpower Used: Year to Date * Deviation From Goal	
						Amount	%			Amount	%			Amount	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Project 02: Cadastral Surveyes	02		1	₱ 7,639.20	₱ 80,448.05										
	02		2	2,442.40	5,803.63										
Unit of Work Measurement: TOTAL Lots surveyed	02		3	760.00	805.00										
			TOTAL	10,841.60	₱ 87,056.68			7,347	13,420			233	456		
Project 02: Continued	02	01	1	₱ 736.00	₱ 10,771.70										
	02	01	2	2,442.40	5,803.63										
Unit of Work Measurement:	02	01	3	760.00	805.00										
			TOTAL	3,938.00	₱ 17,380.33										
Project 02:	02	12	1	6,903.20	69,676.35										
	02	12	2	-	-										
Unit of Work Measurement:	02	12	3	-	-										
			TOTAL	₱ 6,903.20	₱ 69,767.35										
Project 02: Continued			1												
			2												
Unit of Work Measurement: Lots surveyed by Adm.			3												
			TOTAL					441	750						
Project 02: Continued			1												
			2												
Unit of Work Measurement: Lots surveyed by Contract			3												
			TOTAL					6,906	12,670						
Project 02: Continued			1												
			2												
Unit of Work Measurement: Lots surveyed by Aerial Photo			3												
			TOTAL					-	-						

* Columns (7), (8), (11), (12), (15), and (16) are to be completed quarterly only—September, December, March and June reports.
Shaded areas are not to be used.

OBLIGATIONS CERTIFIED CORRECT:

(SGD.) DELFIN MAMBOYO
Accounting Officer

DATE: September 28, 1959

SUBMITTED: ZOILO CASTRILLO
Director of Bureau or Chief of Office

By: (SGD.) ISAGANI F. SABINIANO
Budget Officer

DATE: September 28, 1959

United States Government

In the United States application, all agencies have adopted the programme and performance budget approach. The operations of each agency are controlled through use of the following techniques.

Fund control. In the United States system, the number and type of allotments are determined by the operating agencies, within the limits of centrally approved apportionments. By law, the Budget Director approves the apportionment of appropriated funds, which is done on the basis of the agencies' financial plans. Those apportionments are made by months, quarters, or other time periods — usually for the appropriation as a whole; or they may be made for a year by programmes, activities, or objects, or by a combination of those categories. Such limitations are designed to prevent the use of funds beyond appropriation limits, and to achieve the most effective and economical operation. The Budget Director may also establish reserves to provide for contingencies or to effect savings where possible, and can adjust apportionments as required. Funds are released for agency use upon approval of the agency apportionment plan. The head of each agency is required by law to prescribe a system of administrative control, subject to the approval of the Budget Director, that will restrict the use of funds to the apportionment limits and enable the fixing of responsibility for violations of established limitations. Under that system the agency head prescribes the allotment structure best suited to his fund control needs. However, in order to have a simplified system, the law directs each agency to establish allotments at the highest practicable level, and to work toward the objective of financing an operating unit from not more than one allotment from each appropriation financing that unit.

The allotment pattern in each agency, therefore, varies according to its own needs, but must conform to the apportionments of the Budget Director. Generally, most allotments are on a quarterly basis, but they may be made in terms of various categories, i.e., programmes, organization, types of procurement etc. Emphasis is placed on broad allotments — for example, in small agencies there may be but a single allotment; in larger agencies, single allotments may be made for the national office and for each field operating unit. This provides management flexibility, since the operating manager can shift available funds between objects, subsidiary organizations, etc., as the need may arise. With such flexibility, however, goes a responsibility for ensuring adherence to established limits, since violations of allotments and apportionments are subject to penalties in the law, and are required to be reported to the President and the Congress.

Each agency submits reports — generally on a monthly basis — that reflect the actual use of funds in relation to established limitations and the financial plan. This combined apportionment and allotment system provides the type of fund control considered most appropriate to the individual agency. At the same time, it furnishes maximum flexibility to operating management in the interests of obtaining the most effective and efficient use of available funds.

Programme and operating control. The United States operational control system also is based on long-range plans that are related to the annual budget plans of the agencies. The concepts of common classifications, financial plans that incorporate measures of programmes and work, and reports of actual against planned results are also provided for in the system. Generally, there is a basic similarity with Philippine practices in the structural aspects of the two systems. There are, however, at least two important differences in approach that should be highlighted.

First, the United States system does not require programme and work measures to be presented in terms of cost or manpower per unit in the same detail and to the extent required in the Philippine system. However, the need for substantive measures is stressed, and the development of cost and manpower ratios is urged upon agency management wherever such a measurement system is significant as a management tool, and the value to management justifies the costs of maintaining the system. Thus, recognition is given to the fact that not all programmes and work are as readily susceptible to a unit cost application. Work and programme measures of some type are used in all agencies, but they range from the presentation of broad programme measures in relation to total costs under an appropriation, to situations where costs are related to detailed units of work. In contrast with the Philippine application, top management use of ratios of costs or manpower to specific programme and work units is not as generally and uniformly required.

On the other hand, the United States has stressed the refinement of financial measures. Recognizing that obligations are not the most accurate measure of programme status and accomplishments, the United States is developing accrual and cost information in all agencies. Under the law and the related principles and standards, agency accounting systems are to produce accrual and cost information on a practicable basis, to the extent required by internal management — subject to the minimum requirement that such data be available by programme and organization unit on a monthly basis. This allows for a flexible application according to the kinds of programmes conducted by individual agencies, and also provides the accrual and cost data desired for central reporting purposes.

The system also incorporates certain concepts concerning management use of obligation and cost data. As previously noted, the law establishes the objective of exercising fund control through broad allotments. This came about because of difficulties previously experienced in obligation accounting for expanding operations, when the budgetary accounts became increasingly more detailed and complex (in terms of sub and sub-suballotments) in attempts to meet the operating needs of management. To avoid those kinds of difficulties, the governing principles now emphasize the establishment of broad allotments on an obligation basis in the budgetary accounts, which are to be used exclusively for fund control; and a co-ordinated series of operating accounts that develop more detailed information — in terms of costs — which is to be used for programme and operational control purposes.

The basic premise of this approach is that both obligation and cost data can be developed in co-ordinate fashion in an integrated system; and that this can be done so that each will serve the management purpose for which it is most appropriate. Under that approach, when goods and services are ordered, the obligation is recorded against the allotment to the procuring organization. At this point, fund control is established, but there is no need as yet for identifying the programme that will use those resources. The latter can sometimes be difficult as, for example, in the case of supplies that commonly may be used in several activities or programmes. When resources on hand are actually used, their value is recorded in the operating accounts as a cost of the programme to which they are applied. At this point there is a measure of actual performance — goods or services used — and there is no problem in identifying the charge with a specific programme. In contrast with the obligation approach, this eliminates the need for recording obligations in the more detailed classifications that are used for programme control.

To ensure that operating management does not take actions that will cause an overexpenditure of funds within a given time period, the programme managers are given cost targets in terms of programmes. Unlike the strict limitations imposed by obligation allotments, those cost targets establish financial goals that permit minor deviations as may be required for the most efficient management. Both the broad obligation allotments and the more detailed cost targets are identified in the agency financial plan, providing

the basis for reporting actual against planned results in both areas. Thus, operating management has more flexibility, with no sacrifice of fund control.

Besides providing for better identification of programme costs, this approach also minimizes the difficulties of utilizing appropriated funds to the fullest extent possible. In a detailed obligation system, the use of numerous allotment and suballotment accounts inevitably increases the total amount of funds that must be held as a safety factor against overexpenditure — because of the margin required for that purpose in each account. With broad fund controls and fewer balances to be maintained, the total size of that safety factor is reduced.

On the other hand, the interest of the programme manager under an obligation system in using all funds still available near the end of a fiscal year is de-emphasized. Under the accrual approach, his interest is directed toward the completion of work planned for the period within the established cost targets. The problem of full use of cash and obligations is shifted from the programme manager to the procurement official. In this shift, there is established in the procurement official the fund control responsibility, and in the programme manager the responsibility for operational control. At the same time, there is developed in the programme manager a cost consciousness that can contribute to more economical operations.

The United States system does not establish as uniform a structure in each operating agency as does the Philippine system. Nevertheless, the United States practice can be illustrated by the example of the Atomic Energy Commission, an independent agency that was in the forefront in developing the accrual approach now generally being applied. That illustration is brought out in exhibit 2, which consists of five parts:

Part A presents a schedule for the Commission's appropriation for operating expenses that is similar to the one shown in the annual budget estimates. This brings out the accrued costs by programme, reconciled in total to obligation requirements. In the budget document, such a schedule is supported by an explanatory narrative that identifies programme objectives.

Part B is the agency approved financial plan for its New York office. It brings out the current, proposed, and approved plan, in terms of the budget programmes; and shows the cost targets by programme, the adjustments to total planned obligations, and the total obligation allotment. The latter reflects the allotment approved by the head of the agency.

Part C is the agency approved financial plan for the breakdown of the physical research programme in the New York office (which is included in the total plan shown in part B). This shows the planned costs by programme component, which is the basis for operational control. Operating officials may revise these cost plans within the programme as necessary for the most efficient management.

Part D is the agency approved plan of timing for the physical research programme in the New York office, showing the planned distribution of costs throughout the year. This provides the basis for monthly performance reporting.

Part E is an illustration of a monthly report on operations against the approved plan for all programmes at the New York office, showing actual results against the plan in terms of cost by programme, total obligations, and reconciling items. This type of report is supported by interpretative comments, and by more detailed unit cost reports where such unit costs are developed. Together, this information provides the basis for such corrective action by management as may be required.

Appendix K, Exhibit 2, Part A

SUMMARY OF OPERATING COSTS BY PROGRAM RECONCILED TO NET OBLIGATIONS

	Actual FY 1959	*Estimate FY 1960*	*Estimate FY 1961*
	$	$	$
Accrued costs by program:			
Raw materials	705,512,144	728,646,000	630,000,000
Special nuclear materials	541,303,455	563,000,000	567,700,000
Weapons	484,879,166	498,100,000	504,000,000
Reactor development	347,057,273	389,800,000	436,200,000
Physical research	114,645,885	143,344,000	163,200,000
Biology and medicine	42,007,757	49,000,000	54,200,000
Training, education and information	13,033,893	13,500,000	14,200,000
Civilian applications of isotopes and nuclear explosives	5,762,397	11,000,000	11,500,000
Community	16,509,601	14,632,000	10,204,000
Program direction and administration	49,412,165	52,000,000	54,900,000
Security investigations	6,995,176	6,097,000	5,862,000
Other costs	5,559,672	5,800,000	6,500,000
Adjustement to prior-year costs	— 3,483,142	—0—	—0—
TOTAL, accrued program costs	2,329,195,442	2,474,919,000	2,458,466,000
Changes in selected resources	18,265,361	54,058,420	28,434,000
TOTAL, obligations for operating expenses	2,347,460,803	2,528,977,420	2,486,900,000
Less revenues applied	28,079,323	26,850,000	22,600,000
Net obligations (financed by appropriated funds)	2,319,381,480	2,502,127,420	2,464,300,000

Appendix K, Exhibit 2, Part B

FINANCIAL PLAN — APPROPRIATION: OPERATING EXPENSES, UNITED STATES ATOMIC ENERGY COMMISSION

OPERATIONS OFFICE OR HEADQUARTERS DIVISION: New York Operations Office				FISCAL YEAR: 1960
ITEM (1)	CURRENT PLAN (2)	INCREASE OR DECREASE (—) (3)	PROPOSED PLAN (4)	APPROVED PLAN (For use by Assistant Controller for Budgets) (5)
1. PROGRAM COSTS INCURRED:				
A. Raw materials		+ 10,000	10,000	10,000
B. Special nuclear materials	1,879,000	— 20,000	1,859,000	1,859,000
C. Weapons				
D. Reactor development	18,675,000	+ 2,018,000	20,693,000	20,693,000
E. Physical research	31,969,000	+ 8,999,000	40,968,000	40,968,000
F. Biology and medicine	10,156,000	+ 249,000	10,405,000	10,405,000
G. Training, education, and information	320,000	+ 2,000	322,000	352,000
H. Isotope development	345,000	—0—	345,000	345,000
I. Civilian applications of nuclear explosives				
J. Community operations				
K. Program direction and administration	2,177,000	— 47,000	2,130,000	2,130,000
L. Security investigations				
M. Other costs	365,000	—0—	365,000	365,000
N. Total program costs	65,886,000	11,211,000	77,097,000	77,127,000
O. Less: Revenues	410,000	57,000	467,000	467,000
P. Net program costs	65,476,000	11,154,000	76,630,000	76,660,000
2. Increase or decrease in unapplied resources	— 2,520,000	— 7,895,851	— 10,415,851	— 16,874,629
3. Appropriation reimbursement				
4. Reconciling transfers between AEC Offices	— 736,150	— 497,738	— 1,223,888	— 183,888
5. Transfer appropriation				
6. Planned obligations	62,219,850	2,760,411	64,980,261	59,601,483
7. Less: Amount not allotted				1,400,000 [a]
8. Obligational authority allotted	62,219,850	2,760,411	64,980,261	58,201,483

REMARKS:

[a] AEC reserve for Army Compact Reactor (GSO).

RECOMMENDED BY DIVISION DIRECTOR OR DESIGNEE		APPROVED BY ASSISTANT CONTROLLER FOR BUDGETS	
SIGNATURE:	DATE:	SIGNATURE:	FINANCIAL PLAN NUMBER: 2
/s/ Pollock	9/1/59	/s/ F. J. McCarthy	DATE: Sep. 1 1959

Appendix K, Exhibit 2, Part C

ESTIMATE OF COSTS INCURRED BY CATEGORY AND ACTIVITY, UNITED STATES ATOMIC ENERGY COMMISSION

Appropriation: Operating expenses

Operations Office or Headquarters Division:		Program:	Fiscal Year:	Financial Plan No.:
New York Operations Office		5000	1960	
Budget and reporting classification no.	Current plan	Increase or decrease (—)	Proposed plan	Approved plan (For use by assistant Controller for Budgets)
(1)	(2)	(3)	(4)	(5)
5200 Physics				
BNL	7,000,000	+ 1,470,000	8,470,000	8,470,000
NYU	1,100,000	+ 400,000	1,500,000	1,500,000
PPA	450,000	+ 32,000	482,000	482,000
CEA	1,100,000	+ 93,000	1,193,000	1,193,000
Total 5200	9,650,000	+ 1,995,000	11,645,000	11,645,000
5300 Chemistry				
BNL	2,800,000	+ 233,000	3,033,000	3,033,000
5400 Metallurgy				
BNL	1,120,000	+ 135,000	1,255,000	1,255,000
Sylvania	60,000	—0—	60,000	60,000
Total 5400	1,180,000	135,000	1,315,000	1,315,000
5500 Sherwood Princeton	13,279,000	+ 6,085,000	19,364,000	19,364,000
5900 Equipment				
BNL	2,900,000	+ 490,000	3,390,000	3,390,000
NYU	15,000	— 15,000	—0—	—0—
PPA	1,445,000	— 700,000	745,000	745,000
CEA	700,000	—0—	700,000	700,000
Sylvania	—0—	+ 3,000	3,000	3,000
Sherwood	—0—	+ 773,000	773,000	773,000
Total 5900	5,060,000	+ 551,000	5,611,000	5,611,000
Program total	31,969,000	+ 8,999,000	40,968,000	40,968,000

Appendix K, Exhibit 2, Part D

MONTHLY DISTRIBUTION OF OPERATING COSTS INCURRED, UNITED STATES ATOMIC ENERGY COMMISSION

Appropriation: Operating expenses (in thousands)

Operations Office or Headquarters Division:	Program:	Fiscal Year:	Fianancial Plan No.:
New York Operations Office	5000	1960	2

Budget and Reporting Classification No.	Current Year Costs	First Quarter			Second Quarter			Third Quarter			Fourth Quarter		
		July	August	September	October	November	December	January	February	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5210	5,539			316	384	346	416	439	442	572	594	640	720
5220	2,315			218	190	200	195	180	180	200	190	190	210
5240	2,021			88	99	94	124	115	112	132	130	143	153
5260	1,770			156	155	150	160	155	150	160	155	160	180
5310	468			44	40	35	40	40	35	40	40	45	50
5330	2,450			184	190	180	215	200	185	215	225	235	250
5360	115			10	10	10	10	10	5	10	10	10	10
5420	1,085			93	92	86	95	90	85	95	90	90	100
5430	230			9	20	15	25	20	15	25	15	20	25
5510	629			54	52	52	52	53	53	54	54	54	55
5521	14,697			1,885	1,818	1,557	1,488	1,239	1,081	921	823	710	685
5522	460			—0—	—0—	—0—	—0—	—0—	—0—	—0—	100	150	210
5523	3,578			271	300	290	290	290	280	290	290	290	290
Sub-Total	35,357			3,328	3,350	3,015	3,110	2,831	2,623	2,714	2,716	2,737	2,938
5900	5,611			150	251	348	426	497	568	636	536	682	1,329
Totals	40,968			3,478	3,601	3,363	3,536	3,328	3,191	3,350	3,252	3,419	4,267

Recommended: Manager of Operations or Designee *(Signature)*	Date:	Approved: Program Division Director or Designee *(Signature)*	Date:
Joseph L. Smith Assistant Manager for Administration	10/7/59	W. E. Hughes	10/22/59

Appendix K, Exhibit 2, Part E

OPERATIONS - FUND, UNITED STATES ATOMIC ENERGY COMMISSION

Part I. Operations - Fund (in thousands)

Description	*Classification number*	*Current month*	*Year to date*	*Financial plan*	
				Underrun (overrun)	*Fiscal year 1960*
Raw materials	1000	1	6	0	10
Special nuclear materials	2000	43	467	232	1,859
Reactor development	4000	1,881	13,472	(1,563)	20,693
Physical research	5000	2,469	20,286	6,394	40,968
Biology & medicine	6000	819	6,649	60	10,405
Program direction	8000	177	1,402	(6)	2,130
Isotopes development	8600	22	231	(36)	345
Training, education and information.	8700	36	314	(105)	352
Other costs	8900	144	892	(755)	365
TOTAL, operating costs		5,592	43,719	4,221	77,127
Revenues	10400		(1,547)		(467)
Net costs			42,172		76,660
Change in selected resources			3,211		(17,059)
AEC payments			45,383		
Change in unpaid obligations			(6,753)		
Obligations incurred			38,630		59,601

Chapter IV

MEASUREMENT OF PHYSICAL PERFORMANCE

The use of the programme and performance budget contemplates the measurement of work performance in a manner that will help to strengthen the decision-making process at the various levels of management in government. The primary objectives are to obtain physical measures of work effort and results, and to establish pertinent relationships with the use of resources, so as to provide data that will help in developing and presenting budget proposals, assigning personnel and allocating funds to responsible organizations for the conduct of approved plans, and reviewing progress in the attainment of policy objectives and programme and work goals. Such measures are of assistance also in the replanning and reprogramming that is needed to accommodate programme changes and unexpected developments; in comparing the performance of similar types of operations; and in evaluating the relative efficiency of individual organizations, practices, and procedures.

In its ultimate application, programme and performance budgeting employs physical measures and ratios reflecting resource utilization in all operating organizations in which the approach is feasible and the cost of obtaining the desired data does not exceed the benefits to management. At the beginning of such an application, however, minimum measures of work in significant programme areas may be sufficient to meet immediate needs. Action later can be taken on the basis of experience to develop additional measures and ratios, and to refine existing measurement practices so as to better serve budget requirements and performance analysis needs. In any event, the possible adoption of programme and performance budgeting in individual countries should not be abandoned because of the lack of existing data on physical measures. Such measures can be developed and refined after steps have been taken toward the objectives outlined in chapters II and III — the establishment of suitable programme classifications for the government budget, and the related adjustment of the financial management system to provide appropriate financial data and techniques for budget formulation, presentation, and execution.

Approaches to physical measurement

The preceding chapters indicate that under programme and performance budgeting, government agencies satisfy the purposes for which they are established by carrying out programmes that produce end products or services to the general public. Programmes, in turn, are accomplished by carrying out activities and tasks which represent the work that needs to be performed to produce the end products and services. These end products, services, and work accomplishments represent the outputs of an agency and its constituent organizations — which contribute to the attainment of the goals and objectives implicit in the purposes of the agency.

The outputs of an agency are produced by the application of resources available to the organization, e.g. the labour, purchased materials, supplies, and services. Collectively, these resources represent the inputs of the agency.

By establishing a relationship between outputs and inputs at the programme level, where physical outputs generally represent end products or services to the public, it is possible to establish what may be termed productivity ratios. For the purpose of developing such ratios, outputs may be related to one, several, or all inputs. They might, for example, be related to the cost of all resources utilized; or, in cases where manpower is of most significance, they might be related only to a measure of employment (e.g., man-years or the labour costs involved in production of the output). In a single-programme agency, a ratio of this type would reflect the total productivity of the organization. In a multi-programme agency, the productivity experience under each programme would need to be combined in an appropriate way to obtain the total productivity of the organization. Such total indicators of productivity are useful particularly at the higher levels of management — for observing the trend of over-all performance in an agency, for comparison with the productivity results in other agencies, and for relating the productivity experience in government to productivity data in the private sector.

The establishment of output-input relationships at lower levels, where physical outputs reflect the accomplishment of work or tasks, produce what may be termed performance ratios. In combination with data on the costs of all resources used in carrying out the work, a physical output measure can be used to develop unit cost information. If the input data are limited to the staff time utilized (man-hours, man-days etc.), the relationship between the input and output measures is commonly referred to as a work measurement ratio. In a total system of measuring physical progress and performance, the work measurement and unit cost practices should be developed within the framework of the productivity measures at the programme and agency levels so that the effects on agency productivity of changes in work performance ratios can be determined. Work measurement and unit cost data are of value primarily at the operating

and succeeding supervisory levels in government, where their use in making management decisions can contribute to the more efficient accomplishment of responsibilities at those levels. These kinds of data assist particularly in the preparation and detailed justification of budget proposals, the review of performance against plans, and the detailed management of programme operations.

The measurement of productivity and work is alike in that both permit developing a relationship of outputs to the use of resources — the inputs. Productivity ratios provide over-all information on trends, and highlight, for top management attention, broad categories of resource usage. On the other hand, detailed trend analyses and the data required for day-to-day management are made available by performance ratios that are produced through work measurement or unit cost systems. Thus, while productivity and performance ratios may differ in the level at which they are used, they complement each other to provide a base for broad, long-term evaluations of the use of resources as well as more specific evaluations of efficiency in the practices and procedures employed in day-to-day operations.

Beyond these approaches to management, output-input relationships that centre on the effect of work performed are also being used to assist higher levels of management in making decisions on alternative courses of action. For this purpose, a relationship is established between the ultimate benefits gained by a particular programme and the cost of all resources used for that programme, in order to assess the economic benefits and make analyses that permit comparison with other possible courses of action. This process has a variety of names, such as cost-benefit analysis, cost effectiveness analysis, feasibility studies, cost-utility analysis, systems analysis, and others. Regardless of what it is called, the objective of this process is to develop comprehensive analyses for each of two or more competing programmes, projects etc., to permit a comparison that will show which of the competing alternatives will provide the greatest economic return.

Developments in the United States

In the United States, a centrally-directed research study was recently undertaken to determine the feasibility of developing over-all measures of performance in several government agencies. The results of that study were published in 1964 under the title, *Measuring Productivity of Federal Government Organizations.*[11] That publication shows that the objective was attained in four of the five organizations in which the attempt was made; it describes the methodology followed in defining and measuring outputs and inputs, provides the substantive findings in each case, furnishes information on uses and limitations, and outlines the experience gained in the course of the study. Included in the introduction of the report is a reference to the differences between various physical measures, as set forth below :

"It is important to point out that measurement of output [productivity] is different in nature and in objectives from work measurement on the one hand and from measurement of social benefits or the impact of programs on the other. In measuring the output [productivity] of an agency the objective is to obtain an indication of the quantity of service it produced. That quantity is measured by the number of service units rendered by the agency to outside users. The service units should be defined to reflect the agency mission at a level sufficiently high so that a change in their number should have a major impact on the accomplishment of program objectives. In measuring an agency's productivity its total service output is related to the total input of resources. In contrast, work measurement as typically praticed is concerned with the relation between the production of intermediate products and the input of some part of direct manpower. Thus, for example, a work measurement system in the Post Office Department may be concerned with the efficiency of the various steps in handling mail and other services (properly combined) produced by the Department to the input of all manpower including clerks, collection and delivery personnel, administrative workers, etc., and perhaps also of other resources such as purchased transportation, floor space, etc. Measurement of social benefit, on the other hand, represents attempts to place values on the outputs of the agency in order to facilitate choices among program alternatives." [12]

Each of the measures referred to above is employed in various agency applications of the programme and performance budget in the United States. The several physical measures and ratios are used in varying degrees in different organizations. In those agencies that are applying these techniques, the different measures are selected for use and developed in the manner that is most feasible and best calculated to show the plans and performance of the individual agencies. Measures of workload, for example, are used throughout most agencies for developing requirements and reporting on accomplishments. For the same purposes, and to better identify performance, there is growing use of work measurement and unit cost systems that relate the use of resources to accomplishments. Such systems produce data of value for laying out work plans, developing and justifying budget requests, and checking actual results against plans. Measures of social benefit, involving such techniques as feasibility studies or cost-benefit comparisons, are employed primarily in such areas as long-term research and development undertakings, development projects, and construction work. In the latter case, estimated cost-benefit ratios are generally required as a forerunner to authorization of the project, and revisions of that ratio are made and reviewed as the work progresses through to completion. An example of this is furnished in chapter V, which describes the programme and performance budget application to construction projects of the United States Bureau of Reclamation. Finally, productivity measures currently are being employed in a few agencies — and are being developed in others — as a result of the comprehensive research study referred to above. A prime illustration of the use of productivity data

[11] United States Bureau of the Budget (Washington, D. C. 1964).

[12] *Ibid.*, pp. 4-5.

is the Division of Disbursement in the United States Treasury Department, one of the agencies involved in that study. A summary of the results in that organization, as excerpted from the report, *Measuring Productivity of Federal Government Organizations*, is reproduced in appendix L. This appendix, in the explanatory narrative and related tables, shows the kinds of management information and analyses that are possible through measurement of productivity.

Experience in the Philippines

In the Philippine Government, the approach to physical measurement under programme and performance budgeting in the past identified three kinds of measures. These include measures of workload, which identify the volume of work; measures of end products, which reflect the results of work; and measures of accomplishments, which show the effect of work. The definitions of each of these are given in the *Philippine Budget Operations Manual*, in the following terms :

> "*Units of work volume* relate to the internal actions which are taken by the agency to secure a desired result. They are concerned, for example, with the number of classes held in a school rather than the number of students trained. *Units of work results* relate to completed actions which are taken by an agency and which have a direct effect in attaining a desired objective. They constitute direct services to clientele served. These measures are concerned, for example, with the number of students trained rather than the classes held. *Units of work accomplishment* relate to programme goals of an agency which are acceptable objectives of public policy. These measures are concerned, for example, with raising the literacy rate among the population rather than with the number of classes held or the number of students trained." [13]

These definitions identify the kinds of measurement units employed by all agencies in the budget process of the Philippine Government. To illustrate, appendix M shows the work units established under ten selected programmes conducted by several Philippine agencies. These, generally, are measures of work volume and work results; they are typical of others that have been selected for all measurable programmes.

Based on such units, the *Budget Operations Manual* provides for performance reporting by all agencies in two ways. It calls for showing the percentage of work accomplished in relation to work planned; and a ratio of manpower effectiveness that indicates whether the planned ratio of production, in terms of units per man-year, are being achieved. In general, therefore, performance in the Philippine practice is shown by comparisons of planned and actual data that reflect workload and work measurement ratios.

With respect to the use of physical measures, the Philippine manual differentiates between the kinds of data that should be reported to the various levels of management. It points out :

> "In general, this [performance reporting] requires less detail and a change of emphasis as review moves to successively higher levels. Bureau management, for example, is interested in a variety of reports covering work volume and work results. Departmental management is concerned to a much less degree with work volume and is primarily concerned with work results. Budget Commission interest is almost solely with work results and its effect on work accomplishment objectives. An adequate reporting system must encompass all of these needs." [14]

In other words, within the administrative structure of government, the attention of lower level organizational units is directed mainly to the efficiency of work performance, and to their relative productivity, i.e., how well they are satisfying assigned responsibilities for the production of end products and services. At the next higher level, consideration is given mostly to the productivity of subsidiary units, with secondary interest in the manner in which work is performed. Top management, in turn, looks primarily at how well the production of end products and services meets established goals, and the impact of that performance on broad policy objectives.

Development of a measurement system

The programme, activity, and task classification of a programme and performance budget is related to the administrative structure of government. Within that combined classification and structure, it is essential that timely and accurate management information be provided to responsible officials for decision-making purposes. Chapter III discussed the need for developing meaningful financial data within those classifications for fund and operations control purposes. This chapter points to the need for significant physical measures in the same categories to be developed in a manner that will help to further strengthen the decision-making process.

Such physical measures are needed to show more clearly what and how much is planned and, subsequently, accomplished. The purposes are to identify more precisely the objectives of work effort and the required resources, as a base for later determination of deviations from objectives and planned use of resources, and for making decisions on priorities and alternative courses of action. For best results, considerable care must be taken in identifying units of measure under the several classifications, because of the over-all effect this selection has on the results of the system. Beyond that, physical measurement data should be accumulated, related, and synthesized in the most meaningful way for each level of organization within the framework of an efficient and soundly developed reporting system.

Non-measurable work

One of the first considerations in developing such a reporting system is to recognize that not all government operations are equally susceptible to physical measurement. Valid measurement of the output of organizations

[13] Budget Commission Republic of the Philippines, *Philippine Budget Operations Manual* (Manila, 1957), p. 335.

[14] *Ibid.*, pp. 451-452.

is not always possible, either because the nature and quality of output is subject to rapid change, or it cannot be adequately defined. In some cases, the number of employees and other resources required is governed by factors other than the volume of work. Conditions such as these make it impracticable to measure and develop performance ratios for certain categories of work effort in a meaningful way. Such categories include work situations where :

(*a*) The number of employees is governed by statutory provisions, or the organizational structure, such as department or bureau heads and their immediate staff;

(*b*) The programme or work results are unpredictable, such as in certain types of research;

(*c*) The objectives of a programme are such that the governing criteria for staffing is area coverage (as in a patrol operation), rather than volume of work;

(*d*) The number of employees is related not to a specific segment of work but to the total operations of the agency — such as an administrative or service operation.

Even in non-measurable operations, however, the staff time applied to the work and the costs involved should be identified within the over-all reporting system. Such data can then be related to the total cost and employment of the agency for analysis and budgetary purposes. This approach is often used for reviewing requirements of an administrative or service organization. Generally, it is used in that way in the Philippine budget, as illustrated below for the Bureau of Agricultural Extension in the Department of Agriculture and Natural Resources.

Year	Man-years		General administrative employment rates	General administrative expenses per man-year (pesos)
	Total for general administration	Total for agency		
1958 .	137	2,064	1-15	246.24
1959 .	137	2,184	1-15	237.33
1960 .	160	2,338	1-14	244.70

Selecting work units

Basic to the idea of physical measurement is the need for identifying units of work that will portray physical accomplishment in a manner that will assist in strengthening managerial control, aid in improving operating practices and procedures, and provide a sound base for planning work and determining requirements. The selection of appropriate work units is a critical task for the achievement of such objectives. When setting about this task, it should be recognized that within a particular operation there is usually a variety of possibilities, and the selection of the most appropriate unit requires care to ensure that it is suited to the purpose.

For complete measurement of the operations of organizations under programme and performance budget, units that quantify work performed need to be identified at each of the levels of the programme and activity classification structure; and the unit selected at each of the subsidiary levels should appropriately aggregate into the unit at the next higher level. In other words, work units at the task level should be capable of conversion into work units at higher levels — on up to over-all productivity — so as to permit summarization of data at succeeding higher levels, and to assist in measuring progress toward top level goals. Other criteria useful for this task indicate that a well-chosen work unit should be :

(*a*) Related to the mission and purpose of the organization;

(*b*) Representative of the total effort expended on the work;

(*c*) Reasonably like any other occurrence of the same unit, i.e., a relatively stable indicator of resource use and quality to the extent possible;

(*d*) Economical to use and convenient to report;

(*e*) Mutually exclusive so as to avoid duplicate counting of work;

(*f*) Stable enough so as to be useful for some period of time;

(*g*) Capable of audit, so that the accuracy of the work count can be verified;

(*h*) Identifiable when seen and readily understood by those who plan, schedule, and control work;

(*i*) Suitable for use in the contemplated measurement system.

Stated another way, experience in the United States and the Philippines provides the following as a basis for testing the adequacy and suitability of a selected work unit :

(*a*) It must be countable, must express work completed, should be addable within the programme classification structure, and should clearly reflect a change in the volume of work.

(*b*) It must be expressed in familiar terminology that will have the same meaning to those recording, reporting, and reviewing the data.

(*c*) It must have consistency, i.e., the quality specifications of a completed unit of work and the amount of work involved must be reasonably consistent over a period of time. In other words, the same work must be measured by the same unit, which should reflect the same degree of accomplishment.

It should be recognized also that a single work unit will not always adequately cover all the work an organization performs under a programme or activity, thus indicating the need for more than one unit of work for analysis purposes. When this situation occurs, the criterion of addability requires the use of weighting factors that will permit suitable consolidation of the data. This involves assigning weights to the various outputs that will reflect the relative resource use of the outputs being consolidated, in a manner that will produce a consistent relationship between the consolidated output and the required resources. However, in cases like this — pending the refinement of measurement practices — adequate analyses can often be made by using a work unit that reflects the predominant operation carried on under a programme or activity.

In the initial installation of a programme and performance budget, a good general rule is to keep the physical measurement system simple and avoid complex practices until more experience is obtained. This will give the employees involved a chance to become more familiar

with measurement problems and the various techniques available, and provide additional time for more precisely identifying the management needs to be met and the best way of satisfying them.

Measurement data

For those operations in which physical measures are practicable, programme and performance budgeting requires at least the use of workload data that permit identifying the work completed under a programme or activity, and evaluating work completed in relation to work planned to be done. Such information provides a basis for reviewing the status of work and the relationship of work volume to fund requests against the background of past experience. An example of this type of measure is reflected in the budget of the Patent Office of the United States Department of Commerce :

Work data	*1960 actual*	*1961 estimate*	*1962 estimate*
New patent applications received	79,331	80,000	80,000
Applications disposed of	79,399	87,000	90,000
Patents granted	50,607	52,000	55,000
Applications pending, end of year	195,885	189,000	179,000

As a tool for management analysis, this kind of physical measure can be refined and made more valuable by equating with the output (the work unit) the resources required (the input). As previously indicated, there are several ways of developing such performance ratios. Unit cost data can be developed by relating the cost of all objects used in the accomplishment of work — which is particularly useful in situations involving the use of scarce resources. Where manpower is of most significance, work measurement ratios — which establish the relationship between work and the staff time utilized in the completion of work — can be of considerable value to management.

Unit cost information, which provides for aggregating the cost of all resources used to produce a unit of work or an end product, enables more complete and more refined management analysis. In full application, such unit costs are developed from data recorded in the general accounting system, through a series of cost accounts that consolidate all cost applicable to one or a series of work operations. Generally, such a system will accumulate costs on a use basis, covering items like personal services, stock issues from inventory, depreciation, and contributed services. The Bureau of the Mint in the United States Treasury Department uses a cost accounting approach in its coin production operations. That system provides the following type of information for budget presentation (total fund requirements are determined by multiplying workload by the related unit cost) :

	1960 actual	*1961 estimate*	*1962 estimate*
Coins (in millions)			
1 cent	1,981	2,078	2,489
5 cents	251	280	352
10 cents	223	252	309
25 cents	91	112	150
50 cents	21	28	50
	2,567	2,750	3,350
Unit costs per 1,000	$	$	$
1 cent	0.74	0.81	0.80
5 cents	1.32	1.67	1.60
10 cents	.85	1.00	.97
25 cents	1.96	2.19	2.14
50 cents	3.45	3.82	3.54
Total costs (in thousands)	$	$	$
1 cent	1,461	1,692	2,002
5 cents	331	468	565
10 cents	189	251	299
25 cents	179	246	321
50 cents	71	107	177
	2,231	2,763	3,363

In less precise applications, a "cost-finding" system can be employed to develop unit cost information. Such a system will accumulate, possibly in subsidiary records, major costs, such as personal services, without necessarily gathering all elements of cost that contribute to the work performed. A "cost-finding" system profitably can be used in those kinds of activities where it is determined that management decisions can equitably be made without regard to all types of cost.

As a further alternative, manpower can be related to work units to develop a work measurement ratio. This requires selecting a unit of time for measurement purposes — one that can be verified against other records and charged with a reasonable degree of precision to the work on which employee time is spent. Usually man-hours or man-days-and sometimes man-years — is used for this purpose, representing one man working one full hour, day, or year, respectively. For the most equitable analysis of performance, the system should identify time actually spent on the job, i.e., excluding time periods used for vacation, sick leave, details to other operations, etc.

This type of system produces data, for example, on units of work per man-hour, or the reverse — man-hours of employment per unit of work. Either one serves the same purpose, providing a combined picture of the use of manpower in relation to work performed. An illustration of such a measure — using man-years as the time element — is provided in the budget presentation of the United States Post Office, which includes the following data (average workload is determined by dividing volume by man-years) :

Fiscal year	*Man-years*	*Mail volume (in millions)*	*Average pieces per man-year*
1960 actual	261,403	63,484	242,859
1961 estimate	267,705	65,600	245,046
1962 estimate	274,665	68,100	247,938

The work measurement system producing these data covers the mail handling and window service operations in the various post offices throughout the United States. As such, it covers a major segment of the total operations of the Post Office Department, which was one of the agencies involved in the more recent productivity research study conducted in the United States. In the course of that study, data such as those above were used in combination with similar information for other operations to develop a productivity index for the Post Office as a

whole. The productivity results in the Post Office for the three years shown above were as follows: [15]

Fiscal year	Output per man-hour		Output per dollar of real cost	
	Index (1953 = 100)	Per cent change from previous year	Index (1953 = 100)	Per cent change from previous year
1960 . .	102.75	0.1	103.58	— 0.2
1961 . .	101.48	— 1.2	102.26	— 1.3
1962 . .	103.18	1.7	103.22	0.9

This array of data reflects the kinds of differences that result from measurement in terms of manpower versus measurement in terms of cost. While each measure has its own important uses, this re-emphasizes the point previously made, that the most precise indicator for management analyses is cost data.

Establishing Standards

For more effective analyses, the review of performance ratios should be made against predetermined standards. The possibilities range from engineered standards that are developed by means of a stopwatch or motion analysis to judgmental or empirical standards that are set to arrive at desired goals of production.

A simple method of setting standards is one based on experience gained under an established system. The best rate experienced in a work operation or group may be used as a standard. Or, the average — or possibly the median — rate of production in a similar group of operations may be used for comparison with actual results. Another alternative is to establish a standard rate of production that sets a goal better than at least three quarters of the rates experienced by a comparable group of operations (a third quartile rate). To do this, the actual rates of production experienced by each operation of the group over a period of time should be assembled into an array that will provide the basis for selection of the standard. Care should be taken, however, to exclude from such an array any abnormal rates that might have been experienced because of conditions like overstaffing or inadequate work flow procedures. An illustration of this approach is provided below:

Array of production rates in three comparable operations over a four-month period

Units of work per man-hour[a]		Possible standard rate	
Operation:			
A	1.48	← Best rate in the group	— 1.48
B	1.47		
B	1.35	← Third quartile rate	— 1.34
C	1.33		
A	1.20	← Average rate	— 1.19
A	1.17	← Median rate	— 1.16
A	1.15		
B	1.12		
C	1.10		
B	1.02		
C	0.97		
C	0.96		

[a] Determined by dividing the work completed by the man-hours expended, e.g., if 450 work units were produced by 9 employees working over a 40-hour period (360 man-hours) — the rate of production would be 1.25 units of work per man-hour (450 divided by 360).

[15] United States Bureau of the Budget, *Measuring Productivity of Federal Government Organizations* (Washington, 1964), p. 198.

The selection of a standard rate from such an array should be made with care, consistent with the objectives of agency management in setting goals, and considering the capabilities of the staff in the operation involved. For example, the best rate in the group shown above might be selected if the experience period is known to be one of relatively low productivity, and that rate is considered to be a reasonable goal for the operations covered. The best rate can be used to stimulate all operations to take whatever action is necessary to better their previous performance, thus raising the level of productivity throughout the group. In this kind of selection, however, management must give close attention to the quality of work subsequently produced to make sure that it does not deteriorate.

The third quartile rate is a selected rate that has not necessarily been experienced by any of the operations. It is located in the array at a point where at least one quarter of the experienced rates reflects a performance better than the proposed standard. It thus establishes an achievement goal that is less demanding than the best performance, and generally has more acceptance as a feasible rate of production. Because the third quartile rate has not been attained by most operations, it too can serve to stimulate improved performance that should significantly raise the productivity level of the group.

The average production rate is a calculated rate that reflects the arithmetical average of the group — which is determined by dividing the total completed work units of the operations in the array by the total man-hours expended in producing that workload. It can be higher or lower than the median rate, depending upon the relative work volume and production rates in the higher and lower examples in the array. The average rate sets an improvement goal for approximately half of the operations concerned, and usually has a greater degree of acceptance as a realistic standard.

The median rate of production, like the one at the third quartile, is a selected rate. It, however, is located in the array at the mid-point where half the experienced rates show better performance. Like the average rate, it meets with better acceptance because it sets a lower achievement goal, but it serves as a stimulant toward better performance for at least half the operations in the group.

Under any of these approaches, the selected standard might be further adjusted for performance analysis by taking into account any anticipated changes in work operations that will affect the productivity rate. Once established, however, a standard should be used for a reasonable period of time — because constant changes tend to lessen their value. On the other hand, provision should be made for a periodic review of the applicability of an established standard in the light of subsequent developments, to keep it from becoming obsolete.

Once a realistic standard has been decided upon, it should continuously be used as a base for management review and needed improvement actions. As an example, if 4,000 tax returns were processed by a group during a month and the number of man-hours used was 1,000, the rate of production experienced is four work units per man-hour. If the established standard rate is five work units per man-hour, the group under review fell short

of desired performance by 20 per cent. Those data would give a signal to management that a review should be made to identify the reason for the deficiency as a basis for corrective action. It may be found that the standard is unreasonable; that there are cumbersome procedures; that the employees are inadequately trained; or that there is a lack of competent supervision. Whatever the cause, prompt action should be taken to improve the situation. Without such review and action, the standard will lose its significance to the employees and supervisors involved, and the system will fail of its purpose.

Recording and reporting practices

In operating a physical measurement system, there is need for prompt and accurate reporting of results to permit effective management actions. To develop accurate data, basic records, for accumulating necessary information should be centrally developed and prescribed, and maintained uniformly throughout the agency in accordance with specific written instructions. A uniform record-keeping system, properly prescribed and maintained in this manner, is more likely to provide comparable data from various sources in an agency, and helps to avoid misinterpretations concerning the purpose of the system and what is required in the form of basic data. Furthermore, such an approach provides a sound basis for the calculation of performance ratios which, in turn, will produce valid data for comparison of performance and needed management improvement actions.

The accumulation of basic data for a performance reporting system can require a considerable amount of staff time, particularly in widespread, large-scale operations. To alleviate this kind of problem, a statistical sampling approach is often used for bringing together necessary basic information. This involves techniques for developing total data through statistical estimates that are based upon appropriate samples of actual work flow and/or resources used in accomplishment of work. Technically, this approach requires defining the problem and the universe; determining the size of the sample and the method of sampling; selecting methods for estimating, and for calculating variations; and establishing methods for detecting any bias in the sampling. Properly constructed, this is an economical approach for large volume operations where record keeping costs are otherwise prohibitive in relation to the benefits derived. In using this approach, however, care must be taken to obtain a representative sample of data, and to provide for continued reappraisal of the sample in the light of then current conditions.

To utilize the information accumulated in the basic records, provision should be made for developing a system of reports that will furnish a timely flow of meaningful data suitable for action purposes at the various levels of management. This involves establishing efficient procedures for bringing the basic data from its source to successive points of review and analysis; and for distributing to responsible operating and supervisory officials significant data that will stimulate desirable action towards management improvement. The principle of summarizing data according to need of the recipient, and developing reports to highlight exceptions and deviations, should be observed to avoid handling excessive details. Full advantage also should be taken of graphic and other useful presentation techniques that will contribute to more effective communication of information.

Above all, it should be recognized that a performance-reporting system in and of itself will not produce desired management improvements. The system may furnish an incentive that can result in better production, but its basic product is only an identification of problem areas that require review, analysis, and positive corrective action. Responsibility for such action rests with the operating and supervisory officials at the various levels of management in the agency.

Uses of measurement data

There are many ways in which physical measurement data can serve the needs of management in government. On the broad basis, cost-benefit ratios that accumulate the costs associated with a particular programme or project and relate them to the benefits derived from the undertaking are of help to higher levels of management in deciding between alternative courses of action. They assist in the selection of programmes that produce the greatest amount of economic return from the investment of a given amount of resources. As such, they are particularly useful in the conduct of development plans where relatively scarce resources make the choice of the more productive projects a vital necessity. In general, ratios such as these have proven to be an important tool for economic analysis and for helping government managers choose among alternatives in the course of the budget process.

Similarly, the use of productivity ratios that relate resource utilization to the production of broad services or end products can be effectively used by the top levels of management in various facets of the budget process. They assist in such ways as providing summary indicators of productivity that are useful in various forms of economic analyses and furnish a framework for planning and evaluating needed improvement actions in government agencies. Through such measures, for example, top management can compare the total productivity of an agency in different periods of time, or comparisons can be made of the total efficiency of different organizations.

At the other extreme, the measures of work performed and funds used for individual programmes and activities — which represent the minimum requirement for programme and performance budgeting — are also of considerable value to the various levels of management. Such data, when compared with the levels of proposed work and related cost estimates, are helpful in making decisions on future appropriation requests and on fund allocations sought under proposed operating budgets. In budget execution, they are useful for broad analyses of progress made under an operating budget when compared with the levels of work and fund use projected in the approved plan.

When physical measurement data are refined to develop work performance ratios, they serve those same purposes. However, they do it in a more precise manner because the availability of a ratio reduces the amount of subjective judgement that is needed to come to such decisions. A

work measurement ratio that shows man-hours per unit of work (or the reverse) is particularly suited to use on administrative programmes because personal services usually represent the largest component of total cost under such a programme. On the other hand, a unit cost system is better suited to an investment programme because it provides a performance ratio that covers all resources used in carrying out specific elements of a programme. Work measurement and unit cost ratios have proven in practice to be useful management tools because they provide a factual basis for decision-making in the more detailed aspects of budget formulation, presentation, and execution.

As an example, the Agricultural Stabilization and Conservation Service of the United States Department of Agriculture provides a pertinent illustration. That agency developed a work measurement system to cover the operations of its regional offices in the early 1950's. The regional offices — a total of eight — had responsibility for managing a multi-million bushel inventory of agricultural commodities and accounting for over a million price support loans.

The system covered approximately 4,000 employees who were engaged in fifty-five measurable work operations and certain non-measurable operations where staffing did not vary with the volume of work. Units of work were identified for the measurable work operations, and about 75 per cent of the total work force distributed to those operations the man-days expended on the job. Monthly reports provided data on workload, man-days, and production rates, which were compared with an experience standard established at the beginning of each fiscal year. Those data were used by management to identify problem areas, and to initiate studies that develop proposals for desirable corrective action.

This system has been used to develop budget estimates and to allocate funds. It has provided an effective method for determining manpower requirements and for communicating those requirements through the various levels of budget review. It has furnished a satisfactory basis for performance evaluation and alerted management to problem situations. As a by-product it has served as an important incentive, because the production rate has more than doubled since the inception of the system. While improved procedures and mechanization have had an important effect in obtaining that result, the work measurement system provided an environment within which needed improvements could be made.

Analysis of performance ratios

From the standpoint of management control, performance ratios are useful in bringing out the effectiveness of operations and enabling comparisons not otherwise feasible. They highlight problem situations in need of corrective action, such as:

(*a*) Improper personnel utilization — where overstaffing may develop as a result of a gradual reduction of workload, or the total personnel may be at an appropriate level but they are not distributed in a fashion that maintains a balanced work and staff relationship;

(*b*) Improper work distribution — where some organizational units may be overloaded while others are coasting along with a minimum workload;

(*c*) Inadequate procedures — where backtracking and delays in the flow of work may be reducing the efficiency of the operation;

(*d*) Inadequate equipment operation — where the equipment in use is inefficiently utilized or is in a deteriorating condition.

In analysing the performance ratios of an operating organization, however, the responsible officials should recognize various factors that may affect performance. Included among these variables are the following:

(*a*) A marked difference in work volume may affect performance.

An organization that handles a large volume of work may require less resources per work unit than another organization that has a low volume of the same work. Different standards would be required for equitable analyses in such situations. Similarly, if work volume in a given organization changes materially, a different standard may be required at different times for the same operation. This occurs because of differences in the nature of the operation at various levels of volume, the amount of supervision or overhead labour required, and the ability to transfer employees as needed without delay. Increases in volume beyond a certain point can also have an adverse effect on production for the same kinds of reasons — notably because of the lack of available trained employees, and the inadequacy of prescribed procedures for the higher volume levels. A charting of experienced production rates in relation to work volume and resources required will reveal the action needed to develop an appropriate basis for comparison in such situations. The trend of the performance ratios will identify the standards most suitable for the various levels of work volume.

(*b*) The absence or presence of a backlog may affect the rate of production.

In general, a small backlog of work is a normal condition, needed to provide a continuous flow of work to employees in an organization. The size of a desirable backlog varies, depending upon the steadiness of work flow and the amount and degree of fluctuation. The lack of available work will cause "waiting time" among the employees and a lower production rate. Conversely, a heavier than usual backlog can result in a "speed-up" and a higher production rate. Such a "speed-up" rate, however, will not always be feasible to maintain and can produce a lower quality end product.

(*c*) Organizational and procedural improvements will have a direct impact on performance.

A production rate depends on many factors — including the adequacy of the organizational and procedural arrangements. For example, an organizational adjustment that changes the flow or sequence of the work will usually change the performance ratio. A mechanization of a manual operation should produce a significant increase in the rate of production. The elimination of work steps in an operation similarly should reduce the resources required to complete a unit of work. In

any of these adjustments, however, it should be recognized that a period of time for reorientation of the employees will be required before the most appropriate revised production rate can be identified.

(*d*) The performance in similar operations may vary between geographic locations because of local conditions.

Even though the same activity may be performed in different locations, with the same degree of efficiency and the same competent supervision, the production rates may differ because of local conditions. For example, in an operation involving the processing of persons entering and leaving a country — which may be countable in the number of persons that enter and depart — the rate at which the work is processed may vary depending on whether it is at a seaport, an airport, or a land border crossing point. The degree of inspection required at each of these kinds of locations, the regularity of the flow of entries and departures, differing language requirements at various locations etc., all are variable factors that may affect the production rate.

(*e*) The quality of a completed unit of work may result in different rates of production.

Performance ratios are quantitative in character and may contain variables in the quality of the work accomplished. An operation may, for example, show a good production rate that, from a quality standpoint, is representative of poor performance. Janitorial service is a case in point. An operation may show a good rate for this service but may not produce an adequate cleaning job. Similarly, in conducting investigations, high production rates can be obtained by a cursory review of different elements of the investigation, or by not going through all the basic routines necessary for an adequate job.

To guard against such problems, the element of quality should be given attention in all phases of the development of physical measurement systems. In selecting and defining units of measure, for example, quality should be worked into the definition of a completed work unit wherever possible. In some cases, it may be appropriate to set up seperate work units for different levels of quality in the same kind of work operation. Where performance ratios and standards are employed, quality factors should be incorporated in the standards, or separate quantitative and qualitative standards may be desirable for management review purposes.

In any event, quantitative measurement systems should be supplemented by a system of checks and controls to ensure maintaining the desired level of quality in completed work. Local supervision should be the primary point of such control. Beyond that, the administrative structure should include quality checks at succeeding levels of review, and in over-all internal audit or inspection procedures.

As is true in developing any management tool, however, the system of physical measurement and evaluation should be kept as simple as possible, considering the needs to be met. Overly complex procedures can engender such problems as a misunderstanding of motives, misinterpretation of requirements, and non-compliance. Such problems can affect the morale of the personnel involved and, in the long run, can serve to defeat the objective of obtaining maximum programme results from efficient utilization of available resources.

Appendix L

UNITED STATES PRODUCTIVITY MEASUREMENT

Summary of the Case Study Findings*

Division of Disbursement

Changes in output.—Between 1949 and 1962, the output of checks and bonds produced by the Division of Disbursement increased by 75 percent.[1] It increased in every year of the period except one. (See Table 3.) The annual changes in output ranged from a nine percent increase in 1958 to a five percent decline in 1951. The percentage increases were somewhat larger during the second half of the 1949–1962 period than during the first half. The output appears to be measured quite consistently over time. On the whole, the service content of the Division's output perhaps increased somewhat. The checks are now prepared in such a form that fewer errors in processing result from possible inconsistencies between the amounts printed on the check and the amounts punched. The speed in issuing checks has increased. The Division has introduced geographic sorting of some of the checks it issues which facilitates the work of the Post Office Department. The Division also provides lists of checks issued to the Treasurer of the United States in the form of magnetic tape, thus facilitating reconciliation of checks.

It should be noted, however, that on the input side the Division has been receiving certain payments information from its customer agencies in progressively more convenient form, from written data to punch cards to magnetic tape.

Changes in input.—While the output of the Division increased substantially, many of the resource inputs declined.

The number of man-years, calculated as full-time equivalents with proper adjustments for part-time workers and for overtime, declined by about 45 percent. Declines occurred in all years but three. The annual changes in the number of man-years ranged from an increase of 4.0 percent in 1958 to a decline of 10.2 percent in 1962.

Payroll in constant dollars declined by about 40 percent. This decline was smaller than the drop in the number of man-years because the real payroll per man-year has increased by about one-tenth, reflecting the net upgrading in the labor force of the Division that occurred during the period.

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* From *Measuring Productivity of Federal Government Organizations*, chap. V.

[1] Because the number of payments constituted a very high proportion of the total output throughout the period, regardless of whether the payments and bonds are simply added, or whether they are weighted either by man-year weights, by payroll cost weights, or by total cost weights, the calculated growth of output is almost identical.

TABLE 3.—*Division of Disbursement Department of the Treasury, Output Related to Man-Year Input, 1949–62*

Fiscal year	Indices, FY 1962=100			Percentage change from year ago		
	Output	Input (man-years paid)	Output per man-year	Output	Man-years paid	Output per man-year
1962	100.0	100.0	100.0	5.9	−10.2	18.0
1961	94.4	111.4	84.8	6.7	−0.6	7.3
1960	88.5	112.0	79.0	3.8	−6.8	11.4
1959	85.2	120.2	70.9	3.6	−5.6	9.7
1958	82.2	127.3	64.6	8.8	4.0	4.6
1957	75.5	122.3	61.8	7.2	1.5	5.6
1956	70.5	120.5	58.5	6.8	−9.8	18.4
1955	66.0	133.6	49.4	2.6	−3.9	6.8
1954	64.3	139.1	46.2	3.5	−5.3	9.4
1953	62.1	146.9	42.3	0.9	−7.1	8.6
1952	61.6	158.2	38.9	5.2	−6.7	12.8
1951	58.5	169.5	34.5	−5.0	−7.8	3.0
1950	61.6	183.8	33.5	7.6	0.3	7.3
1949	57.3	183.3	31.2	.....	.....	.....

Note.—The output index is based on the individual outputs weighted by their respective unit man-year requirements in the fiscal year 1962. Indices and percentage changes are based on unrounded data.

Total budgeted costs in constant dollars declined almost 20 percent between 1949 and 1962. While personal services costs dropped about 40 percent, the nonlabor costs almost doubled. Prominent among the nonlabor inputs, particularly in the later years of the period, were equipment costs. Measured in constant dollars, equipment rentals increased almost seven times during the period, and virtually all of this increase occurred since 1957.[a] In 1962, rentals for such items as tabulating equipment, high-speed printers and electronic computers amounted to 14 percent of total budgeted cost. Equipment purchases, on the other hand (office furniture, typewriters, etc.), comprised only about 2 percent of the budget costs.

Purchases of check blanks and envelopes represent another important input item. Use of these materials has been proportional to output.

Constant dollar expenditure for travel, transportation, and communication remained at about the same level throughout the period until the last two years when it increased considerably, in connection with the Division's conversion to computer operations. In the last two years, the Division also

[a] In the case of equipment rentals, current dollars are equivalent to constant dollars since rental rates on the same types of equipment did not change.

incurred considerable costs for alteration of space. Expenditure for other supplies, materials, and services declined somewhat.

Changes in productivity.—Between 1949 and 1962 while output per man-year increased 3.2 times, output per unit of constant dollar payroll increased 2.9 times and per dollar of total budget cost 2.2 times.

Indices of output per man-hour and output per dollar of payroll show essentially similar patterns. (See Table 4.) However, since the constant dollar payroll per man-year has been increasing, the annual percentage changes in output per constant dollar payroll were on the average lower than the annual percentage changes in output per man-year.

The ratio of total budget cost to payroll cost, when both are measured in constant (1962) dollars, increased 36 percent betwen 1949 and 1962. This increase took place almost exclusively after 1957.

During the period 1949–1962, output per man-year increased in every year. The annual increases ranged from 3 percent in 1951 to 18 percent in 1956 and in 1962. The annual changes in output per real payroll dollar

TABLE 4.—*Division of Disbursement, Department of the Treasury, Output Related to Constant Dollar Cost, 1949–62*

Fiscal year	Indices, FY 1962=100		Percentage change from year ago		Constant 1962 dollars	
	Output per dollar of payroll cost	Output per dollar of total budget cost [1]	Output per dollar of payroll cost	Output per dollar of total budget cost [1]	Payroll cost per man-year	Total budget cost [1] per dollar payroll cost
1962	100.0	100.0	15.9	7.6	$4,920	$1.61
1961	86.3	93.0	7.1	−1.1	4,836	1.49
1960	80.5	94.0	10.3	4.9	4,826	1.38
1959	73.0	89.6	8.6	4.4	4,777	1.31
1958	67.2	85.8	5.3	2.5	4,726	1.26
1957	63.9	83.7	6.0	5.0	4,758	1.23
1956	60.2	79.7	17.5	15.2	4,776	1.22
1955	51.2	69.1	6.8	8.6	4,742	1.19
1954	48.0	63.7	8.6	8.2	4,742	1.21
1953	44.2	58.9	7.2	8.6	4,709	1.21
1952	41.2	54.2	10.6	9.6	4,648	1.22
1951	37.3	49.4	1.4	0.7	4,560	1.21
1950	36.7	49.1	7.2	5.5	4,488	1.20
1949	34.3	46.5	.....	.....	4,484	1.18

Note.—The underlying output indices are based on 1962 payroll cost weights and total budget cost weights respectively. All indices are based on costs expressed in fiscal year 1962 dollars. Indices and percentage changes are based on unrounded data.

[1] Total budget cost, in this case, excludes all postage costs

during the same period ranged from 1 percent in 1951 to almost 18 percent in 1956. Both output per man-year and output per real payroll dollar apparently increased more rapidly during the later half of the period than in the earlier half. By contrast, the annual increases in output per dollar of total budget costs, which ranged from −1.1 percent in 1961 to 15.2 percent in 1956, were smaller in the later years of the period than at its beginning.[3] These differences reflect the considerable shift in the composition of resource inputs, between manpower and the nonlabor inputs, particularly equipment, that occurred toward the end of the period. The cost structure, in 1962 prices, was comparatively stable from 1949 until about 1956–1957, and then changed materially.

It appears that the annual changes in output per man-year in the Division of Disbursement since 1955 were much more closely related to the annual decreases in the man-year inputs than to the increases in output. (Before 1955 changes in output per man-year were more closely related to changes in output.) This may suggest that in the later years at least a substantial component of the manpower input, was sufficiently flexible within the technological and organizational framework of the Division to permit achievement of savings in the variable input component.

There is little doubt that productivity increases of the Division must, at least to a very large measure, be interpreted in terms of technological processes innovation. In 1949 the Division disbursed payments by three methods: checks prepared on addressing machines (59.4 percent of all payments), checks prepared on typewriters (40.2 percent), and actual payments in cash (0.4 percent). The number of payments made per man-year then ranged from 35,000 for cash payments to 67,000 for the addressograph prepared checks, and the average for the Division was about 60,000.

In 1962 the Division used seven methods of check preparation. By that time, only 4 percent of all checks were typed and only 3 percent prepared by the addressograph process, while 36 percent were produced by means of electronic computers. The output per man-year ranged in 1962 from about 38,000 for typed checks to about 300,000 for checks prepared by electronic data processing equipment, and the average for the Division in 1962 was nearly 200,000 checks per man-year (see page 138). Between 1949 and 1962 the Division has introduced seven new methods of check preparation, and has discontinued three. The new methods were typically more efficient than the methods previously in existence and the less efficient methods were discontinued. The bulk of check preparation was shifted progressively from the less productive to the more productive methods.

In order to take advantage of new techniques, the Division has actively

[3] The increases in output per dollar of total budget cost on the operating basis are somewhat understated for the last two years, because the cost data for these years include significant unamortized expenditures for durable items as well as changeover costs in the personal services and other current cost categories.

[4] Since savings bonds were prepared by varying methods, and separate data were not collected, savings bonds are omitted from the present discussion.

sought out information about technological possibilities. On occasion the officials of the Division have taken the initiative in cooperating with the manufacturers for the purpose of developing equipment specifically designed for the Division's needs. One process of check preparation was developed within the Division.

To some extent the savings in manpower that were brought about by technological innovations and the substitution of technological processes were offset by increased capital inputs. But, as indicated by trends in output per constant dollar of all budgeted costs, the offset was only partial.

Another factor which possibly contributed, or at least was associated with changes in the Division's productivity, was the process of consolidation of operating offices. The number of offices maintained by the Division declined from 27 in 1949 to 14 in 1962. The consolidation apparently permitted some savings of the overhead and possibly allowed some economies of a larger scale of operation.

The continued growth of output itself might have contributed to productivity increases by permitting at each juncture a better uilization of resources on hand.

Unit costs.—The overall productivity experience of the Division and the shifts in the composition of resource inputs can be summarized in unit cost data as shown in Table 5. Reflecting the rise in output per dollar of cost, the budget cost per thousand of checks and bonds measured in constant dollars declined by 54 percent. (Algebraically, unit cost is the inverse of the productivity ratio.) Most important for this trend was a 66 percent decline in the unit payroll cost, which was only partly offset by the substantial rise in the cost of the equipment rental.

With the present definitions, the real unit cost of check blanks and envelopes has been constant throughout the period. There was a general downward trend in the per-unit costs of travel, transportation, and communication, and of other services, materials and supplies.

The per-unit total of unamortized constant dollar expenditure for equipment purchases and alterations of space declined considerably over the years, as fewer addressograph machines, typewriters, etc. were bought, with the shift to production processes utilizing rented equipment. The rise in the last two or three years reflects largely temporary expenditure for space alteration and, to a much smaller extent, for purchase of accessories occasioned by the planned, nearly complete, conversion of the Division's operations to electronic computer production. After the end of the study period, the Division began purchasing computers. Thus, for years after 1962 it will become desirable to treat equipment purchases—at least of the large items—on an amortization basis. To provide an illustration of such calculations, and also for a better understanding of the cost concepts employed, an alternative total cost analysis for 1953 and 1962 is presented.

Alternative cost concept.—Some very rough adjustments can be made in the Division's cost data for current accounting for certain capital items and

TABLE 5.—*Division of Disbursement, Department of the Treasury, Constant Dollar Cost Per Thousand Checks and Bonds*

[Constant 1962 dollars]

Fiscal year	Total	Personal services	Equipment rental	Blank checks and envelopes	Purchased equipment and alteration of space	Other [1]
1962	$40.44	$25.15	$5.62	$4.57	$2.22	$2.88
1961	43.50	29.15	4.83	4.57	1.42	3.53
1960	43.03	31.22	3.58	4.57	.96	2.69
1959	45.12	34.42	2.98	4.57	.54	2.62
1958	47.06	37.30	2.25	4.57	.28	2.66
1957	48.30	39.35	1.33	4.57	.54	2.50
1956	50.76	41.77	1.25	4.57	.66	2.51
1955	58.44	49.02	1.24	4.57	.18	3.43
1954	63.47	52.37	1.18	4.57	2.11	3.23
1953	68.75	56.97	1.49	4.57	2.33	3.39
1952	74.59	61.00	1.70	4.57	2.43	4.89
1951	81.84	67.57	1.61	4.57	2.29	5.80
1950	82.40	68.47	1.53	4.57	2.74	5.08
1949	87.01	73.46	1.43	4.57	2.71	4.84

[1] Other costs consist of travel, transportation, communication, printing and reproduction, supplies, materials, and other services.

for omission of certain other cost elements from the budgetary accounting. Even though the (unamortized) amounts of expenditure for capital items were comparatively small in the Division of Disbursement, because the level of such spending was changing in the course of years, some distortion is present in the annual productivity measures. In the alternative cost calculation, a straight-line five-year amortization period was assumed. The decline in budget costs from 1953 to 1962 was greater when capital outlays were amortized than when they were charged to the year of purchase. (See Table 6.) The first year for which this computation is practical is 1953 because the first year for which the deflated expenditure data for five-year amortization is readily available is 1949.

Two cost items for resources employed by the Division but not included in its budget costs were estimated, at least approximately. One is the imputed interest cost of the resources tied up in the capital stock on hand (i.e., the unamortized portion of past outlays), and the other is the input of floorspace and building services furnished to the Division free of charge.

Estimation of imputed capital cost, especially in the case of a Government agency, raises some difficult conceptual problems, which need not be discussed here. In the present calculation the imputed interest charge was calculated as 3.6 percent of the capital stock on hand valued in con-

stant dollars. That was the interest rate paid in the base period by the United States Government on three to five year issues of its securities.

Constant dollar cost of floor space and space services (cleaning, air-conditioning, electricity, etc.) was assumed to be $4.00 per square foot in 1962 and $3.60 in 1953. (The differential stands for an assumed improvement factor representing largely increased use of air-conditioning.) These figures are based on information on (1) rentals paid by agencies of the Federal Government for office space, and (2) operating cost experience of Government-owned buildings.

TABLE 6.—*Division of Disbursement, Department of the Treasury, An Alternative Cost Calculation*

[All dollar amounts are in thousands of 1962 dollars]

Cost item	1953	1962
Total budget costs [1]	$13,723	$13,008
Less: Outlays for equipment purchase and space alterations	−465	−714
Add: Amortization charge for equipment and space alterations outlays	+484	+328
Total budget costs, amortized basis	$13,742	$12,622
Add: Imputed interest charge (3.6 percent of capital stock)	+43	+41
Add: Estimated space rental and building service ($4 per sq. ft., 1962; $3.50, 1953)	+1,404	+1,416
Alternative cost estimate [1]	$15,189	$14,079
Index numbers, 1962=100		
Total budget costs	105.5	100.0
Alternative cost concept	107.9	100.0

Note.—Estimates of the amortization charges and of capital stock are based on straight line 5-year amortization.

[1] Excludes postage.

As the calculations in Table 6 show, the net result of all the adjustments is the difference in the input index for 1953 of less than 2.5 percent. Most important for this difference is the treatment of capital outlays on an amortization basis. The difference happened to be small, especially when compared to the 61 percent increase in the output from 1953 to 1962. In other organizations, however, such adjustments may produce more substantial differences in the results.

Appendix M

UNITS OF WORK MEASUREMENT IN SELECTED PROGRAMMES, THE PHILIPPINES

Function	*Organization*	*Programme*	*Project*	*Unit of work measurement*
Agriculture	Bureau of Plant Industry	Increase in rice and corn production	1. Rice and corn research	Researches conducted
			2. Soil analysis	Soil samples analysed
			3. Production and distribution of certified seeds	Cavans of seeds produced
			4. Control of rice and corn pests and diseases	Hectares controlled
			5. Demonstrations of improved farm practices and farmers' education	Demonstrations conducted
	Bureau of Forestry	Forest protection and management	1. Forest management and land uses	Number of hectares managed and leased
			2. Reforestation and afforestation	Number of hectares planted
			3. Domain use classification	Number of hectares classified
			4. Research	Number of research projects conducted
			5. Prevention of forest destruction	Number of hectares protected
			6. Scaling and lumber grading	Number of cubic metres of logs and lumber scaled and graded
			7. General administration	General administrative employment ratio and expense per man-year
Education	Bureau of Public Schools	Vocational education	1. Trade and industrial education	Students enrolled
			2. Agricultural education	Students enrolled
			3. Fishery education	Students enrolled
			4. Philippine nautical school	Students enrolled
			5. Training in home industries	Trainees enrolled
	Bureau of Public Libraries	Library and archives administration	1. Library extension service	Patrons served
			2. National library service	(*a*) No. of books, etc. catalogued, classified and processed
				(*b*) Patrons served
				(*c*) Indexing entries
			3. General administration	General administrative employment ratio and expense per man-year.
General Government	Bureau of Internal Revenue	Administration and enforcement of internal revenue laws, special tax laws and regulations	1. Tax rulings and other legal services	Rulings issued
			2. Tax assessment	(*a*) Tax returns processed and/or assessed
				(*b*) Tax cases processed and/or assessed
				(*c*) Tax investigations conducted
			3. Tax collection	Cases closed
			4. General administration	General administrative employment ratio; general administrative expense per man-year.
Health	Field Operations	Field health services	1. Rural health units	Units operated
			2. Dental services	Patients attended
			3. Social hygiene services	Number of cases handled
			4. Malaria eradication services	(*a*) Persons protected
				(*b*) Research activities
			5. Tuberculosis control services	Persons attended
			6. Environmental sanitation	Inspections conducted

Appendix M (continued)

Function	*Organization*	*Programme*	*Project*	*Unit of work measurement*
Health *(continued)*	Field Operations *(continued)*	Hospital services	1. Operation of general hospitals	Number of free beds
			2. Operation of special hospitals	Patient days (*a*) Maternity (*b*) Children (*c*) Mental (*d*) Orthopedic (*e*) Communicable Diseases
			3. School of nursing	Persons trained
			4. School of midwifery	Persons trained
			5. Aid to puericulture	Narrative statement of purpose of aid
			6. Laundry plant	Number processed
	Bureau of Laboratories and Research	Laboratory examination production and research	1. General Management	Administrative employment ratio and expense per man-year
			2. Pathological and macrobiological examination	Number of examinations performed
			3. Laboratory research	Number of research studies conducted
			4. Blood plasma dehydration	Cubic centimeters of blood products
			5. Sanitary chemical analysis	Number of examinations performed
			6. Vaccine production	Cubic centimetres manufactured
			7. Food and drug analysis	Number of examinations performed
Public works[a]	Bureau of Public Highways	Maintenance and repair service	1. National roads and bridges	(*a*) Kilometres of national roads serviced (*b*) Lineal metres of national bridges serviced
			2. Provincial roads and bridges	(*a*) Kilometres of Provincial roads serviced (*b*) Lineal metres of provincial bridges serviced
			3. Municipal roads and bridges	Narrative statement of the project
			4. Toll roads	Toll roads serviced.
	Bureau of Public Works	Construction (capital outlays)	1. Irrigation	Irrigable hectares serviced
			2. Buildings	Number of buildings
			3. River control and drainage	Number of projects
			4. Port facilities	Number of projects

[a] Public Works here is not a function. It refers to the Department of Public Works and Communication whose expenditures fall under several functions as can be seen from the projects under the Programme of Construction in the Table. This however does not affect the purpose which is to illustrate the unit of work selected for projects.

Chapter V

PROGRAMME AND PERFORMANCE BUDGETING FOR INVESTMENT PROJECTS

Properly developed and applied, the programme and performance budget approach described in this manual makes the budget process an integral part of the programme management system in government. This is accomplished by reason of the facility of this technique for bringing together the separate elements of programming, budgeting, accounting, and reporting into a co-ordinated system that organizes managerial efforts throughout the administrative structure in programme terms; and produces for responsible officials the operating and control information needed for effective conduct of assigned operations. In particular, programme and performance budgeting is an important device for developing countries, where it is useful for efficiently carrying out investment projects that are part of long-term economic development plans.

As an illustration, the United States application of the programme and performance budget provides a case example of how this approach can be applied in an efficient and effective manner for projects of an investment nature. The Bureau of Reclamation, a constituent unit of the Department of Interior, began employing this type of budget when all agencies in the United States Government made the conversion to programme and performance budgeting in the early 1950's. The system subsequently has been adjusted and refined on the basis of experience, to the point where it effectively has been serving as a primary tool of management at each of the different levels of control in the United States Government.

The organization and financing pattern

The Bureau of Reclamation was established in 1902, and was given responsibility for developing the irrigation facilities in the seventeen western States of the United States. Supplementing that basic job, it has been assigned responsibilities in the fields of municipal and industrial water and flood control, and for the development and utilization of water resources in Alaska. Within these areas, the Bureau has the job of planning, constructing, and operating approved project facilities, and co-ordinating those efforts with the work of private and other public agencies concerned with developing water resources.

To carry out itsresponsibilities, the Bureau of Reclamation has employed a decentralized form of organization, in which programme and policy direction are furnished by a Commissioner and staff offices located in Washington, D.C. Co-ordination and control over the execution of programmes are exercised through seven regional offices spaced throughout the western States. Actual operations are carried out by offices located at the site of a project, except that in some cases consolidated project offices and other specialized field offices have been established to better serve particular needs. For example, an organizational unit located in Denver, Colorado — an extension of the Commissioner's Office — provides centralized engineering services to all regions and project offices.

The financing pattern employed for the Bureau of Reclamation is shown in appendix N, which reflects part of the budget presentation of this organization. Exhibit 1 identifies the appropriations enacted by the legislature to finance the programme operations, i.e., general investigations, construction and rehabilitation, operation and maintenance, general administration, loans, and the upper Colorado River basin work. Appropriations are made for these purposes under a basic legislative authorization which requires that all the costs of a project — except for certain specified benefits — be reimbursed to the United States Government. Accordingly since its inception, the Bureau of Reclamation has been concerned with the engineering feasibility of project proposals, the costs of the work involved, and the value of the benefits to be gained (i.e., the cost-benefit ratio) — in order to ensure the desired results and the repayment of appropriated funds that is required by law to be reimbursed to the government.

The specified non-reimbursable benefits — the costs of which are not required to be repaid to the United States Government — include benefits from completed facilities that improve navigation or provide better flood control, or recreational facilities that are available to the general public. The costs of such benefits are, in effect, borne by the United States Government through the appropriation process. On the other hand, the construction of facilities for the irrigation of land, the production and distribution of power, and the improvement of municipal and industrial water resources, is undertaken on the premise that the costs of making these benefits available are initially appropriated for by the United States Government, and ultimately will be repaid by the water and power users over a long-term period of time — such as fifty years. Currently, more than 90 per cent of the total spent for Bureau of Reclamation projects is in the latter category, classified as reimbursable and subject to long-term reimbursement by the users.

Because of the repayment provisions, operations like those of the United States Bureau of Reclamation are often carried out in other countries by public enterprise organizations that operate independently and utilize

evenues for carrying out planned operations and additional developmental work. In the United States, a step in that direction has been taken in the sense that legislation has been introduced to provide for financing the work of the Bureau of Reclamation through a revolving fund. That proposal, however, has not been enacted by the legislature, and the work of the Bureau continues to be financed through the appropriation process.

Regardless of the method of financing, however, the programme management system developed and employed by the Bureau of Reclamation illustrates a planning and control system that has proven itself as a useful management tool over a period of years. It is adaptable to the handling of investment projects from inception to completion, without regard as to how the work is financed or where it is done. The system features such practices as advance planning and costing; determinations of feasibility in both engineering and repayment terms; identification of immediate and future financing needs; control of funds and work in progress; and reports on performance and cost in relation to established goals. Since these are primary requisites for the effective conduct and control of investment projects, the Bureau of Reclamation system provides an applied example that is useful for study and review.

The programme management system

The project entity is the basic unit employed for programming budgeting, accounting, and reporting in the Bureau of Reclamation. Projects are identified initially in the course of authorization and related planning studies. In general, they reflect a grouping of individual features and functional units that combine to serve the purposes of a specific developmental proposal. This illustration centres on the construction programme, which is financed by the single appropriation reflected in exhibit 2 of appendix N. That appropriation covers the advance planning and construction of authorized projects, and the operation and maintenance of features already completed under a project that is still in the construction stage.

The budget presentation for this appropriation identifies authorized projects as activities, sets forth the financing needs, and provides a brief narrative of the work plan for the budget year. This is supported by programme data on project accomplishments and goals; cost information that shows the costs involved in current projects, available resources on hand, and appropriation requirements for the completion of planned and authorized work; and a distribution of the financing request by object classification. For top level review purposes, the budget presentation for the construction programme thus presents several types of programme and financial data that permit a variety of analyses useful for sound decision-making purposes.

Utilizing the project as the basic entity for planning and control, the system employed by the Bureau of Reclamation has the following features:

(*a*) A uniform coding system that provides common denominator work and cost account classifications into which all work is classified for the purposes of estimating, scheduling, budgeting, costing, and reporting;

(*b*) Requirements for long-range planning over a seven-year period, as well as more detailed short-range planning and estimating for the annual budget as part of the long-term plan;

(*c*) A uniform method of developing estimates for each project that identifies the best current estimate of total cost regardless of the source of financing;

(*d*) A uniform control schedule that applies the time element to cost estimates and serves as the basis for planning, operating, control, and reporting;

(*e*) A uniform method of justifying budget requirements for each project, based on the related control schedule;

(*f*) A work order system that operates within the context of the approved programme — which authorizes work to be done, establishes time and cost limits, and the accounts to be maintained;

(*g*) A series of reports, based on the control schedules and work orders, that show results in terms of physical accomplishments, cost experience, and the use of funds.

Within this system, the financial management practices of the Bureau of Reclamation are adapted to the operating structure and are applied consistently throughout the organization in accordance with manualized instructions issued by the central office. For the purposes of fund control, authority and responsibility for use of appropriated funds within the approved programme are decentralized to the regions and the project offices. Allotments are made by project to regional directors, who in turn suballot funds to project offices where the detailed accounts are maintained. In some few cases, centralized accounting units are maintained at the regional level — also in terms of projects; and in those cases, allotments go no further than that level. Programme and operating controls are also based on the project entity, but are exercised in terms of costs. Responsibility for control of costs in relation to the approved programme is vested in operating officials at the project level.

The authorization and planning process

Before a project can be undertaken by the Bureau of Reclamation, the substantive proposal must be approved by the United States Congress. A project proposal can arise in a number of ways, e.g., stimulation by local citizens through requests of their representatives in Congress; action by a state to obtain Federal assistance in a local problem; proposals by individual congressmen to resolve local, regional, or national problems; or suggestions by the Bureau of Reclamation itself. Such a proposal might be designed primarily to develop municipal or industrial water, or to fill a need in a basin development plan; or it might cover the comprehensive development of a river basin, such as the Missouri River Basin work or the Central Valley Project in California (see appendix N).

To obtain Congressional authorization for a project proposal, a "feasibility report" (which involves a cost-benefit comparison) is prepared — to identify the major physical components of the proposal, its anticipated

benefits, estimated costs, and engineering feasibility. Essential findings are that the value of the benefits be equal to or exceed the costs, and a determination that the reimbursable costs can be repaid to the United States Government within the required time period. The investigations and studies for feasibility are made by regional staff of the Bureau of Reclamation and financed by the General Investigations appropriation. When a feasibility study is completed, it is reviewed throughout the Bureau and sent with a recommendation to the Secretary of the Interior. If he approves, the project proposal is submitted to the Bureau of the Budget and ultimately to Congress for consideration.

When approved by Congress, the feasibility study becomes the general guide for construction work, and funds are requested under the Construction and Rehabilitation appropriation for advance planning and ultimate construction of the proposed facility. The authorized proposal is refined in the advance planning stage by development of a Definite Plan Report, which describes in detail the physical features to be constructed and the estimated costs. The cost estimates are prepared in terms of current prices, and include the present value of donations from other projects, agencies etc. Those estimates are never final, however, until each feature is completed and placed in service. In the interim, they are revised periodically to reflect actual experience to date and the current best estimates for the future. Those revisions are made at least annually — as part of the budget process — to reflect the most accurate estimate of total cost and its effect on the benefit-cost ratio, i.e., the repayment feasibility of the project. As part of the budget, major revisions are explained and justified to the top level officials involved in executive and legislative budget review.

The costs of a project are required to be initially estimated and ultimately recorded in terms of the common-denominator property and cost-account classifications shown in exhibit 1 of appendix O. This coding system establishes property categories that are to be used to classify all work under a project, and identifies uniform cost accounts to be maintained under the property categories. A project that includes a steam powerplant, for example, would code such work under property class 10. Funds spent in clearing land for the powerplant site would be recorded under account 32. Throughout the conduct of that project, such work would be coded under the symbol 10.32. Since such an approach is used for all construction work, the project cost data are maintained on a consistent basis throughout the financial management system. This permits the development of summary and detailed information as required for different management purposes throughout the government.

Basic to the programming process is the Official Estimate exhibit 2 of appendix O. That form is required for each project from the time it is recommended for authorization by a finding of feasibility until construction is complete. The Official Estimate — in summary terms — identifies the features of the project, i.e., the major property classes like a dam, diversion works, powerplant etc.; physical measures of the work where appropriate; the current estimate of total cost for the project; a breakdown of costs by the kinds of labour, material, and services involved in the project; and the previous official estimate of total costs for the project. That summary is supported by detailed data on an identical form (as illustrated in exhibit 2), which shows the same type of programme measures and cost information for the units under each feature and for expenses that are to be distributed. The units under each feature reflect the property and cost account classifications of the uniform coding system — like clearing lands for a powerplant site (.10.32). Such code symbols are shown in the left-hand column of the form.

The cost data on these forms must cover the entire project and all costs chargeable to construction — including the values of property on hand or expected to be transferred in without expenditure of funds. The Official Estimate is prepared at the "grass roots" level, by the officials responsible for carrying out the work. each Official Estimate or revision must be approved by the Commissioner of the Bureau of Reclamation.

When an Official Estimate is approved, the time factor is added. This is done by means of the Control Schedule and the Supporting Schedule, parts A and B of exhibit 3, appendix O, which also are prepared by project personnel. Basically, these schedules, are bar charts that show programme and financial data and the timing of significant programme events. This includes the property and cost account classifications of the work; the description of the features of the project; the quantity and units of physical measure; bars showing the timing of the work; and the estimated completion date for each feature. The financial data include the total cost estimate; prior costs; projected costs for the current year, the budget year, and five succeeding years; and requirements beyond that period. The cost data in the various columns — representing work in place — are reconciled in total to the expenditures accrued (goods and services received); obligations (orders placed); funds available (allotments); and funds required for the future. The Supporting Schedule shows the work details under each feature, and provides a quarterly break-down of the current and budget years — using flag symbols to bring out the significant starting and completion dates for specific segments of the work. Since data in the Supporting Schedule are developed for each major segment of work — such as obtaining land rights or entering into a supply contract — it results in a detailed, bulky package that needs consolidation for management review purposes. This is done by means of the Control Schedule, which shows the same kinds of data consolidated by major feature of the project.

The Control Schedule is the keystone of the Bureau of Reclamation's programming process, since it provides the complete story and schedule on each project in total and in annual terms over a seven-year period. It simultaneously provides the basis for management decisions on long-range programming, preparation of the annual budget, and execution of an approved programme of work. After preparation at the "grass roots" level, it is subject to approval by responsible officials at the project office level, the regional director and his staff, the Commissioner and his staff, and — in the annual budget review — by top level officials in the executive and legislative

branches. When a Control Schedule is signed by the Commissioner of the Bureau of Reclamation, it becomes part of the approved programme that is to be carried out by project officials under the direction of a regional director.

Budget formulation and execution

In budget formulation, the regional directors each year prepare an advance construction programme that identifies all projects which may become active during the next seven-year programme period in order to establish long-range construction goals and provide for anticipated work. This requires the scheduling of construction on all projects not included in the budget year plan but on which the start of construction is anticipated before the end of the related seven-year period. The advance construction programme includes two categories of projects — those already authorized by Congress, and those not yet authorized but for which authorization and an appropriation of funds are expected in the period covered by the programme. The form prescribed for this purpose requires programme and cost data like that in a Control Schedule, and identification of the year in which construction work is expected to start.

In addition, preliminary estimates are prepared by field operating officials for all active projects, as a basis for developing an over-all estimate of construction requirements at the departmental level. This is done about fourteen months prior to the start of the budget year. Those estimates are based upon currently approved Control Schedules and are submitted in terms of a one-line entry for each project. The data presented for each project show past obligation requirements, the budgeted allowance for the forthcoming current year, the estimated requirements for going work and new work in the succeeding budget year, and obligation authority needed beyond that period until completion.

Following analysis of those data, top level guidance is provided in the form of the approved appropriation for the current year and a ceiling for the construction appropriation for the budget year. That guidance is used by project officials to firm up the current and budget year columns of each approved Control Schedule and its Supporting Schedules. After consideration of those data at the several management levels, a programme review conference — involving the Commissioner and his aides, and the regional directors and their staff assistants — is held to make final determinations. In this conference, the Supporting Schedules for each project are reviewed for feasibility of the planned work and the fund and cost requirements. Programme consistency and adherence to policy are given full consideration, arrangements are made for necessary co-ordinating action, problem areas are identified, and decisions are made on the steps to be taken by management at various levels of operation. The conference decisions are reflected in revised Control Schedules, which form the backbone of the budget submissions and justifications. Formal budget materials are prepared at the project level and reviewed at the regional and Washington, D.C. offices. After the Commissioner of the Bureau of Reclamation makes final determinations on the budget request, it is forwarded to the Department of the Interior for review and concurrence.

A full presentation of the construction programme is made to top level review officials in the executive and legislatives branches, based on the data shown in appendix N. Supplementing that presentation, justification materials in the form of parts A, B, and C of exhibit 4, appendix O are prepared to bring out the details of each project. The Project Data Sheet (part A), provides a summary picture that shows the location of the project, its features, benefits, and the percentage of completion; the dates of authorization, certification, and approval of the Definite Plan Report; the latest benefit-cost ratio, the allocation of costs among benefits, and the repayment provisions; and summary financial data that identify the source of financing for the total costs, and appropriation requirements of the past, present, and future. Brief narrative statements (part B), are provided on the work status and budget year plan for each feature; and a financial schedule that is drawn from the approved Control Schedule (part C), shows a break down of total cost by feature, and reconciles costs to financing. These data provide budget review officials at all levels an effective basis for analysis and decisions on appropriation requests.

Upon enactment of an appropriation for a fiscal year, necessary reprogramming action is taken within the Bureau of Reclamation, and a request for quarterly apportionment of funds is prepared. The proposed apportionments originate at the project level, are reviewed and consolidated at the regional and central offices, and are submitted to the Director of the Bureau of the Budget. Following the receipt of approved apportionments from the Budget Director, the Commissioner of the Bureau of Reclamation allots funds for the year by project to the regional directors and, through them, to the responsible project officials. Those allotments are based upon approved Control Schedules and, since they are made for the project as a whole, they allow the operating manager flexibility in the use of funds for features within a project. Thus, the allotment process serves the primary purpose of over-all fund control, which is exercised at the project level.

Cost accounting practices

Management and control of the work performed within a project is exercised in terms of the costs of putting work in place. While obligations are recorded in project allotment records when the Bureau of Reclamation is financially committed by a contract, purchase order etc., expenditures are accrued in the general and cost accounts when goods and services are received. Inventory, suspense, and clearing accounts are maintained for goods or services not directly chargeable to a project feature when received, and costs are entered in the designated cost accounts when action is taken to put work in place under a specific feature.

The cost accounting procedures are schematically illustrated in exhibit 5 of appendix O. The basis for those procedures is the Cost Authority, which is a form of work order. Since no operations are authorized without

a Cost Authority, and such an authority is not issued except for work included in an approved Control Schedule no work can proceed unless it is part of a programme that has had full review and approval.

The Cost Authority identifies the project, the feature, the related Control Schedule, the work to be done, the cost accounts to be maintained, and the time schedule for the work. The designated cost accounts, coded according to the uniform property and cost account classification (exhibit 1 of appendix O), accumulate applied costs — the costs of work in place. In addition to direct costs for labour, material, etc., they are charged with indirect costs that are assembled in clearing or suspense accounts and distributed monthly. Included among the costs that are charged to projects in this manner are the costs of supplies, equipment (including depreciation), and service facility shops — which are generally charged on the basis of use by the project; and general expenses, which are charged to a project in accordance with the proportion of total direct costs that are incurred by the project during the period. The sum of the charges recorded in these cost accounts gives a picture of work performed on a project within a given period.

As indicated by exhibit 5, financial data pertaining to a Cost Authority are recorded in a Cost Authority Ledger. The ledger is identified with the related Cost Authority by the property and cost account classification code, and the materials, labour, services etc., that are chargeable to the individual Cost Authority are recorded as outlined above. These ledgers provide the basic date for summary entries in the controlling general ledger accounts.

When the authorized physical work is finished, a Completion Report is prepared for each Cost Authority. That report is developed in summary form by feature and also in detail — in terms of the units under each feature. It brings together all pertinent programme and financial data — showing total costs and total work, the nature of the direct costs and the distribution of indirect costs, units of measurement, and unit costs. In turn, that report provides the basis for recordings in the Plant Ledger, which is the final book of entry for the cost of plant in service and supports the general ledger account balances.

Selected performance and fund reports

The data recorded in the cost accounts are brought together for performance analysis purposes by means of a monthly report, the Cost Authority Summary (exhibit 6 of appendix O). This report is used to sum up active cost authorities by significant project features and units, showing the identifying property and cost account classification code, the costs for the month and the total costs for the fiscal year and for the line item to date, and the major type of costs involved. The break-down of the detailed costs by type reflects the categories maintained in the Cost Authority Ledgers. Through these reports an evaluation can be made of the degree to which the financial objectives of the cost authorities are being attained.

For the use of middle management, a Summary Cost and Progress Report (exhibit 7 of appendix O) is prepared monthly after the accounts are closed. It shows, for each project by feature, the property and cost account classification code, the current estimates in relation to the approved estimates of cost for the fiscal year and for the total project, the fiscal year cost at the end of the reporting period, the total project cost to date, and the balance required to complete and the percentage of completion in each of those categories. In addition, like the Control Schedule, it reconciles the costs incurred to accrued expenditures, obligations, and available funding authority — in terms of the authorized allotment and unused funds. This report thus gives a picture of progress to date on a project — as reflected by the cost incurred — and shows the relationship of costs to available resources and the funding authority.

Supplementing that report, the Bureau of Reclamation employs a special report for top management that is due in the Office of the Commissioner by the fifth working day of each month. This is the Activities Digest Report, which is submitted by teletype and reflects key items from that Summary Cost and Progress Report. The selected items for this report are shown at the bottom of exhibit 7. Set up by project, the Activities Digest Report brings out the status of funds in terms of obligations to date and unobligated and unexpended balances; reflects financial progress for the year, in terms of accrued expenditures and the scheduled rate of expenditure — and the percentage relationship of those data; and provides space for a brief narrative on significant items that warrant the attention of top management.

In addition, the Bureau of Reclamation employs a report on the planned use of available funding authority that is directed towards utilizing fund allotments to the best possible advantage. This is the Forecast of Utilization of Construction Funds (exhibit 8 of appendix O). Such a forecast is required monthly for each project starting in the middle of each fiscal year. It is used to control fund use during the latter part of the year — by identifying the balances still available and their probable use, and the anticipated balance at the end of the year or the additional allotment needed. This report has been one of the most useful tools for making effective use of available funds and for keeping the program on schedule. It serves to highlight problems in the financing of project work in timely fashion, so that management can take needed corrective action.

Features of the system

Besides providing for control of available funds, the Bureau of Reclamation system has featured the use of cost accounting for programme management purposes. The system outlined above has gone through an extended period of development. In earlier years, cost accounts were maintained separately to accumulate the costs of work, while the general accounting system was developed along fund accounting lines and tied to the appropriation and budget process. At about the time the United States installed programme and performance budgeting, more business-like methods were adopted. This involved a major adjustment of accounting practices to develop an integrated fund and cost accounting system that

centred on authorized projects. During subsequent years that system has been adjusted and refined to provide a useful operating facility and management tool.

In retrospect, it should be recognized that regardless of intensive development and refinement work, a programme management system such as that illustrated is only as effective as the manner in which it is used by operating officials. The production of accurate, timely programme and financial data is not in itself the answer to effective management and control. Such data are of little value until the operating managers actively utilize the information in making the many management decisions needed to carry out an investment project. Experience in the United States Bureau of Reclamation has emphasized this point — operating decisions today are made at all levels on the basis of a common body of knowledge that is made available through the techniques outlined.

For example, because of the uniform classification of accounts, the system furnishes management at all levels with many opportunities for evaluation of the programming, estimating, and control practices employed. Operation of the system provides for a constant check of actual experience against estimates. Upon completion of a project, an appraisal can be made of the accuracy and validity of the estimating procedures used, and this results in a continuous refinement process. In the annual reappraisal of total project costs and preparation of budget year requirements, the prior year cost figures furnish the operating manager with data essential for planning and a sound basis for budget estimates. The measures of physical and financial progress for individual projects, together with the long-range schedules and estimates of work to be done, provide benchmarks useful for the evaluation of status and the progress being made in development plans.

The system also provides other kinds of benefits. To cite a few, the costs reports have identified cases where the dollar limitations specified in a contract with water users would probably be exceeded. This signalled the need for renegotiations with the water users to either modify the contract and the use rates, or to make an additional assessment for the work remaining to be done. In another case, the cost reports showed that if a claim by a contractor was allowed, the total cost of the project would exceed the amount approved by Congress. On the basis of that information, remedial legislation was introduced to obtain needed authority before the project was completed. Cost statements furnished by the system are used to support bills that are rendered to water users to cover their annual payments. Similarly, the cost records provide the basis for rate determinations in the hydro-electric power operations. Thus, the system employed by the Bureau of Reclamation — besides maintaining operations within the limits of available funds — provides an effective basis for management action in estimating requirements, controlling operations, and obtaining repayments in accordance with the requirements of basic legislation.

Appendix N, Exhibit 1

UNITED STATES BUDGET PRESENTATION OF RECLAMATION PROGRAMMES

Department of the Interior

BUREAU OF RECLAMATION

The Bureau plans, constructs, and operates facilities to irrigate lands, furnish domestic water supplies, and develop related hydroelectric power and flood control in the 17 western States and Alaska.

The enactment of legislation to establish a revolving fund for the financing of the reclamation programme is recommended in the Budget Message.

Appropriations to the Bureau are made from the general fund and special funds. The special funds are (*a*) the Reclamation fund, largely derived from certain irrigation and power revenue; receipts from the sale, lease, and rental of public lands; and certain oil and mineral revenue; (*b*) the Colorado River Dam fund, derived from the revenue of the Boulder Canyon project; and (*c*) the Colorado River Development fund, derived from transfers of money from the Colorado River Dam fund. The estimates of appropriation for the budget year are summarized by source, as follows (in thousands of dollars):

Appropriation title	*Estimate of appropriation*	*General fund*	*Reclamation fund*	*Colorado River Dam fund*	*Colorado River Development fund*	*Other*
General investigations . . .	5,850	550	4,800	....	500	..
General investigations (special foreign currency program)	4,500	4,500	.....	....	...	..
Construction and rehabilitation	158,250	88,250	70,000	....	...	..
Operation and maintenance .	34,400	4,822	28,087	1,491	...	..
General administrative expenses	9,430	.....	9,430	....	...	..
Loan program	12,212	12,212	.....	....	...	..
Upper Colorado River Basin fund	60,700	60,700	.....	....	...	..
Emergency fund	1,000	.....	1,000	....	...	..
Permanent authorizations . .	3,975	.....	75	3,871	...	29
Total	290,317	171,034	113,392	5,362	500	29

The total appropriation request of $290.3 million represents an increase of $4.7 million compared with the estimated current year appropriations and an increase of $30.1 million compared with the preceding year.

NITED STATES BUDGET

PRESENTATION OF CONSTRUCTION

AND REHABILITATION PROGRAMME

BUREAU OF RECLAMATION—Continued

Current authorizations—Continued

CONSTRUCTION AND REHABILITATION

For construction and rehabilitation of authorized reclamation projects or parts thereof (including power transmission facilities) and for other related activities, as authorized by law, to remain available until expended, [$166,444,880] *$158,250,000*, of which [$90,000,000] *$70,000,000* shall be derived from the reclamation fund: *Provided*, That no part of this appropriation shall be used to initiate the construction of transmission facilities within those areas covered by power wheeling service contracts which include provision for service to Federal establishments and preferred customers, except those transmission facilities for which construction funds have been heretofore appropriated, those facilities which are necessary to carry out the terms of such contracts or those facilities for which the Secretary of the Interior finds the wheeling agency is unable or unwilling to provide for the integration of Federal projects or for service to a Federal establishment or preferred customer[: *Provided further*, That not to exceed $25,000 shall be available toward investigation and the emergency rehabilitation of the Dalton Gardens, Avondale, and Hayden Lake Unit, Rathdrum Prairie Irrigation Projects, Idaho, to be repaid in full under conditions satisfactory to the Secretary of the Interior].

[For an additional amount for advance planning activities on the Canadian River project, Texas, $300,000: *Provided*, That the limitation under this head in the Interior Department Appropriation Act, 1955, on the amount available toward the emergency rehabilitation of the Crescent Lake Dam project, Oregon, is increased from $297,000 to $305,000.] (*43 U.S.C. 391, 485, 504; Public Works Appropriation Act, 1961; Second Supplemental Appropriation Act, 1961.*)

Note.—Estimate for 1962 excludes $2,805 thousand for activities transferred in the estimates to "General administrative expenses." The amounts obligated in 1960 and 1961 are shown in the schedule as comparative transfers.

Program and Financing (in thousands of dollars)

	1960 actual	1961 estimate	1962 estimate
Program by activities:			
1. Advance planning	123	829	380
2. Gila project, Arizona	3,231	3,733	1,460
3. Colorado River front work and levee system, Arizona-California	184	1,169	1,390
4. Central Valley project, California	42,629	50,032	55,338
5. Collbran project, Colorado	4,339	5,163	534
6. Avondale, Dalton Gardens and Hayden Lake pipe rehabilitation, Idaho		25	
7. Palisades project, Burns Creek Dam and powerplant, Idaho			487
8. Wichita project, Cheney division, Kansas			1,200
9. Washoe project, Nevada-California	756	2,647	968
10. McMillan Delta project, New Mexico	72	228	
11. Middle Rio Grande project, New Mexico	1,749	1,790	1,825
12. Norman project, Oklahoma			900
13. Washita Basin project, Oklahoma	8,432	6,938	1,800
14. Rogue River Basin project, Talent division, Oregon	2,955	2,557	789
15. The Dalles project, western division, Oregon			350
16. Vale project, Bully Creek extension, Oregon			690
17. Klamath project, Oregon-California	478	928	1,034
18. Canadian River project, Texas			1,450
19. Lower Rio Grande rehabilitation project, LaFeria division, Texas		500	1,200
20. Lower Rio Grande rehabilitation project, Mercedes division, Texas	1,240	2,176	2,291
21. San Angelo project, Texas	3,930	11,020	8,034
22. Provo River project, Utah	179	1,304	827
23. Weber Basin project, Utah	5,007	6,030	8,615
24. Chief Joseph Dam project, Greater Wenatchee division, Washington	205	1,740	2,367
25. Columbia Basin project, Washington	7,208	4,316	4,340
26. Drainage and minor construction program	10,292	8,203	2,262
27. Rehabilitation and betterment of existing projects	3,209	3,840	4,039
28. Missouri River Basin:			
(a) Ainsworth unit, Nebraska	104	1,660	3,559
(b) Almena unit, Kansas		770	3,305
(c) Cedar Bluff unit, Kansas	169	1,299	1,493
(d) East Bench unit, Montana	318	3,442	5,920
(e) Farwell unit, Nebraska	2,486	7,723	5,955
(f) Frenchman-Cambridge division, Nebraska	3,329	5,339	3,158
(g) Transmission division (including Fort Peck project)	15,482	23,217	20,124
(h) Yellowtail unit, Montana-Wyoming	15	2,430	10,840
(i) Drainage and minor construction program	9,472	3,829	1,350
(j) Investigations	608	882	760
(k) Advance planning	1,007	1,466	1,710
Subtotal, Missouri River Basin, Bureau of Reclamation	32,990	52,057	58,174
(l) Other Department of the Interior agencies	2,593	2,872	3,000
Total, Missouri River Basin	35,583	54,929	61,174
29. Prior year balances of advances to chief engineer, Denver, Colo., and centralized project activities in the regional offices	250	1,329	
30. Undistributed reduction based on anticipated delays			−7,000
Total obligations	132,051	171,426	158,744
Financing:			
Comparative transfers to other accounts	2,477	2,785	
Unobligated balance brought forward	−9,793	−8,043	−577
Recovery of prior year obligations	−312		
Unobligated balance carried forward	8,043	577	83
New obligational authority	132,466	166,745	158,250
New obligational authority:			
Reclamation fund, special fund	95,000	90,000	70,000
General fund	37,466	76,745	88,250
Appropriation	132,466	166,745	158,250

Current authorizations—Continued

The program consists of advance planning, design, and construction of authorized projects, operation and maintenance during construction of completed features of projects, and rehabilitation of existing facilities. Investigations and advance planning for units of the Missouri River Basin are included under that project.

Work will be continued in 1962 on 27 projects and 19 units and divisions of the Missouri River Basin project started in prior years and construction will be initiated on 5 new projects with estimated costs totaling $141 million. Three of the five new projects are designed primarily to provide municipal and industrial water; two will furnish supplemental water for lands now inadequately supplied and also serve some new acreage. Six projects and 2 units of the Missouri River Basin project will be completed in 1962. The program also includes rehabilitation and betterment work on 12 projects. During the year facilities for 91,500 acres of irrigated land and 108,500 kilowatts of new power generating capacity will be completed.

The following workload table summarizes the program goals and accomplishments.

PROGRAM WORKLOAD SUMMARY

[Dollars in millions—acres and kilowatts in thousands]

	Estimated total project cost	Estimated transfers to/from (−) other projects or funds, net	Total estimate of costs to this appropriation	Program accomplished through 1961			1962 program goals		
				Power (kilowatts installed capacity)	Irrigation		Power (kilowatts installed capacity)	Irrigation	
					New acres [1]	Supplemental acres [2]		New acres [1]	Supplemental acres [2]
Completed, June 30, 1960 (77 projects and 5 Missouri River Basin units)	$740.8	-------	$740.8	705.8	2,264.1	2,748.9	-----	----	----
Completed, 1961 (11 projects and 2 Missouri River Basin units)	189.2	−$1.0	188.2	164.0	20.3	75.9	-----	----	----
Inactive, 1962 (1 project and 3 Missouri River Basin units)	45.6	-------	45.6	1.5	52.5	57.4	-----	----	----
Authorization pending (1 project)	45.4	−0.2	45.2	-------	-------	-------	-----	----	----
Under construction, 1962:									
Continuing:									
Central Valley	1,105.2	4.2	1,109.4	629.5	34.9	818.8	-----	6.7	----
Columbia Basin	960.5	−35.7	924.8	1,974.0	440.3	-------	-----	10.4	----
Missouri River Basin:									
Ainsworth	26.1	−0.7	25.4	-------	-------	-------	-----	----	----
Almena	15.4	−0.3	15.1	-------	-------	-------	-----	----	----
East Bench	21.7	−0.5	21.2	-------	-------	-------	-----	----	----
Farwell	32.4	-------	32.4	-------	-------	-------	-----	----	----
Frenchman-Cambridge Division	77.8	−0.6	77.2	-------	43.0	9.6	-----	7.1	----
Transmission Division	330.2	−3.9	326.3	-------	-------	-------	-----	----	----
Yellowtail	109.3	−1.8	107.5	-------	-------	-------	-----	----	----
Weber Basin	97.5	−1.7	95.8	5.7	4.6	5.6	-----	6.6	3.6
San Angelo	29.0	−0.2	28.8	-------	-------	-------	-----	----	----
Other (10 projects and 1 Missouri River Basin unit)	264.2	−2.3	261.9	16.0	329.0	23.8	-----	28.4	----
Drainage and minor construction (13 projects and 11 Missouri River Basin units)	552.9	−11.2	541.7	381.6	1,108.3	-------	-----	12.4	10.9
Total continuing (27 projects and 19 Missouri River Basin units)	3,622.2	−54.7	3,567.5	3,006.8	1,960.1	857.8	-----	71.6	14.5
Completed:									
Boulder Canyon	174.4	−7.7	166.7	1,249.8	-------	-------	95.0	----	----
Collbran	16.0	−0.3	15.7	-------	1.9	15.3	13.5	.6	4.5
Middle Rio Grande	33.8	−2.1	31.7	-------	121.4	-------	-----	.3	----
Missouri River Basin:									
Glendo	43.8	-------	43.8	72.0	-------	37.6	-----	----	----
Owl Creek	6.0	−0.6	5.4	-------	-------	13.1	-----	----	----
Provo River	36.4	−0.4	36.0	4.9	-------	46.6	-----	----	----
Rio Grande, Elephant Butte power	16.7	−0.8	15.9	24.3	-------	-------	-----	----	----
Solano	38.9	−0.6	38.3	-------	71.9	24.2	-----	----	----
Total completed (6 projects and 2 Missouri River Basin units)	366.0	−12.5	353.5	1,351.0	195.2	136.8	108.5	0.9	4.5
New project starts:									
Canadian River	96.1	−0.8	95.3	-------	-------	-------	-----	----	----
Norman	19.0	−0.2	18.8	-------	-------	-------	-----	----	----
The Dalles, western division	5.9	−0.2	5.7	-------	-------	-------	-----	----	----
Vale, Bully Creek	3.3	−0.2	3.1	-------	-------	-------	-----	----	----
Wichita, Cheney division	18.3	−0.1	18.2	-------	-------	-------	-----	----	----
Total new project starts (5 projects)	142.6	−1.5	141.1	-------	-------	-------	-----	----	----
Total construction (38 projects and 21 Missouri River Basin units)	4,130.8	−68.7	4,062.1	4,357.8	2,155.3	994.6	108.5	72.5	19.0
Rehabilitation and betterment (work on 12 projects)	42.0	−0.3	41.7	-------	-------	-------	-----	----	----
Grand total, Construction and rehabilitation	5,193.8	−70.2	5,123.6	5,229.1	4,492.2	3,876.8	108.5	72.5	19.0

[1] Lands to receive a new full supply of irrigation water.

[2] Additional water supply for irrigated lands now inadequately supplied.

Current authorizations—Continued

CONSTRUCTION AND REHABILITATION—Continued

Project costs to this appropriation are presented in the following table:

PROGRAM BY ACTIVITIES

[In thousands of dollars]

	Costs to this appropriation					Analysis of 1962 financing			
	Total estimate	To June 30, 1959	1960 actual	1961 estimate	1962 estimate	Deduct selected resources and unobligated balance, start of year	Add selected resources and unobligated balance, end of year	Appropriation required for 1962	Appropriation required to complete
1. Advance planning	3,813	2,476	123	829	380	-------	-------	380	5
2. Gila project, Arizona	74,586	53,942	2,873	3,811	1,697	347	110	1,460	12,153
3. Colorado River front work and levee system, Arizona-California	12,600	6,133	238	1,169	1,390	-------	-------	1,390	3,670
4. Central Valley project, California	1,109,424	549,020	45,663	54,354	56,419	752	−329	55,338	404,297
5. Collbran project, Colorado	15,685	4,302	4,056	6,580	747	213	-------	534	-------
6. Avondale, Dalton Gardens and Hayden Lake pipe rehabilitation, Idaho	1,225	-------	-------	25	-------	-------	-------	-------	1,200
7. Palisades project, Burns Creek Dam and powerplant, Idaho	45,154	-------	-------	-------	387	487	100	-------	44,667
8. Wichita project, Cheney division, Kansas	18,198	-------	-------	-------	1,145	-------	55	1,200	16,998
9. Washoe project, Nevada-California	50,547	387	472	2,908	981	94	81	968	45,718
10. McMillan Delta project, New Mexico	1,173	62	72	228	-------	-------	-------	-------	811
11. Middle Rio Grande project, New Mexico	31,729	25,849	1,877	2,171	1,832	7	-------	1,825	-------
12. Norman project, Oklahoma	18,797	-------	-------	-------	872	-------	28	900	17,897
13. Washita Basin project, Oklahoma	37,467	10,892	7,829	8,388	1,906	132	26	1,800	8,426
14. Rogue River Basin project, Talent division, Oregon	23,492	16,083	3,554	3,011	811	−27	−49	789	82
15. The Dalles project, western division, Oregon	5,680	-------	-------	-------	340	-------	10	350	5,330
16. Vale project, Bully Creek extension, Oregon	3,089	-------	-------	-------	679	-------	11	690	2,399
17. Klamath project, Oregon-California	19,522	15,088	346	1,088	1,034	28	28	1,034	1,938
18. Canadian River project, Texas	95,330	-------	-------	-------	1,450	-------	-------	1,450	93,880
19. Lower Rio Grande rehabilitation project, La Feria division, Texas	5,738	-------	-------	490	1,193	10	17	1,200	4,038
20. Lower Rio Grande rehabilitation project, Mercedes division, Texas	10,760	191	826	2,327	2,784	517	24	2,291	4,608
21. San Angelo project, Texas	28,816	350	2,103	12,538	8,279	330	85	8,034	5,461
22. Provo River project, Utah	35,997	33,674	168	1,316	839	12	-------	827	-------
23. Weber Basin project, Utah	95,780	35,932	5,402	8,143	8,636	196	175	8,615	37,492
24. Chief Joseph Dam project, Greater Wenatchee division, Washington	7,801	-------	187	1,400	2,700	358	25	2,367	3,489
25. Columbia Basin project, Washington	924,790	535,063	6,701	6,368	4,570	1,828	1,598	4,340	370,490
26. Drainage and minor construction program	912,377	871,725	9,676	10,981	2,585	547	217	2,255	17,193
27. Rehabilitation and betterment of existing projects	46,606	20,507	3,108	4,307	4,048	183	174	4,039	14,462
28. Missouri River Basin:									
(a) Ainsworth unit, Nebraska	25,435	377	203	1,639	3,528	127	158	3,559	19,530
(b) Almena unit, Kansas	15,121	-------	-------	770	3,305	-------	-------	3,305	11,046
(c) Cedar Bluff unit, Kansas	18,301	13,870	170	1,299	1,493	1	1	1,493	1,468
(d) East Bench unit, Montana	21,200	-------	220	3,353	5,928	187	179	5,920	11,520
(e) Farwell unit, Nebraska	30,783	528	1,869	7,885	6,342	530	143	5,955	14,016
(f) Frenchman-Cambridge division, Nebraska	77,160	60,295	3,011	5,966	3,158	545	545	3,158	4,185
(g) Transmission division (including Fort Peck project)	326,294	127,514	14,759	25,705	21,369	1,582	337	20,124	136,610
(h) Yellowtail unit, Montana-Wyoming	107,491	2,886	39	1,681	10,075	790	1,555	10,840	91,255
(i) Drainage and minor construction program	341,612	253,887	11,231	6,777	1,365	54	39	1,350	68,313
(j) Investigations	56,825	43,722	605	890	761	62	61	760	10,786
(k) Advance planning	23,114	12,799	1,191	1,478	1,712	87	85	1,710	5,849
Subtotal, Missouri River Basin, Bureau of Reclamation	1,043,336	515,878	33,298	57,443	59,036	3,965	3,103	58,174	374,578
(l) Other Department of the Interior agencies	[1] 58,508	50,043	2,531	2,934	3,000	-------	-------	3,000	-------
Total, Missouri River Basin	1,101,844	565,921	35,829	60,377	62,036	3,965	3,103	61,174	374,578
29. Adjustment in cost—prior year balance of advances to chief engineer, Denver, Colo., and centralized project activities in the regional offices	-------	-------	54	1,525	-------	-------	-------	-------	−1,579
30. Undistributed reduction in program costs reflected in undelivered orders	-------	-------	-------	−10,000	-------	10,000	10,000	-------	-------
31. Undistributed reduction based on anticipated delays	-------	-------	-------	-------	−7,000	-------	-------	−7,000	7,000
Total program costs	4,738,020	2,747,597	131,157	184,334	162,740	19,979	15,489	158,250	1,496,703
32. Relation of costs to obligations:									
Costs financed from obligations of other years, net (−)			-------	−12,908	−3,996				
Obligations incurred for costs of other years, net			894	-------	-------				
Total obligations			132,051	171,426	158,744				

[1] Represents total cost to June 30, 1962.

Current authorizations—Continued

32. *Relation of costs to obligations.*—The relationship is derived from year-end balances of selected resources and applicable adjustment as reflected in the following table (in thousands of dollars):

	1959 actual	*1960 actual*	*1961 estimate*	*1962 estimate*
Selected resources at end of year: Inventories and items on order:				
Stores (goods unconsumed by projects)	1,081	741	602	589
Unpaid undelivered orders (appropriation balances obligated for goods and services on order not yet received)	20,803	26,168	13,531	10,000
Service facilities (acquisition value of facilities less depreciation charged to project cost)	9,419	5,029	4,857	4,380
Deferred charges (investigations of abandoned or unprogramed works, operation and maintenance during construction, and investments)	424	372	412	437
Total selected resources at end of year	31,728	32,310	19,402	15,406
Selected resources at start of year (—)		−31,728	−32,310	−19,402
Adjustment due to recovery of prior year obligations		312	-------	-------
Costs financed from obligations of other years, net (—)		-------	−12,908	−3,996
Obligations incurred for costs of other years, net		894	-------	-------

Object Classification (in thousands of dollars)

		1960 actual	1961 estimate	1962 estimate
	BUREAU OF RECLAMATION			
11	Personnel compensation:			
	Permanent positions	20,798	23,416	22,656
	Positions other than permanent	345	285	272
	Other personnel compensation	769	774	552
	Total personnel compensation	21,913	24,475	23,480
12	Personnel benefits	1,468	2,003	1,944
21	Travel and transportation of persons	944	1,042	1,039
22	Transportation of things	314	344	313
23	Rent, communications, and utilities	489	549	512
24	Printing and reproduction	158	208	170
25	Other services	1,548	5,090	7,485
	Services of other agencies	333	312	329
26	Supplies and materials	1,554	2,208	2,245
31	Equipment	1,345	1,515	1,320
32	Lands and structures	98,988	130,651	116,322
33	Investments and loans	95	78	74
41	Grants, subsidies, and contributions	14	13	10
42	Insurance claims and indemnities	157	40	20
44	Refunds	16	12	12
	Subtotal	129,355	168,540	155,275
	Deduct quarters and subsistence charges	180	174	195
	Total, Bureau of Reclamation	129,155	168,366	155,080
	ALLOCATION ACCOUNTS			
11	Personnel compensation:			
	Permanent positions	606	703	793
	Positions other than permanent	38	40	43
	Other personnel compensation	8	6	3
	Total personnel compensation	652	749	839
12	Personnel benefits	42	53	58
21	Travel and transportation of persons	76	86	88
22	Transportation of things	6	4	5
23	Rent, communications, and utilities	9	13	10
24	Printing and reproduction	7	11	11
25	Other services	1,786	1,958	2,040
	Services of "Revolving fund, Corps of Engineers—Civil"	----------	3	16
26	Supplies and materials	21	36	44
31	Equipment	4	5	6
32	Lands and structures	293	142	547
	Total allocation accounts	2,896	3,060	3,664
	Total obligations	132,051	171,426	158,744

Object Classification (in thousands of dollars)—**Continued**

	1960 actual	1961 estimate	1962 estimate
Obligations are distributed as follows:			
Bureau of Reclamation	129,155	168,366	155,080
Bureau of Sport Fisheries and Wildlife	225	260	280
Geological Survey	1,639	1,798	1,880
Bureau of Indian Affairs	173	193	196
Bureau of Land Management	201	228	250
Bureau of Mines	122	133	140
National Park Service	233	260	254
Corps of Engineers—Civil	303	188	664

Personnel Summary

	1960 actual	1961 estimate	1962 estimate
BUREAU OF RECLAMATION			
Total number of permanent positions	4,071	4,141	3,948
Full-time equivalent of other positions	81	74	66
Average number of all employees	3,419	3,660	3,570
Number of employees at end of year	3,591	3,707	3,684
Average GS grade	7.5	7.5	7.5
Average GS salary	$6,223	$6,667	$6,708
Average salary of ungraded positions	$5,500	$5,705	$5,788
ALLOCATION ACCOUNTS			
Total number of permanent positions	120	121	137
Full-time equivalent of other positions	6	6	7
Average number of all employees	105	109	125
Number of employees at end of year	111	115	131
Average GS grade	7.6	7.6	7.6
Average GS salary	$6,059	$6,562	$6,594
Average salary of ungraded positions	$5,194	$5,317	$5,342

PROPERTY CLASSES AND COST ACCOUNTS

COST ACCOUNT No.	Title	Reservoirs and Dams 01	Diversion Works 02	Pumping Plants 03	Canals and Conduits 04	Deep Wells 05	Laterals 06	Drains 07	Development Farms 08	Channels, Levees, and Floodworks 09	Powerplants - Steam 10	Powerplants - Hydro 11	Powerplants - Internal Combustion 12	Transmission Lines, Switchyards, and Substations 13	Distribution Lines and Substations 14	General Property 15
30	Land and Rights	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
31	Relocations of Existing Property	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
32	Clearing Lands	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
33	Structures and Improvements	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
34	Reservoirs	34	34													
35	Dams	35	35													
36	Waterways	36	36	36	36	36	36	36		36		36				
37	Canal or Lateral Structures					37	37		37							
38	Canal or Lateral Protective Works					38	38		38							
39	Drainage Structures							39	39							
40	Pumps and Prime Movers			40	40				40							
41	Waterwheels, Turbines, and Generators											41				
42	Boiler Plant Equipment										42					
43	Engines and Engine-driven Generators										43					
44	Turbo-generator Units										44					
45	Fuel Holders, Producers, and Accessories												45			
46	Internal Combustion Engines												46			
47	Generators												47			
48	Accessory Electric Equipment			48	48						48	48	48			
49	Miscellaneous Equipment	49	49	49	49	49	49	49	49	49	49	49	49			49
50	Roads, Railroads, and Bridges	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
51	Station Equipment, Electric													51	51	
52	Towers and Fixtures													52	52	
53	Poles and Fixtures													53	53	
54	Overhead Conductors and Devices													54	54	
55	Underground Conduit													55	55	
56	Underground Conductors and Devices													56	56	
57	Storage Battery Equipment														57	
58	Line Transformers														58	
59	Services														59	
60	Meters														60	
61	Installations on Customers' Premises														61	
62	Leased Property on Customers' Premises														62	
63	Street Lighting and Signal Systems														63	
72	Office Furniture and Equipment															72
73	Transportation Equipment								73							73
74	Stores Equipment															74
75	Shop Equipment															75
76	Laboratory Equipment															76
77	Tools and Work Equipment								77							77
78	Communication Equipment															78
80	Other Tangible Plant															80

Appendix O, Exhibit 2

OFFICIAL ESTIMATE FORM

Form PF-1
(3-57)
Bureau of Reclamation

OFFICIAL
ESTIMATE

Project: BIG RIVER
PINEVILLE, UTAH

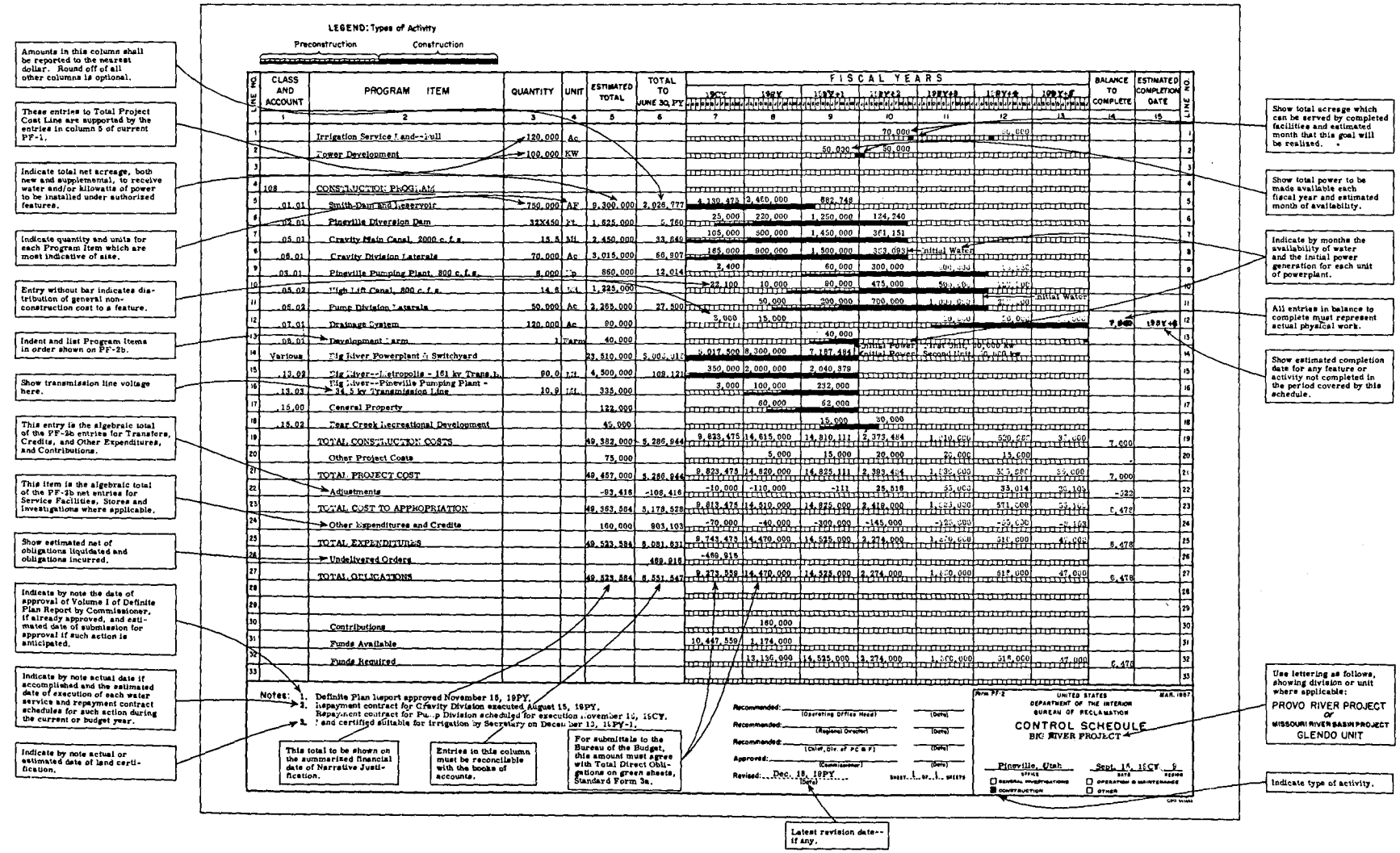
Prepared by: E. F. Brown (Prog. Eng.) Approved by: John Jones (Constr. Eng.)

Date of Estimate: July 1, 19CY

Sheet 2 of 12

Cost Classification	DESCRIPTION	Quantity	Unit Cost	Total Estimate	Labor and materials by contractor	Materials and Supplies by Govt.	Labor by Government Forces	Service Facilities	Investigations, Engineering and Other Costs	Previous Official Estimate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
01.01	SMITH DAM AND RESERVOIR			9,300,000	5,894,000	1,980,032	250,968	180,000	995,000	9,000,000
.30	Land	7,218 Ac.		123,000	110,000	-	-	1,000	12,000	150,000
.31	County Road Relocation - 18' Conc.	2.7 Mi.		441,000	383,000	10,000	-	8,000	40,000	350,000
.32	Reservoir Clearing	10,000 Ac.		262,500	235,000	-	-	500	27,000	200,000
	Less: Credit from sale of timber			-50,000		-50,000				-50,000
.33	Gaging and Recording Equipment			12,200	-	7,000	3,500	500	1,200	12,200
.34	Grouting and Sealing Reservoir			124,000	73,000	16,000	22,000	2,000	11,000	124,000
.35	Dam - Gravity Conc.; 220'x2095'; 750,000 A.F.; 2 - 4'x8' slide gate outlets; 4 - 20'x40' taintor crest gates; spillway bridge			7,460,000	4,651,000	1,720,032	152,968	130,400	805,600	7,573,500
.36	Channel Rectification and Riprap			894,000	430,000	260,000	72,000	37,000	95,000	894,000
.49	Misc. Equip. - derrick barge and patrol tug			18,400	-	16,000	500	100	1,800	18,400
.50	Dam and Res. access road, 18" mac.	0.56 Mi.		14,900	12,000	1,000	-	500	1,400	14,900
02.01	PINEVILLE DIVERSION DAM			1,625,000	1,341,000	72,000	65,000	31,000	116,000	1,800,000
	32'x450' concrete overflow incl. east side headworks for main canal: 2 - 15'x10' radial inlet gates and elec. hoists									
.30	Land	700 Ac.		70,000	70,000	-	-	-	-	70,000
.33	Gate tender's residence and garage			22,000	16,000	3,000		1,000	2,000	0
.35	Dam and Reservoir			1,516,500	1,254,500	67,000	61,000	24,000	110,000	1,680,000
.50	Gravel access road - grading, drainage	1.65 Mi.		16,500	500	2,000	4,000	6,000	4,000	50,000
	TOTAL CONSTRUCTION COST			49,382,000	39,994,000	12,243,032	990,968	844,000	5,310,000	50,000,000
151	TRANSITIONAL DEVELOPMENT (Detail as directed)			75,000	-	-	-	3,000	72,000	0
	TOTAL PROJECT COST			49,457,000	39,994,000	12,243,032	990,968	847,000	5,382,000	50,000,000

CONTROL SCHEDULE FORM



LINE NO.	CLASS AND ACCOUNT	PROGRAM ITEM	QUANTITY	UNIT	ESTIMATED TOTAL	TOTAL TO JUNE 30, PY	FISCAL YEARS 19CY	19BY	19BY+1	19BY+2	19BY+3	19BY+4	19BY+5	BALANCE TO COMPLETE	ESTIMATED COMPLETION DATE	LINE NO.
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	1
1		Irrigation Service Land--Full	120,000	Ac						70,000						1
2		Power Development	100,000	KW					50,000	50,000						2
3																3
4	108	CONSTRUCTION PROGRAM														4
5	.01.01	Smith-Dam and Reservoir	750,000	AF	9,300,000	2,028,777	4,130,475	2,460,000	682,748							5
6	.02.01	Pineville Diversion Dam	32X450	Ft.	1,625,000	5,760	25,000	220,000	1,250,000	124,240						6
7	.05.01	Gravity Main Canal, 2000 c.f.s.	15.5	Mi.	2,450,000	33,849	105,000	900,000	1,450,000	361,151						7
8	.06.01	Gravity Division Laterals	70,000	Ac	3,015,000	66,907	165,000	900,000	1,500,000	383,093	Initial Water					8
9	.03.01	Pineville Pumping Plant, 800 c.f.s.	8,000	Hp	860,000	12,014	2,400		60,000	300,000	[illegible]	[illegible]	[illegible]			9
10	.05.02	High Lift Canal, 800 c.f.s.	14.8	Mi.	1,225,000		22,100	10,000	90,000	475,000	500,000	[illegible]	[illegible]			10
11	.06.02	Pump Division Laterals	50,000	Ac	2,265,000	27,500	50,000		200,000	700,000	[illegible]	[illegible]	Initial Water			11
12	.07.01	Drainage System	120,000	Ac	90,000		3,000	15,000			[illegible]	[illegible]	[illegible]			12
13	.08.01	Development Farm	1	Farm	40,000				40,000							13
14	Various	Big River Powerplant & Switchyard			23,510,000	5,000,000	5,017,500	8,300,000	7,187,484	Initial Power, First Unit				10,000 kw		14
15	.13.02	Big River--Metropolis - 161 kv Trans.L.	90.0	Mi.	4,500,000	108,121	350,000	2,000,000	2,040,379							15
16	.13.03	Big River--Pineville Pumping Plant - 34.5 kv Transmission Line	10.9	Mi.	335,000		3,000	100,000	232,000							16
17	.15.00	General Property			122,000			60,000	62,000							17
18	.15.02	Bear Creek Recreational Development			45,000				15,000	30,000						18
19		TOTAL CONSTRUCTION COSTS			49,382,000	5,286,944	9,823,475	14,615,000	14,810,111	2,375,464	1,110,000	520,000	97,000	7,000		19
20		Other Project Costs			75,000			5,000	15,000	20,000	20,000	15,000				20
21		TOTAL PROJECT COST			49,457,000	5,286,944	9,823,475	14,620,000	14,825,111	2,395,464	1,130,000	535,000	97,000	7,000		21
22		Adjustments			-83,416	-108,416	-10,000	-110,000	-111	25,518	35,000	33,014	26,103	-522		22
23		TOTAL COST TO APPROPRIATION			49,383,584	5,178,528	9,813,475	14,510,000	14,825,000	2,419,000	1,165,000	571,000	93,103	6,478		23
24		Other Expenditures and Credits			160,000	903,103	-70,000	-40,000	-300,000	-145,000	-125,000	-55,000	-4,103			24
25		TOTAL EXPENDITURES			49,523,584	6,081,631	9,743,475	14,470,000	14,525,000	2,274,000	1,040,000	516,000	89,000	6,478		25
26		Undelivered Orders				469,916	-469,916									26
27		TOTAL OBLIGATIONS			49,523,584	6,551,547	9,273,559	14,470,000	14,525,000	2,274,000	1,040,000	516,000	47,000	6,478		27
28																28
29																29
30		Contributions						160,000								30
31		Funds Available					10,447,559	1,174,000								31
32		Funds Required						13,136,000	14,525,000	2,274,000	1,300,000	516,000	47,000	6,478		32
33																33

Appendix O, Exhibit 3, Part B

SUPPORTING SCHEDULE FORM

Total irrigable acreage which can be adequately irrigated through facilities constructed by the Bureau.

Total irrigable acreage to receive a partial water supply from project facilities constructed by the Bureau.

Reservoir capacity shown should be exclusive of superstorage.

Indicate in this column specification number when known and the office having primary responsibility for flagged actions.

The costs of each feature are on a net basis with all credits and revenues arising directly from construction activities being credited directly to that feature with a contra entry on line "Transfers, Credits, and Other Expenditures" to arrive at the necessary appropriation.

Show quantity and unit of measurement where applicable.

Indicate month, day, and year of award of existing contracts. The month and year of awards proposed in future years may be shown if desired. Also show quantity and unit of measurement where applicable.

LINE NO	PROGRAM ITEM	SPEC. NO. RESPON. OFF.	QUANTITY AND UNIT DATE OF AWARD	ESTIMATED TOTAL	TOTAL AS OF JUNE 30, 19PY	CURRENT FISCAL YEAR 19CY TOTAL	CURRENT FISCAL YEAR 19CY QUARTERS 1 2 3 4	BUDGET FISCAL YEAR 19BY TOTAL	BUDGET FISCAL YEAR 19BY QUARTERS 1 2 3 4	FUTURE FISCAL YEARS 19BY+1	19BY+2	19BY+3	19BY+4	19BY+5	BALANCE TO COMPLETE	LINE NO
	1	2	3	4	5	6	7 8 9 10	11	12 13 14 15	16	17	18	19	20	21	
1	Irrigation Service Land--Full		120,000 Ac								70,000		50,000			1
2	Irrigation Service Land--Supplemental		None													2
3	Power Development		100,000 Kw							50,000	50,000					3
4																4
5	01.01 Smith Dam and Reservoir		750,000 AF	9,300,000	2,026,777	4,130,475		2,460,000		682,748	Storage Initiated					5
6	Prime Contract Utah Construction	DC-2846	1-14-PY	4,986,000	1,225,834	2,363,200		946,543		450,523						6
7	Furnish Cement Ajax Cement Co.	900S-217	1,100,000 Bbls 2-20-PY	1,148,000	220,958	604,422		319,000		3,608						7
8	Highway Trestles American Bridge Co.	900S-222	2-40' Spans 4-5-PY	361,000	63,422	257,578	Comp Field Data	40,000								8
9	Spillway Stilling Basin			245,000		St. Field Data 60,000		185,000								9
10		AC&CE	3-CY				Issue Awd									10
11	Reservoir Clearing--First Schedule Sawyer Lumber Co.	900C-221	5,900 Ac 4-3-PY	135,000	26,543	62,000		48,457								11
12	Reservoir Clearing--Second Schedule	Reg	4,100 Ac	100,000				100,000	Issue Awd							12
13			2,500 MBM													13
14	Credit From Sale of Timber	Reg		-50,000				-50,000								14
15	Relocation of County Road	Reg	2.7 Mi	383,000	Utah State Negotiations	44,000	Issue Awd	339,000								15
16	Derrick Barge and Patrol Tug	Reg		16,000				16,000	Issue Awd							16
17																17
18	Completed Contracts			210,032	210,032											18
19																19
20	Minor Contracts			340,000	85,742	171,000		70,000	R.O.W.--Reservoir 2nd Schedule							20
21																21
22	Noncontract Costs			1,425,868	194,435	-368,275		448,000								22
23	02.01 Pineville Diversion Dam		32' x 450'	1,625,000	5,760	25,000		220,000		1,250,000	124,240	Initial Diversion				23
24	Land and Land Rights	Reg		70,000		10,000		60,000	R.O.W.							24
25	Prime Contract			1,222,000			St. Field Data	112,000	Comp Field Data	1,040,000	70,000					25
26		AC&CE							Issue Awd							26
27	Radial Gates and Hoists	Reg		32,006				6,000	Issue Awd	26,000						27
28	Gate Tender's Residence and Garage	Reg		19,000						19,000						28
29																29
30	Minor Contracts			70,000				10,000								30
31	Noncontract Costs			212,000	5,760	15,000		32,000								31

Notes:

Recommended: E. T. Bauman (Program Engineer) Dec. 16, 19CY (Date)

Recommended: Robert B. Good (Operating Office Head) Dec. 18, 19CY (Date)

Approved: William P. Sloane (Regional Director) Dec. 19, 19CY (Date)

Revised: December 18, 19CY (Date) Sheet 1 of 8 Sheets

Form PF-2b(2-55) UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION

SUPPORTING SCHEDULE

BIG RIVER PROJECT

Pineville, Utah (Office) Sept. 15, 19CY (Date) 9 (Region)

Activity Construction

"Total Federal Obligations" and "Cash Advances--Non-Federal" will agree with "Total Obligations" on Form PF-2 or PF-40.

Difference between these entries will be explained in a footnote.

This entry will show allocation of new funds only.

Total of these entries must agree with "Total Federal Obligations."

PF-65
(7-58)
BUREAU OF RECLAMATION

PROJECT DATA SHEET

LOCATION Big River Basin--North central Utah in Beaver and Emory Counties. The project works extend south from Smith Dam to lands including the Town of Pineville.

AUTHORIZATION Act of December 12, 1952 | B_C RATIO 1.5 Date Jan. 1, 19CY

LAND CERTIFICATION By Secretary 4/18/PY | DEFINITE PLAN REPORT Approved by Commissioner 4/30/PY

SUMMARIZED FINANCIAL DATA

Total Federal Obligations	$ 49,363,584	Appropriations to June 30, 19PY	$ 7,999,106
Net Property and Other Transfers	-66,584	Appropriations for F. Y. 19CY	9,000,000
Cash Advances--Non-Federal	160,000	Appropriations to Date	16,999,106
		Appropriations Required for F.Y. 19BY	13,136,000
Total Project Cost	$ 49,457,000	Balance to Complete after F. Y. 19BY	$19,228,478

ALLOCATIONS

Irrigation	$18,500,000
Power	30,757,000
M. & I. Water	
Flood & Nav.	1,300,000
Recreation	500,000
Total	$51,057,000 1/

REPAYMENT

Amount Repaid by Irrigators	$17,600,000
Amount Repaid by Power	31,657,000
Amount Repaid by M. & I. Water	
Non-Reimbursable	1,800,000
Total	$ 51,057,000

AMOUNTS PER ACRE

Irrig. Invest. per Acre	$ 154	Payment Capacity per Acre	$2.15
Repayment of Investment per Acre:		Annual Charges:	
By Irrigators	$ 147	O. & M.	$ .50
By Power Revenues	7	Construction	1.50
By M & I Water Users			
		Total	2.00

STATUS OF REPAYMENT CONTRACT: Contract executed with Metropolis Water Users for $[illegible],000,000 for payment of construction costs of the Gravity Division. Negotiations in process for the execution of a repayment contract in the second quarter of 19BY covering construction costs of the Pump Division system.

PRINCIPAL FEATURES

	Size or Cap.	%Complete 6-30-CY		Size or Cap.	%Complete 6-30-CY
Smith Dam and Reservoir	750,000 A. F.	61	Big River Powerplant & Switchyard	100,000 KW	32
Pineville Diversion Dam	32 x 450 Ft.	2	Big River-Metropolis 161-kv Trans. Line	90 Mi.	9
Gravity Main Canal: 2,000 cfs	15.5 Mi.	6	Big River-Pineville Pumping Plant 34.5-kv Trans. Line	10.9 Mi.	1
Gravity Division Laterals	70,000 Acres	8	General Property	-	-
Pineville Pumping Plant, 800 cfs	8,000 HP	2	Bear Creek Recreational Development	-	-
High Lift Canal, 800 cfs	14.6 Mi.	2			
Pump Division Laterals	50,000 Acres	1			
Drainage System	120,000 Acres	3			
Development Farm	1 Farm	-			

Acreage Full Supply 120,000 Supplemental Supply -- Total Acres 120,000 Power kw 100,000

Region	Date	Project and State
9	August 1, 19CY	Big River, Utah

1/Excludes $400,000 for storage assigned to Little River Project, Utah, and includes $2,000,000 in power allocation for interest during construction.

Appropriation Title: Construction and Rehabilitation

BIG RIVER PROJECT, UTAH

Justification: This is a multipurpose project which will provide a full water supply for the irrigation of 120,000 acres of semiarid land in the central section of the State of Utah, and a power supply of 100,000 kilowatts, along with flood control and recreation benefits.

Work Proposed, F.Y. 19BY:

Smith Dam and Reservoir, $2,960,000. The program provides for the substantial completion of Smith Dam and Reservoir and the initiation of storage by the end of the fiscal year. Placing of concrete in the main structure of the dam will be about 95 percent complete and work will be well under way on the overflow spillway in the left abutment. Relocation of the county road, clearing of the first section of the reservoir, and construction of the spillway stilling basin will be completed. A contract will be awarded and work completed on the second schedule of the reservoir clearing.

Pineville Diversion Dam, $220,000. The program provides for the acquisition of rights-of-way, collection of detailed design data, preparation of final designs and start of construction on the dam. In addition supply contracts will be awarded late in the fiscal year for the purchase of radial gates and hoists.

Gravity Main Canal, $450,000. Acquisition of rights-of-way will continue and contracts will be awarded for construction of the earthwork and structures in the second quarter.

Gravity Division Laterals, $800,000. Award of contract for construction of Unit No. 1 will be made early in the fiscal year and for Unit No. 2 in the last quarter of the fiscal year.

High Lift Canal, $10,000. Collection of design data will be continued looking toward award of construction contracts in fiscal year 19BY+2.

Pump Division Laterals, $50,000. Collection of design data will continue during the year with construction scheduled for 19BY+3.

Drainage System, $15,000. Collection of design data will continue during the year with construction scheduled for 19BY+3.

Big River Powerplant, $7,100,000. Work will continue under the prime contract awarded in fiscal year 19PY-1, with initial power generation from the first and second units at the end of fiscal year 19BY+1.

The detail of these columns shall be identical to the detail shown on Form PF-2, Control Schedule, up to and including the line-entry "Total obligations."

FORM PF-40
(AUGUST 1961)
BUREAU OF RECLAMATION

August 1, 19CY

SCHEDULE OF CONSTRUCTION PROGRAM FISCAL YEARS 19CY AND 19BY

BIG RIVER PROJECT, UTAH

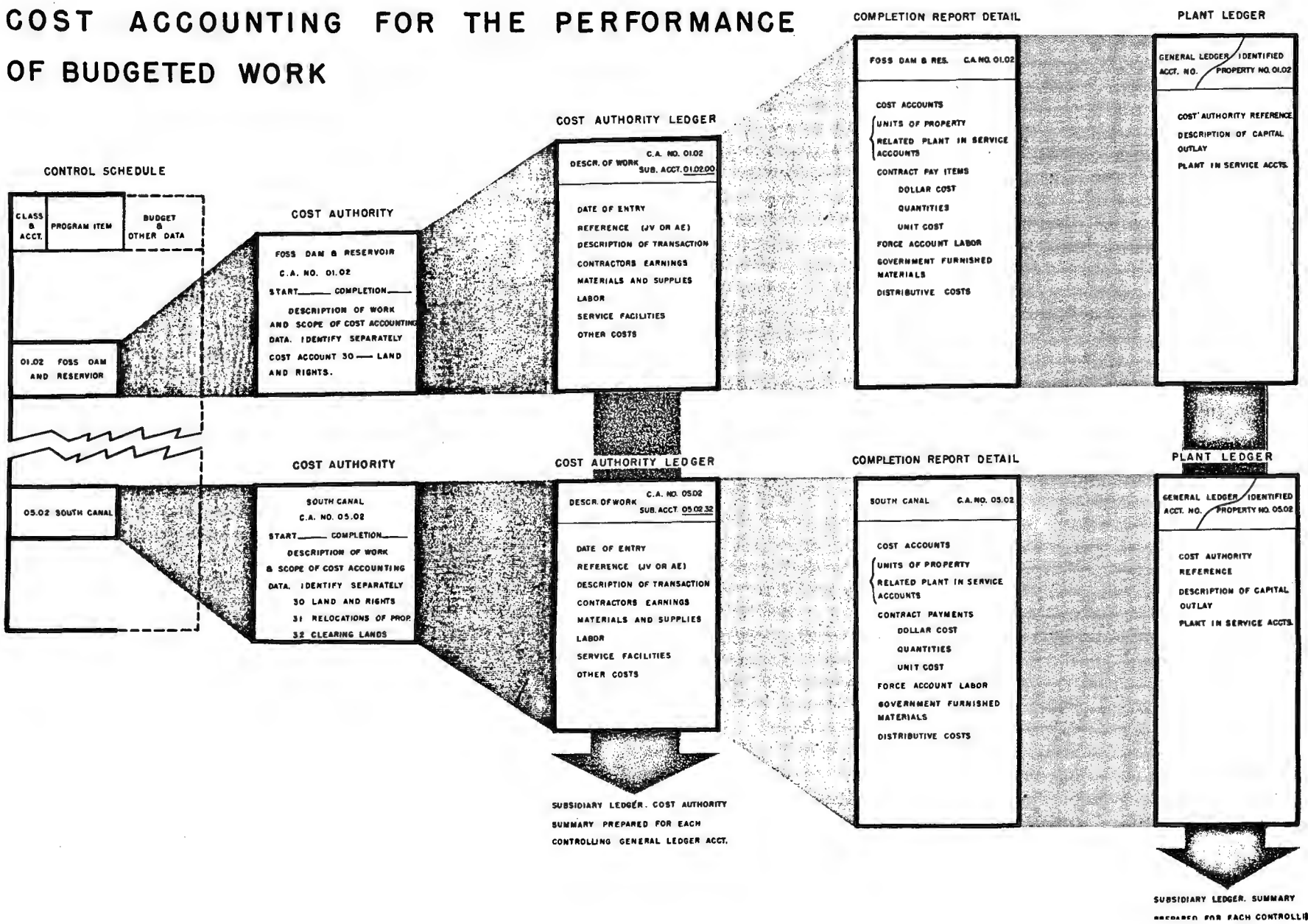
The detail of this column shall be identical to the algebraic sum of Columns 9 to 14, inclusive, on Form PF-2, Control Schedule, up to and including the line-entry "Total obligations."

Program Item	Estimated Total	Total to June 30 19PY	Program Current Year 19CY	Program Budget Year 19BY	Balance to Complete
1	2	3	4	5	6
Construction Program					
Smith Dam and Reservoir	$ 9,300,000	$2,026,777	$3,630,475	$ 2,960,000	$ 682,748
Pineville Diversion Dam	1,625,000	5,760	25,000	220,000	1,374,240
Gravity Main Canal, 2,000 cfs	2,450,000	33,849	105,000	450,000	1,861,151
Gravity Division Laterals	3,015,000	66,907	165,000	800,000	1,983,093
Pineville Pumping Plant	860,000	12,014	2,400	.....	845,586
High Lift Canal, 800 cfs	1,225,000	.....	22,100	10,000	1,192,900
Pump Division Laterals	2,265,000	27,500	.....	50,000	2,187,500
Drainage System	90,000	.....	3,000	15,000	72,000
Development Farm	40,000	.....	.....	.....	40,000
Big River Powerplant	22,200,000	3,005,016	4,600,000	7,100,000	7,494,984
Big River Switchyard	1,310,000	.....	17,500	300,000	992,500
Big River-Metropolis 161-kv Transmission Line	4,500,000	109,121	300,000	1,850,000	2,240,879
Big River-Pineville Pumping Plant 34.5-kv Transmission Line	335,000	.....	3,000	100,000	232,000
General Property	122,000	.....	.....	60,000	62,000
Bear Creek Recreation Development	45,000	.....	.....	.....	45,000
Total Construction Cost	49,382,000	5,286,914	8,873,475	13,915,000	21,306,581
Other Project Costs	75,000	.....	.....	5,000	70,000
Total Project Cost	49,457,000	5,286,944	8,873,475	13,920,000	21,376,581
Adjustments	-93,416	-108,416	-10,000	-110,000	135,000
Total Cost to Appropriation	49,363,584	5,178,528	8,863,475	13,810,000	21,511,581
Other Expenditures and Credits	160,000	903,103	-70,000	-40,000	-633,103
Total Expenditures	49,523,584	6,081,631	8,793,475	13,770,000	20,878,478
Undelivered Orders	.....	469,916	480,084	700,000	-1,650,000
Total Obligations	49,523,584	6,551,547	9,273,559	14,470,000	19,228,478
Method of Financing:					
Appropriation, F.Y. 19CY.	.....	.....	$9,000,000	.....	.....
Advances--Non-Federal	.....	.....	.....	$ 160,000	.....
Application of Prior Year Funds	.....	.....	1,447,559	1,174,000	.....
Balance available in subsequent year	.....	.....	-1,174,000	.....	.....
Appropriations required	.....	.....	.....	13,136,000	$19,228,000

These totals shall be in agreement with the respective columns on Form PF-2, Control Schedule, Column 6 being the algebraic sum of Columns 9 to 14, inclusive. Columns 2, 3, 4, 5, and 6 shall be in agreement with the line-entries "Estimated Total Obligations," "Total Obligations to June 30, 19PY," "Total Obligations 19CY," "Total Obligations 19BY," and "Balance to Complete," respectively, on the summarized Financial Data on the project data sheets.

These amounts shown in Columns 4 and 5 shall be in agreement with similar line-entries for the respective years on the Program and Financing schedule, less contributions, if any.

These amounts shall be rounded off to the nearest thousand dollars.


COST ACCOUNTING FOR THE PERFORMANCE OF BUDGETED WORK
CONTROL SCHEDULE
CLASS & ACCT.
PROGRAM ITEM
BUDGET & OTHER DATA
01.02 FOSS DAM AND RESERVOIR
05.02 SOUTH CANAL
COST AUTHORITY
FOSS DAM & RESERVOIR
C.A. NO. 01.02
START____ COMPLETION____
DESCRIPTION OF WORK AND SCOPE OF COST ACCOUNTING DATA. IDENTIFY SEPARATELY COST ACCOUNT 30 — LAND AND RIGHTS.
COST AUTHORITY
SOUTH CANAL
C.A. NO. 05.02
START____ COMPLETION____
DESCRIPTION OF WORK & SCOPE OF COST ACCOUNTING DATA. IDENTIFY SEPARATELY
30 LAND AND RIGHTS
31 RELOCATIONS OF PROP.
32 CLEARING LANDS
COST AUTHORITY LEDGER
DESCR. OF WORK
C.A. NO. 01.02
SUB. ACCT. 01.02.00
DATE OF ENTRY
REFERENCE (JV OR AE)
DESCRIPTION OF TRANSACTION
CONTRACTORS EARNINGS
MATERIALS AND SUPPLIES
LABOR
SERVICE FACILITIES
OTHER COSTS
COST AUTHORITY LEDGER
DESCR. OF WORK
C.A. NO. 05.02
SUB. ACCT. 05.02.32
DATE OF ENTRY
REFERENCE (JV OR AE)
DESCRIPTION OF TRANSACTION
CONTRACTORS EARNINGS
MATERIALS AND SUPPLIES
LABOR
SERVICE FACILITIES
OTHER COSTS
SUBSIDIARY LEDGER. COST AUTHORITY SUMMARY PREPARED FOR EACH CONTROLLING GENERAL LEDGER ACCT.
COMPLETION REPORT DETAIL
FOSS DAM & RES. C.A. NO. 01.02
COST ACCOUNTS
UNITS OF PROPERTY
RELATED PLANT IN SERVICE ACCOUNTS
CONTRACT PAY ITEMS
DOLLAR COST
QUANTITIES
UNIT COST
FORCE ACCOUNT LABOR
GOVERNMENT FURNISHED MATERIALS
DISTRIBUTIVE COSTS
COMPLETION REPORT DETAIL
SOUTH CANAL C.A. NO. 05.02
COST ACCOUNTS
UNITS OF PROPERTY
RELATED PLANT IN SERVICE ACCOUNTS
CONTRACT PAYMENTS
DOLLAR COST
QUANTITIES
UNIT COST
FORCE ACCOUNT LABOR
GOVERNMENT FURNISHED MATERIALS
DISTRIBUTIVE COSTS
PLANT LEDGER
GENERAL LEDGER ACCT. NO. / IDENTIFIED PROPERTY NO. 01.02
COST AUTHORITY REFERENCE
DESCRIPTION OF CAPITAL OUTLAY
PLANT IN SERVICE ACCTS.
PLANT LEDGER
GENERAL LEDGER ACCT. NO. / IDENTIFIED PROPERTY NO. 05.02
COST AUTHORITY REFERENCE
DESCRIPTION OF CAPITAL OUTLAY
PLANT IN SERVICE ACCTS.
SUBSIDIARY LEDGER. SUMMARY

Appendix O, Exhibit 6

COST ACCOUNT REPORT

FORM PF-25
(3-55)
BUREAU OF RECLAMATION

COST AUTHORITY SUMMARY

SHEET NO. 1 OF 1

PROJECT OR UNIT Big River — MONTH ENDING June 30, 1954

COST AUTHORITY AND SUB-ACCOUNT NO.	DESCRIPTION	TOTAL COSTS				DETAIL COSTS - CUMULATIVE			
		THIS MONTH	FISCAL YEAR TO DATE	ADJUSTMENTS AND TRANSFERS	TOTAL TO DATE	CONSTRUCTION CONTRACTS	MATERIALS AND SUPPLIES	LABOR	SERVICE FACILITIES	OTHER COSTS
1	2	3	4	5	6	7	8	9	10	11
01.01	Smith Dam and Reservoir									
.30	Land and Rights	$ 856.72	$ 12 567.94		$ 101 327.54	$ 80 048.76				$ 21 278.78
.00	All Other	245 089.71	2946 948.41		5944 075.17	4287 949.47	$ 370 376.43		$ 44 649.15	1 241 100.12
	Subtotal	245 946.43	2959 516.35		6045 402.71	4367 998.23	370 376.43		44 649.15	1 262 378.90
05.01	Gravity Main Canal									
.30	Land and Rights	974.68	7 395.40		55 620.24	43 939.99				11 680.25
.00	All Other	305 571.28	2281 839.77		4756 324.56	3348 208.07	330 101.33		56 789.20	1 021 225.96
	Subtotal	306 545.96	2289 235.17		4 811 944.80	3392 148.06	330 101.33		56 789.20	1 032 906.21
05.02	South Canal									
.30	Land and Rights		747.82		8 978.58	7 326.58				1 652.00
.31	Relocations of Existing Property - Farm Blds. in South Area (Force Acct.)	128.42	1 437.62		12 371.62		110.32	$ 6 955.82	2 831.16	2 474.32
.32	Clearing Lands - South Area (Force Account)		1 240.36		8 540.26		74.20	6 221.18	622.23	1 622.65
.00	All Other	153 073.68	1141 575.41		1 292 499.74	948 567.11	83 918.58		10 753.41	249 260.64
	Subtotal	153 202.10	1145 001.21		1 322 390.20	955 893.69	84 103.10	13 177.00	14 206.80	255 009.61
11.01	Big River Powerplant									
.30	Land and Rights	128.72	128.72		15 001.96	11 908.55				3 093.41
.00	All Other	652 289.71	3569 719.10		5235 593.73	2511 721.09	1678 873.39		34 251.91	1 010 747.34
	Subtotal	652 418.43	3569 847.82		5250 595.69	2523 629.64	1678 873.39		34 251.91	1 013 840.75
13.01	Big River - Metropolis 169-kv Trans. Line	202 618.25	1 025 310.49		1 025 310.49	814 026.90	1 751.36		6 752.75	202 779.48
13.02	Big River Switchyard	94 628.52	847 324.60		1 480 625.80	1 153 616.06	2 436.72		13 841.60	310 931.42
13.03	Pineville Substation	33 788.60	889 628.72		1 050 320.06	128 740.37	642 853.60		5 642.87	273 083.22
	Total, Account 108.1	1 689 148.29	12 725 864.36		20 986 589.75	13 336 052.95	3 110 495.93	13 177.00	175 934.28	4 350 929.59

Columns 1, 2, 3, and 9 from Control Schedule PF-2.

Columns 4, 5, and 10 from project accounts and Cost Authority Summary PF-25.

Column 8--divide column 5 by column 3 to nearest whole percent.

Columns 6, 7, 11, and 12 currently revised estimates.

Column 13--divide column 10 by column 12 to nearest whole percent.

Columns 4 and 5 show the net change for the periods: (Month and Fiscal Year to date) and amounts in column 4 must reflect the physical progress and all transactions applicable to the calendar month. Cost adjustment not applicable to the reporting month will be reflected only in column 5.

Cost figures (columns 4, 5, and 10) from Cost Authority Summary (PF-25) on G.L. 108.1 and 108.4, and from completion reports.

Amount in column 10 on this line equals total of G.L. 108.1, including completion report costs for work transferred to Plant in Service, and excluding G.L. 108.2 and 108.3. Rehabilitation and Betterment (G.L. 108.2) is reported separately. O&M Construction (G.L. 108.3) is reported on PF-6.

All expenditures from Construction Funds not included in total cost above.

Obligations not in costs. Amounts in column 10 on this line taken from G.L. 210.3 for Construction.

Form PF-7 (April 1960)

SUMMARY COST AND PROGRESS REPORT

PREPARED: C. D. Jones, Project Engineer

APPROVED: A. B. Smith, Project Head

BIG RIVER (PROJECT OR UNIT)

Pineville, Utah (OFFICE) Dec. 31, 19CY (DATE) 9 (REGION)

☐ GENERAL INVESTIGATIONS ☒ CONSTRUCTION ☐ OPERATION & MAINTENANCE ☐ OTHER

ACCOUNT NO.	PROGRAM ITEM	CURRENT FISCAL YEAR: ORIGINAL FISCAL YEAR ESTIMATE	COST: THIS MONTH	COST: FISCAL YEAR TO DATE	BALANCE TO COMPLETE	PROBABLE FISCAL YEAR COST	% COMPLETE	TOTAL PROJECT: OFFICIAL PROJECT ESTIMATE	TOTAL COST TO DATE	BALANCE REQUIRED TO COMPLETE	PROBABLE TOTAL COST	% COMPLETE
1	2	3	4	5	6	7	8	9	10	11	12	13
	Irrigation Service Land--Full							120,000	Acres	120,000	Acres	
	Power Development							100,000	KW	100,000	KW	
108	CONSTRUCTION PROGRAM											
.01.01	Smith Dam and Reservoir	$3,630,475	$395,307	$1,693,459	$1,657,291	$3,350,750	47	$9,300,000	$4,720,236	$4,579,764	$9,300,000	51
.02.01	Pineville Diversion Dam	25,000	2,597	15,000	10,000	25,000	60	1,625,000	20,760	1,704,240	1,725,000	1
.05.01	Gravity Main Canal, 2,000 c.f.s.	105,000	10,685	65,795	37,705	103,500	63	2,450,000	99,644	2,217,856	2,317,500	4
.06.01	Gravity Division Laterals	165,000	13,750	123,750	41,250	165,000	75	3,015,000	190,657	3,059,343	3,250,000	6
.03.01	Pineville Pumping Plant, 800 c.f.s.	2,400	12	75	25	100	3	860,000	12,089	847,911	860,000	1
.05.02	High Lift Canal, 800 c.f.s.	22,100	508	20,719	1,381	22,100	94	1,225,000	20,719	1,204,281	1,225,000	2
.06.02	Pump Division Laterals	--	--	--	--	--	--	2,265,000	27,500	2,347,500	2,375,000	1
.07.01	Drainage System	3,000	--	--	--	--	0	90,000	--	90,000	90,000	--
.08.01	Development Farm	--	--	--	--	--	--	40,000	--	40,000	40,000	--
.11.01	Big River Powerplant	4,600,000	395,710	3,509,650	890,350	4,400,000	76	22,200,000	6,514,666	15,485,334	22,000,000	30
.13.01	Big River Switchyard	17,500	1,000	15,000	2,500	17,500	86	1,310,000	15,000	1,335,000	1,350,000	1
.13.02	Big River Metropolis-161 kv Trans. L.	300,000	24,711	229,748	45,252	275,000	76	4,500,000	338,869	4,161,131	4,500,000	8
.13.03	Big River-Pineville Pumping Plant 34.5 kv Trans. L.	3,000	250	2,250	750	3,000	75	335,000	2,250	347,750	350,000	1
.15.00	General Property	--	--	--	--	--	--	122,000	--	122,000	122,000	--
.15.02	Bear Creek Recreational Development	--	--	--	--	--	--	45,000	--	45,000	45,000	--
	TOTAL CONSTRUCTION COSTS	$8,873,475	$844,530	$5,675,446	$2,686,504	$8,361,950	64	$49,382,000	11,962,390	37,587,110	49,549,500	24
	Other Project Costs	--	--	--	--	--	--	75,000	--	75,000	75,000	--
	TOTAL PROJECT COST	8,873,475	844,530	5,675,446	2,686,504	8,361,950	64	49,457,000	11,962,390	37,662,110	49,624,500	24
151	Adjustments	-10,000	-10,000	-10,000	--	-10,000	--	-93,416	-118,416	+25,000	-93,416	--
	TOTAL COST TO APPROPRIATION	8,863,475	834,530	5,665,446	2,686,504	8,351,950	64	49,363,584	11,843,974	37,687,110	49,531,084	24
	Other Expenditures & Credits	-70,000	-61,108	-56,209	-13,791	-70,000	--	160,000	846,894	-686,894	160,000	--
	TOTAL EXPENDITURES	(A) 8,793,475	773,422	(B) 5,609,237	2,672,713	8,281,950	64	49,523,584	(C) 12,690,868	37,000,216	49,691,084	26
	Undelivered Orders	480,084	3,261	673,705	(H-2) 98,705	575,000	--	--	(F) 143,621	(H-1) -143,621	--	--
	TOTAL OBLIGATIONS	9,273,559	776,683	(D) 6,282,942	2,574,008	8,856,950	68	49,523,584	12,834,489	36,856,595	49,691,084	26
	Advances - non-Federal	--	--	--	--	--						
	Funds Available	10,447,559		10,247,559		10,247,559						
	Funds Required	--		--		--						
	Unobligated Balance	*1,174,000*		(E) 3,964,617		(G) 1,390,609						

GPO 846169

A Summary Cost and Progress Report on Form PF-7 is required for each project or division of a project having Construction or Rehabilitation programs in excess of $25,000 annually (and for each Missouri River Basin Division or Unit in the construction stage). One-line summary reports for all other MRB units and activities are adequate.

Copies of the report are to be distributed on or before the 10th working day after the end of the report month, as follows:

1 - Commissioner, attn. 350 (airmail)
1 - Commissioner, attn. 350 (regular)
1 - D&C Division, Denver

(1 - Missouri River Basin Field Committee)

The monthly Activities Digest Report (B-21) should be submitted directly to the Commissioner's Office (attention 350 Special) to arrive on or before the 5th working day after the end of the report month. A copy of the report should be sent to the regional office.

Present estimate of total obligations for the year.

Present estimate of additional obligations that will be incurred this year.

Total available funds for fiscal year:

	Col. 3	Col. 5 & 7
Unobligated balance at beginning of year (excluding expired funds)	$ 1,447,559	$ 1,447,559
Plus additional allotments of appropriation	9,000,000	9,000,000
Plus additional funds from other sources		
Advances - non-Federal		0
Transfers		-200,000
Totals	$10,447,559	$10,247,559

Does not include unprogramed reimbursements.

The entries shown in columns 3 to 7 are designed to reflect the net changes during the first year.

Derivation of monthly Activities Digest Report B-21 is as follows:

	Report Items	Amount	Equal Items (On SF-133, or other sources as indicated)
A	Expenditures scheduled for total fiscal year	$ 8,793,475	Amount indicated on latest approved PF-2, Control Schedule.
B	Expenditures, F.Y. to date	5,609,237	Item 7 less 3A on SF-133 or G.L.200.42 and 235.42 less 200.432.
C	Total expenditures to date	12,690,868	Expenditure item on PF-2 plus B above.
D	Obligations incurred, F.Y. to date	6,282,942	Item 9 less 3A and 4A on SF-133.
E	Unobligated balance, report date	3,964,617	Unobligated balance on Allotment Ledger or G.L. 200.1 and 200.2 and/or G.L. 235.1 and 235.2. Items 10 plus 11 less 3C and 4B on SF-133.
F	Unliquidated obligations, report date	143,621	G.L. 200.3 and/or 235.3.
G	Unobligated balance, end of F.Y.	1,390,609	Difference between estimated F.Y. obligation and funds available.
H	*Unliquidated obligations, end of F.Y.*	44,916	Total unliquidated obligations (H-1) plus or minus change for balance of year (H-2).

NOTE: Items A, B, C, and D should also include related appropriation transfers to other Government agencies (G.L. 212.1).

Appendix O, Exhibit 8

FUND REPORT

7-1674
(7-60)

FORECAST OF UTILIZATION OF CONSTRUCTION FUNDS, F.Y. 1960

FROM January 1, 1960 TO June 30, 1960

APPROPRIATION TITLE CONSTRUCTION AND REHABILITATION Symbol: 14X0661

Line No.		Col. (A)	Col. (B)
1.	UNOBLIGATED BALANCE AS OF December 31, 1959		$4,483,511
2.	LESS SCHEDULED NEW OBLIGATIONS REMAINDER F.Y. FOR:*		
3.	(a) Land and Land Rights	$ 159,000	
4.	(b) New Construction Contract Awards	2,088,252	
5.	(c) New Material and Supply Contract Awards	879,222	
6.	(d) Additional Reservations for Contracts In Force	913,000	
7.	(e) General Expenses:		
8.	(1) Operating Office(s)	190,000	
9.	(2) Regional CPA	40,000	
10.	(3) Denver Services to Projects	85,000	
11.	(f) Other	58,000	
12.	TOTAL NEW OBLIGATIONS (Line 3 thru Line 11)		4,412,474
13.	UNOBLIGATED BALANCE JUNE 30 (Line 1 less Line 12 but not less than 0)		71,037
14.	ADDITIONAL ALLOTMENT REQUIRED (Excess of Line 12 over Line 1)		0
15.	REMARKS: *(See attached Supporting Statements).		

Prepared E. L. Brown (Title: Programs Officer) Approved J. W. Williams (Title: Project Manager) Date 12/31/59

Office Pineville, Utah (Project(s), Unit or other) Project Big River Project (or other a/c entity) Region 8

Chapter VI

INSTALLATION OF A PROGRAMME AND PERFORMANCE BUDGET

The preceding chapters identified three major characteristics of a programme and performance budgeting system, i.e., meaningful classifications of programmes and work; appropriate financial management practices oriented to those classifications; and suitable measures of performance under the substantive classifications. It was also brought out that there is considerable flexibility as to the direction in which a conversion to a programme and performance budget might proceed, and the degree to which the basic elements of the system might be refined. In planning the adoption of this approach, a country should select the course of action that is most appropriate to its own conditions and environment. In doing so, however, it should be understood that complete attainment of the end objectives being sought — effective and efficient management of programme operations — requires a continuing and co-ordinated effort toward the full development of each of the major elements of the system.

Preliminary considerations

In converting to a programme and performance budget, it is important to recognize at the outset that this is not just a matter of adjusting procedures. Instead, it represents a change in concepts that has significant effects on the approach to the budget and the decision-making practices employed at each level of management throughout the government.

In view of the significance and implications of this undertaking, there should be full understanding and a mutual agreement between the executive and the legislature on making the change. A programme and performance budget is a primary medium of communication between these two branches of government, and a means of arriving at agreements on past performance and future plans. For best results, therefore, it is necessary that the legislature be fully conversant with the purposes and benefits of the change, and be committed to the use of this revised budgetary approach.

When such an understanding has been reached, it is the responsibility of the executive to lay out a programme for implementation. Since programme and performance budgeting is a matter of concern to all levels of management, the conversion should be carried out in a co-operative manner with the operating departments and agencies, under central leadership and guidance. This requires careful advance planning, and effective communication of the purposes to be served and the benefits to be derived at the levels of management represented by those organizations.

There is no precise order for the actions needed to install a programme and performance budgeting system. While there is a natural and logical sequence to some of the actions required, some steps overlap each other, while others should be taken concurrently. The installation process should be adapted to conditions in the individual country, and should proceed at a rate consistent with the capabilities of the staff resources available for the job. Above all, it should be recognized that this is a long-range undertaking — one that will develop in an evolutionary fashion, and produce increasingly more effective results as experience is gained in operating the system.

The change to this type of budgeting can be made in several ways. The initial steps, for example, could be directed toward establishing what might be called a programme budget, i.e., concentrating attention on converting the structure of the budget to programme classifications, and adjusting the accounts to support those classifications. Beyond that goal, priority emphasis might be given to more complete development of either the financial management system or the physical measurement system; or the total effort initially might be limited to installing all three elements of the system on a *minimum* basis. Under any of these approaches, the refinement and full development of each of the basic elements to its maximum usefulness can proceed thereafter in a gradual manner — as the employees become more familiar with the revised concepts involved in the system.

Because the adoption of a programme and performance budget introduces modern concepts that change long-used budget and management practices, an important part of the conversion process is the training of personnel who deal with the system. This is needed at several levels : the technical personnel who operate and maintain the system must become fully conversant with the techniques involved; the employees who have programme responsibilities must become acquainted with the significance of the changes being made and their effect on substantive practices and procedures; and the top level decision-makers must be aware of the kinds of data produced by the system and the ways in which such information can be used most effectively for purposes of over-all management. These needs require an organized training effort that should be started at the beginning of the conversion process, and maintained thereafter according to the experience gained in the course of installing and operating the system.

Organizing for the installation job

The first major step toward installation is the assignment of responsibility for planning and carrying out conversion of the existing system. Considering the nature of the job, such responsibility logically could be given to the central budget facility of the government. That responsibility should, however, be placed, in a way that best demonstrates full support by the top level officials in the executive. To illustrate, the budget facility might be given the assignment if that organization is immediately responsible to the top executive; or the finance ministry might be designated, if the budget facility is located within that ministry.

The responsible central facility can organize for the job in a number of different ways, e.g., by delegating the assignment to the constituent organization that regularly prescribes budgetary practices; by placing primary responsibility in an assistant to the minister or director, who can draw upon staff of the facility as necessary for the job; or by designating a group of staff as an installation team, which would devote full time to the job. The last two possibilities have the desirable feature of permitting a selection of staff who have experience and qualifications in the different management specialties involved in programme and performance budgeting. For best results, the assigned staff collectively should have a broad grasp and understanding of agency programme operations, and should have skills in planning, programming, budgeting, accounting, reporting, and measurement practices. As one possibility, a team might be made up of staff specialists in budgeting, accounting, and management techniques, supplemented by the central budget examiner for each agency who would participate and provide the necessary programme understanding when the respective agencies are dealt with in the installation process.

Besides designating the organization and staff to do the job, a top level decision is needed to the extent that the revised system is to be initially installed. It is preferable in most instances to proceed with a comprehensive application throughout the government. If that is not feasible, the system can first be initiated in certain organizations, with a view to gradual installation in the remaining units in later years. The choice of a comprehensive or a gradual change-over and, in the latter case, the selection of the specific organizations to be converted, depend upon such factors as the size of the government, existing conditions, staff availability and capability, and timing considerations.

In a gradual application, priority might be given to organizations directly involved in an economic development plan. There may be special need for budgetary reform in the agencies carrying out development programmes and activities. Or, priority might be given to organizations that spend the largest portions of the total budget. Improvement action is then concentrated in areas where the opportunity for more efficient use of funds is proportionately greater. A third alternative is to initially make the conversion in several units of each department, and then gradually extend the system in each department to full coverage. This gives all departments a measure of experience in the initial installation of the new system, which may help to avoid protracted delays in application to the entire government.

Approach to the agencies

With the course of installation determined and staff organized for the job, the decision for adoption of programme and performance budgeting should be formalized in an announcement to all departments and agencies. The announcement should briefly outline the revised budgetary concepts and identify the benefits to be gained in relation to the present-day problems of government (see chapter I). More specifically, it should point up the implications of this technique for the whole management process — including budget formulation, review and authorization, and the conduct of authorized operations.

This initial communication should make clear the executive-legislative agreement on the action being taken, and the role of the organization and staff assigned to the job. It should identify the leader and the members of the central installation staff, the top level direction being given this effort, and the extent and manner in which the conversion is planned to be made. The departments and agencies should be advised of the co-operative nature of the job and the need for positive support by responsible officials. Each of those organizations should be requested to appoint a qualified representative — one who is familiar with the programmes and administrative practices of the agency and who would work with the central installation staff to facilitate the conversion in his organization.

Following issuance of the announcement, the central installation staff should arrange for a series of meetings with departmental and agency representatives. The size and nature of these meetings can vary; a desirable combination is one of: (*a*) large group meetings to promote government-wide understanding of the programme and performance budget and to stimulate interest and support for its adoption; and (*b*) smaller meetings of groups with mutual interests, to provide for more intimate discussion of the purposes, scope, and ramifications of the undertaking. The members of the central installation staff should prepare thoroughly for these meetings, equipping themselves to answer specific questions on installation and operation of the system, the problems involved, and the reasons for the conversion, and developing demonstration materials that are suited to the conditions and training needs of the individual country. Such training materials were used to good effect in the Philippine and United States conversions to this type of budgeting.

It should be recognized that these meetings represent the start of the training and educational effort that is vital to the ultimate success of the system; and that such training will continue on beyond the conversion process. The experience gained in that process will contribute in a very practical way to further development of the staff who will be responsible for operation and future improvement of the new budget system.

Those meetings will also provide the central installation staff with an opportunity to exhibit their desire for close co-operation, consultation, and rapport with the department and agency representatives. While the central staff should provide leadership and firm guidance, it should be clear that they contemplate a practical approach to installation — one in which reason, persuasion, and the exchange of views will play a prominent part.

Establishing budget classifications

As brought out in chapter II, a matter of first priority in a programme and performance budget installation is the establishment of substantive classifications that relate agency work operations to the broad services furnished by the government. A basic need for accomplishing this is a clear statement for each department and agency that identifies :

(*a*) The statutory or other authority for creation and operation of the organization;

(*b*) Its over-all and subsidiary objectives;

(*c*) The scope and nature of its operations;

(*d*) The organizational pattern used for carrying out authorized work;

(*e*) The method of financing that work.

These agency statements will require a careful review by central installation staff of the scope of agency operations in relation to statutory authorities, including a check on whether the cited authorities are complete. Questions of adequacy should be clarified or resolved at the time of review. If that is not feasible, overlapping authorities or gaps should be noted for subsequent resolution. The objective is to arrive at mutual agreements with agency representatives on the nature of the authorized programme operations in each organization, and the methods of control and financing used in the conduct of those operations.

Appendix P furnishes a statement showing much of this information for the Forest Service in the United States Department of Agriculture. That statement, supplemented by a functional organization chart and the pattern of financing, provides data needed for establishing the required substantive classifications. Where such statements do not exist, the necessary information will have to be developed for each of the departments and agencies in the government.

This part of the conversion process in itself has proven to be a source of some of the more immediate benefits of changing to a programme and performance budget. The need for responsible heads of executive organizational units to identify and describe their programmes and activities often requires more clear and precise determinations of aims and responsibilities than were available. In turn, this often brings to light overlapping and duplication, the discovery of which leads to the establishment of more efficient organizational arrangements and a strengthening of the administrative structure.

Functional classifications

A functional classification that identifies the broad services furnished by a government is an essential feature of a programme and performance budget (see chapter II). If one is in use, it provides a framework for grouping the programmes identified for each department and agency. If the government does not have a functional classification, one will have to be established by the central installation staff. This may be done by starting with the basic functional categories identified in *A Manual for Economic and Functional Classification of Government Transactions*,[16] and modifying those categories to suit the programmes and needs of the individual government. Or an empirical approach can be used, i.e., identifying the broad services provided by the government through analysis and categorization of an array of agency programmes that previously have been defined.

The functional classification developed for a country will likely result from a combination of those two approaches — representing a product of experimentation, adjustment, and modification of tentative conclusions. Before final adoption, the identified categories should be tested for their adequacy in grouping all identified programmes. Even after the classification is in use, it should be kept under continued surveillance and modified as required by subsequent developments.

The functional classification ultimately adopted may be unique to the particular government. The central staff may identify broad categories of importance for top level review purposes that are unlike those in other countries. Such determinations are entirely proper, in accordance with the objective of developing aggregate information useful to the executive, the legislature, and the public in each country.

Programme and activity classifications

Another basic requirement is the establishment of agency programmes which represent logical segments of government functions, and of activities which group homogeneous work operations that serve the purposes of individual programmes. As described in chapter II, programmes identify end products of the departments and agencies and enable evaluation of the achievement of functional objectives, and activities serve as a focal point for management of the work operations that contribute to accomplishment of a programme. From the standpoint of agency management, this is the core of the programme and performance budget approach. It requires careful analysis to enable development of an appropriate classification of the operations of the agency.

The agency background statements provide the information needed for joint determinations by the central installation staff and agency representatives concerning the programmes and activities for each organization. There are no exact rules for determining the groupings of work that should be set up as activities, nor the groupings of activities that merit programme status. Those classifications should, however, give effect to each agency's ideas concerning the proper break-down of its total work effort, and should reflect the pattern

[16] United Nations publication, Sales No. : 58.XVI.2.

of management and control exercised through the organizational structure. The titles used for the classifications also should show appropriate concern for public understanding of the agency's operations.

As part of this effort, attention should be given to changes in the agency financing structure that might be desirable to better achieve the objectives of programme and performance budgeting. Since that structure is the medium for the presentation of requirements and financial control of the approved budget, effort should be directed towards obtaining the simplest pattern of financing possible for each agency — one that enables an effective programme presentation, and permits the most efficient practices in accounting for the funds made available to the agency. The participation of agency staff is essential for this job — either concurrently or after preliminary identification of the programmes and activities by the central installation staff. Under either approach, effective central direction and guidance is vital to provide for consistent government-wide results.

Specific aspects of the agency operation, such as the organizational structure, the financing pattern, the deployment of manpower, the distribution of physical facilities, and the geographic dispersion of agency operations, will be helpful in establishing a useful programme and activity pattern. In most agencies, there will be two or more groupings of activities that warrant identification as a programme. In the case of the Forest Service of the United States Department of Agriculture, for example, the following programmes are reflected in the budget :

(*a*) Forest protection and utilization;

(*b*) Forest roads and trails;

(*c*) Acquisition of lands for national forests;

(*d*) Brush disposal;

(*e*) Access roads.

These programmes vary considerably in terms of size and the nature of the operation. All of them are classifiable under the Natural Resources function, and are generally financed by separate appropriations. Each one gives an idea of its purpose and distinguishing characteristics, the type of work involved, and the kinds of skills required for execution of the programme.

The first one, Forest Protection and Utilization, is the major programme of the Service. In the budget, it is broken down into three activities that reflect significant groupings of the work involved — Forest Land Management, Forest Research, and State and Private Forestry Co-operation. Because of the size and scope of the operations, these activities are further classified into subactivities that reflect the pattern of functional control exercised in the Service. A complete listing of those categories is shown in appendix Q.

It should be recognized that those classifications can, and sometimes do, cut across the organizational lines within the agency in order to bring out the functional and programme nature of the operations. This is acceptable, providing available management data permit suitable analysis of performance. In this case, for example, the field organizational units of the Forest Service each perform work on several activities and programmes. Appropriate information has been developed, however, to enable effective analysis and control of the field operations. This has been accomplished through use of a work planning and scheduling system that provides the basis for financing and assigning work. In budget execution, costs are directly allocated to programmes and activities according to work assignments wherever possible. For the other costs, allocations are made on the basis of work measurement and time distribution reports, or in accordance with the proportionate spread of direct costs where that procedure is appropriate.

On the other hand, there will be some agencies in which the objectives and scope of operations are so narrow and circumscribed that a single programme designation is sufficient for budget presentation purposes. Government commissions charged with specific control or regulatory tasks are typical examples. The United States Farm Credit Administration is a case in point. That independent agency is charged with supervising a co-ordinated agricultural credit system for farmers and their co-operatives. This is reflected in the budget by a single item — Supervision and Examination of Farm Credit Banks and Associations.

Programmes and activities generally should reflect a grouping of work operations in substantive programme terms, as in the Forest Service example above. In some programme and performance budget applications, however, it may be considered desirable to establish overhead or service operations — like executive direction or general administration — as a separate programme or activity. Executive direction might include such operations as the office of the minister or of the top executive, programming, and policy making. General administration might include budgeting, accounting, personnel, legal, purchasing, and similar administrative operations. When these kinds of categories are employed, their content should be tailored to fit the needs of the individual country, and must be specifically identified to enable consistent application.

Illustrations of the content and use of general administration as a programme or activity are shown in the listing of Philippine programmes and projects in appendix A (chap. II). It is included among the programmes for the Bureau of Public Highways, in the Department of Public Works and Communications, as shown below :

(*a*) Field surveys and preliminary plan preparation;

(*b*) Maintenance and repair services;

(*c*) Operation of equipment depots, laboratories, and quarries;

(*d*) General administration;

(*e*) Construction, reconstruction, and improvement;

(*f*) Acquisition of equipment.

This presentation also demonstrates the separate identification of capital outlays — which is reflected in the last two programmes.

In this kind of application, the budget presentation does not show the full costs of each substantive programme, because those items do not include a proper share of administrative costs nor related capital outlay costs. To obtain a full cost presentation would require

an allocation of the capital outlay items among the substantive programme purposes they serve, and a distribution of the costs of general administration. Such distributions of general administration might be made in terms of a designated formula, or on such bases as the proportionate distribution of direct costs or man-hours. The Philippine practice contrasts with that followed in the United States Forest Service. As shown in appendix Q, general administration and capital outlay are spread among the substantive activities under the major programme of the Service — Forest Protection and Utilization, and the total capital outlay for that programme is identified by a foot-note to the programme and financing schedule in the budget presentation. Either of these approaches may be used, depending upon the needs to be served and the financial management practices employed in the individual application.

After the programmes and activities of an agency have been identified and titled, a final test should be made to insure full coverage. All activities should be classifiable within the identified programmes; and all work operations should be capable of classification within the identified activities. In addition, provision should be made for periodic review of each agency's programmes and activities. Those categories should be adjusted and revised as necessary to reflect the programme and administrative changes that may subsequently occur.

A further requirement of a programme and performance budget system is to develop a description of the programmes and activities to meet presentation needs. This can best be done by agency representatives, subject to review by the central installation staff for the purposes of government-wide consistency. Such a description should include :

(*a*) A narrative statement that clearly and concisely presents the objectives, scope, and content of the programmes and activities. The text should be purely factual, with no promotional overtones;

(*b*) An identification of relevant measures showing workload volume and trends. Performance ratios should be included where they are available;

(*c*) An identification of the revenues resulting from conduct of the programme or activity.

Appendix Q provides an illustration of such a description for the major programme of the United States Forest Service.

Adjusting the financial management practices

As a matter of second priority in the installation of programme and performance budgeting, action is needed to develop accurate and timely financial data in the accounting system in terms of the identified programmes and activities. The immediate needs to be met consist of assembling data that will adequately support budget requests, and providing operating officials with information useful for management and control of operations. Unless these needs are properly satisfied, the value of the programme and performance budget is subject to criticism because of lack of co-ordination with the accounting system. It should be recognized that for the purpose of meeting these initial needs, programme and performance budgeting can be installed whether the accounting system provides data on a cash, obligation, or accrual basis (see chap. III). The immediate problem to be dealt with is one of further classifying available financial data under the selected substantive classifications.

As a first step, action should be taken to assemble available data by programme and activity. If the accounting system in use furnishes financial information by object class, available data for categories like personal services and travel can be identified with organizations, programmes, and activities by the nature of the employees' assignments. Objects like printing and contractual services can be classified according to the purposes of the printed material or the contract involved. Other objects like rents and communications should similarly be directly identified with organizations, programmes, and activities wherever possible. If that is not practicable, the data can be distributed to obtain the necessary totals. Such distributions should be made on the most logical and equitable bases that can be developed in the light of available information. They might, for example, be made in accordance with the proportionate distribution of personal services costs.

If the existing accounts provide data by organizational unit, and the programmes and activities are consistent with the organizational structure, the required information on past transactions can be developed by translating the data for organizational units into the substantive classifications within which they fall. To the degree that the programmes and activities do not follow organizational lines, equitable methods for distribution of the organizational data should be developed. Depending upon the nature of operations in the specific organization involved, such distributions might be made according to the purposes and volume of the work performed, or in accordance with the assignments of the personnel in the organization.

For subsequent transactions, action should be taken to establish an accounting procedure that will currently develop programme and activity information for agency management. A worksheet analysis of object and organizational data can be used to satisfy these needs, or a coding of transactions by programme and activity in the accounting system will regularly furnish the necessary information. Such classifications of data should be obtained by the simplest methods possible under existing accounting practices, pending a determination of the refinements to be made in further development of this element of programme and performance budgeting.

In that connexion, chapter III outlines the values and usefulness of the several accounting bases for different types of programme operations, and stresses the need for selecting an approach that is best suited to the requirements of management. It also emphasizes the desirability of developing an integrated financial management system that employs common classifications for programming, budgeting, accounting, and reporting; and a planning and reporting process that utilizes financial plans to project requirements, operating budgets to place responsibility and set management goals, and performance reports that compare actual results with those goals for

purposes of performance analysis. These represent important and advantageous refinements that can be developed after the initial change over to a programme and performance budget. Care should be taken to adopt a course of long-range improvement action that will most effectively and economically satisfy decision-making needs at the various levels of management in government.

The job of classifying available financial data to meet initial needs, and the long-range effort to develop the financial management system to maximum effectiveness are properly a responsibility of the staff that operate and maintain accounting systems, wherever those operations might be located in the organization pattern of the individual government. The central installation staff, however, also have major responsibilities in this area. The first involves providing clear and concise guidelines that will produce consistent and acceptable action in the financial operations toward meeting immediate needs. The second responsibility involves the development of policies and criteria to be followed in an organized effort toward strengthening the financial management system of the government. The central installation staff should initiate and monitor that organized improvement effort, and subsequently should provide such assistance as may be required for the resolution of problem areas.

Establishing physical measures of performance

The next priority in installing a programme and performance budget is the development of physical measures that are useful for performance analysis. As indicated in chapter IV, suitable measures for this purpose include workload information, which identifies the volume of work done and to be done; work measurement ratios that relate work completed to employment utilized for completion of the work; unit cost information that relates work completed to the cost of objects used in carrying it out; and broad productivity ratios that relate total resource inputs to the end products and services produced. For each of these, appropriate units of measure must be identified to provide the most effective basis for analysis.

The installation of a programme and performance budget requires, as a minimum, a basis for review of requirements under each programme and activity, preferably in terms of workload. The first job in this area, therefore, is one of determining whether the work under a programme or activity is capable of measurement. The next task is the identification of a suitable basis for review of requirements in non-measurable operations, and the selection of meaningful work units for each of the measurable programmes and activities. Finally, determinations are needed on the most appropriate methods of developing workload data in the measurable operations to meet immediate needs. These minimum requirements can best be met by a joint effort of central installation staff and agency representatives at the time the programme and activity classifications are established for each agency.

The difficulties involved in selecting units of work and developing related workload data will vary considerably among the programmes and activities. Once the work units have been selected, various methods of approximation may have to be used in assembling historical workload data and, in some cases, only broad estimates may be possible. In working on this phase of the installation process, however, it should be recognized that historical data on past operations under some programmes may permit developing broad productivity ratios that would be useful for analysis purposes. Because such ratios reflect a relationship between end products or services to the public and gross data on resources used, it is sometimes more feasible to develop such ratios from existing data than to establish more detailed work measurement or unit cost ratios. In any event, for the initial programme and performance budget, workload and such other physical measures as are possible should be developed from available information to the maximum extent, considering the practical limitations of the time and costs involved. This work basically is the job of agency representatives, and shoud be done in accordance with guidelines furnished by central installation staff.

Here again is an area that can be refined and further developed after the initial installation of programme and performance budgeting. The long-range objective should be to improve and strengthen the workload measures initially employed, and to establish appropriate work performance and broad productivity ratios. Because they relate outputs to the employment or cost involved, such ratios have greater management value. Ultimately, therefore, they should be developed wherever the programme or activity is capable of such treatment, and the cost of the system does not exceed the management benefits derived.

The establishment of the most significant workload measures and performance and productivity ratios will also require the development of unified recording and reporting systems to effectively accumulate and communicate accurate measurement information. Such systems should be kept as simple as possible to permit widespread understanding of the data requirements, and to minimize the work effort required to operate the systems. They should be developed in accordance with the needs and capabilities of the staff involved, with the objective of providing timely information in the form most suitable for use at the various levels of management in the government. The central installation staff has responsibility for providing leadership, guidelines, and criteria for obtaining these long-range improvements; and for stimulating and assisting agency representatives in developing efficient systems and measures that are significant for review and analysis purposes, and suited to management requirements.

Manuals of instruction

Underlying the entire process of developing and installing a programme and performance budget is the need for providing a clear and concise set of written instructions for use of agency personnel. Such instructions should cover the entire management cycle — planning, programming, budgeting, accounting, reporting, and control. They will play an important role in creating a better understanding of programme and performance budgeting, and will

produce more consistent agency action in formulation and execution of the budget.

The central installation staff has responsibility for developing instructions needed in the course of the conversion process. Even more important, central instructions should be established and formally maintained on a current basis for continued use thereafter, and operating agencies should be encouraged to issue written instructions of their own, to the extent that they are needed in the various departments and agencies. Set forth in the form of loose-leaf manuals that are regularly amended to reflect policy changes, provide criteria, and prescribe current requirements, such instructions give the most effective basis for maintaining a programme and performance budget system.

Appendix P

STATEMENT OF AGENCY AUTHORITY, SCOPE, AND PURPOSE IN THE UNITED STATES

Department of Agriculture

FOREST SERVICE

The name "Forest Service" was first applied on February 1, 1905, in a letter from James Wilson, Secretary of Agriculture, to the Forester, stating : "Its provisions [referring to the act of February 1, 1905, which provided for the transfer of the forest reserves from the Department of the Interior to the Department of Agriculture] will be carried out through the Forest Service under your immediate supervision."

The name "Forest Service" was also provided by the Agricultural Appropriation Act of 1906, approved March 3, 1905 (33 Stat. 861), although many of the functions were carried on earlier under different organizational titles.

The Forest Service is charged with the responsibility for promoting the conservation and best use of the Nation's forest lands, aggregating approximately a third of the total land area of the United States.

National forests. The Service administers 151 national forests, together with land utilization project lands, experimental forests, and other lands aggregating about 188,000,000 acres. The national forests, comprising over 180,000,000 acres, are located in 40 States and Puerto Rico. The Forest Service improves them, protects them from fire, insects, and disease, and manages their resources for orderly and continuous service and for the maintenance of stable economic conditions in national forest communities. National forests are managed under the twin conservation policies of multiple use and sustained yield. Technical methods of forestry are applied to the growing and harvesting of timber. Livestock grazing is scientifically regulated to obtain range conservation along with use of the annual growth of forage. Watersheds are managed for the regulation of streamflow, reduction of flood danger and soil erosion, and the protection of sources of water for power, irrigation, navigation, and municipal and domestic supply. Provision is made for popular outdoor recreation. Scientific management is applied to the development and maintenance of wildlife resources.

Forest research. In 9 regional forest and range experiment stations, in research units in Alaska and Puerto Rico, and in the Forest Products Laboratory at Madison, Wis., the Forest Service conducts investigations in the entire field of forestry and wild land management, including the growth and harvesting of timber, protection of forests from fire, insects, and diseases, management of range lands, efficient and economical utilization of forest products, and research in forest economics and taxation and watershed management. It is conducting a forest survey of the United States. This is a study of the Nation's present and potential forest resources.

Co-operation in forestry. States and private owners of forest lands and forest industries receive co-operation from the Forest Service. Assistance is provided in the application of sound forest management practices, in the maintenance of organized protection of forest lands against fire, in forest pest control, in flood prevention and river basin programs, and in the distribution of trees for planting woodlands, windbreaks, and shelterbelts. The Service co-operates with States to stimulate development, proper administration, and management of State forests, and with communities, counties, and organizations in the development and management of community forests. It also administers the Naval Stores Conservation Program and assists in the administration of the forestry practices involved in the agricultural conservation program, and the conservation reserve phase of the Soil Bank Act.

Regional Offices — Forest Service

Region	*Address*
No. 1. Montana, northeastern Washington, northern Idaho, western North Dakota, northwestern South Dakota	Federal Building, Missoula, Mont.
No. 2. Colorado, Kansas, Nebraska, South-Dakota, Wyoming	Federal Center Building 85, Denver 2, Colo.
No. 3. Arizona, New Mexico	510 2d St., NW., Albuquerque, N. Mex.
No. 4. Utah, southern Idaho, western Wyoming, Nevada	Forest Service Building, Ogden, Utah.
No. 5. California	630 Sansome Street, San Francisco 11, Calif.
No. 6. Washington, Oregon	729 NE. Oregon St., Portland 8, Oreg.
No. 7. Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Virginia, Kentucky	6816 Market St., Upper Darby, Pa.
No. 8. Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas	Peachtree Building, 50 7th St. NE., Atlanta 23, Ga.
No. 9. Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, North Dakota Ohio, Wisconsin	Carpenter Building, 710 North 6th St., Milwaukee 3, Wis.
No. 10. Alaska	Federal Building, Juneau.
Tropical Forestry Unit	P. O Box 577, Rio Piedras, P. R.

Forest and range experiment stations

Station	*Address*
Central States	Old Federal Building, Colombus 15, Ohio.
Intermountain	Forest Service Building, Ogden, Utah.
Lake States	St. Paul Campus, University of Minnesota, St. Paul 1, Minn.
Northeastern	102 Motors Avenue, Upper Darby, Pa.
Pacific Northwest	809 6th Ave., Portland 8, Oreg.
Pacific Southwest	1960 Addison Street, Berkeley 1, Calif.
Rocky Moutain	Forestry Building, Colorado A & M College, Fort Collins, Colo.
Southeastern	Federal Building, Asheville, N. C.
Southern	2026 St. Charles Ave., New Orleans 13, La.
Forests Products Laboratory	North Walnut Street, Madison 5, Wis.

Appendix Q

UNITED STATES BUDGET PRESENTATION FOR FOREST PROTECTION AND UTILIZATION PROGRAMME

Department of Agriculture

FOREST SERVICE

The Service carries on three primary functions : (*a*) Protection, development, and use of about 185 million acres of land in national forests and national grasslands in the United States and Puerto Rico; (*b*) research for all public and private forest lands and related ranges to improve protection from fire, insects, and diseases; to increase production of timber, forage, water, and other products; to improve methods for developing and managing recreation resources; to develop better utilization and marketing of forest products; and to maintain a current inventory of forest resources through a nationwide forest survey; and (*c*) co-operation with States and private forest landowners to obtain better fire protection on approximately 435 million acres of forest lands and better forest practices on about 345 million acres of privately owned commercial timberlands, to encourage reforestation and stimulate development and management of State, county, and community forests. These primary functions include construction and maintenance of roads and trails, control of forest pests, protection against floods, land acquisition and exchange, and a number of co-operative projects.

CURRENT AUTHORIZATION :

Forest protection and utilization

For expenses necessary for forest protection and utilization, as follows :

Forest land management : For necessary expenses of the Forest Service, not otherwise provided for, including the administration, improvement, development, and management of lands under Forest Service administration, fighting and preventing forest fires on or threatening such lands and for liquidation of obligations incurred in the preceding fiscal year for such purposes, control of white pine blister rust and other forest diseases and insects on Federal and non-Federal lands; [$92,159,700] *$105,517,000*, of which $5,000,000 for fighting and preventing forest fires and $1,910,000 for insect and disease control shall be apportioned for use, pursuant

Programme and Financing

(In thousands of dollars)

	1960 actual	*1961 estimate*	*1962 estimate*
PROGRAMME BY ACTIVITIES:			
1. Forest land management:			
(*a*) National forest protection and management	71,101	84,533	92,290
(*b*) Fighting forest fires	24,644	4,201	5,000
(*c*) Insect and disease control	6,915	7,252	7,402
(*d*) Acquisition of lands	95	100	100
TOTAL, forest land management	102,755	96,086	104,792
2. Forest research:			
(*a*) Forest and range management	7,477	8,737	8,947
(*b*) Forest protection	2,511	3,174	3,751
(*c*) Forest products utilization	3,091	3,527	4,097
(*d*) Forest resources	1,903	2,265	2,408
(*e*) Forest research construction	1,693	450	1,000
TOTAL, forest research	16,675	18,153	20,203
3. State and private forestry co-operation:			
(*a*) Forest fire control	10,035	10,121	11,121
(*b*) Forest tree planting	509	296	296
(*c*) Forest management and processing	1,611	1,554	2,054
(*d*) General forestry assistance	386	438	538
TOTAL, State and private forestry co-operation	12,541	12,409	14,009
Total cost for year's program	131,971	126,648	139,004
4. Repayment to "Expenses, brush disposal" of prior year advance for fighting forest fires	1,623	799	.....
TOTAL, program costs [a]	133,594	127,447	139,004
5. Relation of costs to obligations:			
Costs financed from obligations of other years, net (—)	—3,101	.....	.....
Obligations incurred for costs of other years, net	.....	1,429	1,500
TOTAL, obligations	130,493	128,876	140,504
FINANCING:			
Comparative transfers from (—) other accounts	—19	.....	.....
Advances and reimbursements from—			
"Co-operative range improvements"	—700	—700	—700
"Expenses, brush disposal"	—799	.....	.....
Unobligated balance lapsing	144	.....	.....
NEW OBLIGATIONAL AUTHORITY	129,120	128,176	139,804
New obligational authority:			
Appropriation	129,120	123,076	139,804
Proposed supplemental due to pay increases	.....	5,100	.....

[a] Includes capital outlay as follows: 1960, $14,595 thousand; 1961, $17,700 thousand; 1962, $22,400 thousand.

to section 3679 of the Revised Statutes, as amended, to the extent necessary under the then existing conditions : *Provided*, That not more than $100,000 may be used for acquisition of land under the Act of March 1, 1911, as amended (16 U.S.C. 513-519) : *Provided further*, That funds appropriated for "Cooperative range improvements", pursuant to section 12 of the Act of April 24, 1950 (16 U.S.C. 580h), may be advanced to this appropriation.

Forest research : For forest research at forest and range experiment stations, the Forest Products Laboratory, or elsewhere, as authorized by law; [$17,332,000] *$20,278,000.*

State and private forestry co-operation : For co-operation with States in forest-fire prevention and suppression, in forest tree planting on non-Federal public and private lands, and in forest management and processing, and for advising timberland owners, associations, wood-using industries, and others in the application of forest management principles and processing of forest products, as authorized by law; [$12,334,800] *$14,009,000.*

[During the current fiscal year not to exceed $100,000 of the funds appropriated under this heading shall be available for the acquisition of sites authorized by the Act of March 3, 1925, as amended (16 U.S.C. 555), without regard to any other limitation on the amount available for this purpose.]

[For an additional amount for "Forest protection and utilization", as follows : "Forest land management", $750,000, and "Forest research", $500,000.] *(5 U.S.C. 511-512, 524, 565a; 7 U.S.C. 428a, 1010-1012, 1621-1627; 16 U.S.C. 471-583i, 594-1 — 594-5, 594a; 30 U.S.C. 601-604, 611-615; 31 U.S.C. 534; 43 U.S.C. 1181h-1181j; 36 Stat. 557; 74 Stat. 205-206, 215; Department of the Interior and Related Agencies Appropriation Act, 1961; Second Supplemental Appropriation Act, 1961.)*

During 1960, the Service acquired at no cost property declared excess by other Federal departments and agencies with an original acquisition cost to the Government of $3.2 million.

1. *Forest land management :* (a) *National forest protection and management.* The 152 national forests and 14 units of national grasslands are managed under multiple use and sustained yield principles. The natural resources of outdoor recreation, range, timber, watershed, and wildlife are utilized in a planned combination that will best meet the needs of the Nation without impairing productivity of the land. These management and utilization principles were recognized in the Multiple Use-Sustained Yield Act of June 12, 1960 (Public Law 86-517, 74 Stat. 215). Work programs and budget estimates are related to the Program for the National Forests, a plan to meet the increasing demands for national forest resources during the next 10 to 15 years and beyond. Increases are provided in the budget to further attainment of these program objectives. Construction funds of $10.6 million in 1961 and $14.9 million in 1962 are budgeted, compared with $6.7 million used in 1960, for construction or rehabilitation of campground and picnic facilities and other recreation improvements, the construction of dwellings or barracks for employee housing, fire lookouts, service and storage buildings, communication facilities, and other improvements. Funds appropriated under Co-operative range improvements are merged with this appropriation for obligational purposes.

(b) *Fighting forest fires.* This provides for employment of additional manpower and other facilities for forest fire emergencies which cannot be met by the fire control organization provided under national forest protection and management. Costs above the amounts estimated for the current and budget year are authorized to be met from advances from other Forest Service appropriations (repayments of such advances were made in 1960 and 1961 to Expenses, brush disposal). In addition, a supplemental appropriation for fighting forest fires is anticipated for 1961 under Proposed for later transmission.

	1960 actual	*1961 estimate*	*1962 estimate*
Forest fires controlled (number) . .	9,497	12,500	10,000
Area burned (acres)	272,561	440,000	200,000

Main workload factors

Description	*1960 actual*	*1961 estimate*	*1962 estimate*
Area administered and protected:			
(*a*) National forest land (acres) . . .	181,462,324	182,060,000	182,400,000
(*b*) National grasslands (acres) . . .	3,821,527	3,821,527	3,821,527
(*c*) Land utilization projects (acres) . .	488,198	418,116	.....
Timber managed and protected (saw-timber —billion board feet) .	880	880	880
Timber sales (number) .	43,081	44,000	48,000
Timber harvested (billion board feet)	9.37	8.5	10.1
Grazing use permits (calendar year)	31,242	31,200	31,200
Estimated number of livestock on national forest ranges (including calves and lambs) . . .	6,000,000	6,000,000	6,000,000
Special use permits, excluding recreation (number)	36,724	37,000	37,100
Recreation special use permits (number) . .	21,709	22,300	23,000
Estimated number of visitors to national forests (calendar year)	81,521,000	90,000,000	95,000,000
Tree planting and seeding (acres)	45,094	60,000	70,000
Range reseeding and removal of competing vegetation (acres) . .	161,767	175,000	195,000
Receipts (thousands of dollars):			
Timber sales	139,904	110,500	147,000
Grazing	3,664	3,700	3,700
Land uses	2,780	3,000	3,200
National grasslands .	1,864	1,700	1,700
TOTAL receipts	148,213	118,900	155,600

(c) *Insect and disease control.* Activities to suppress and control destructive insects and diseases that threaten timber areas include two types of work carried on jointly by Federal, State, and private agencies : (1) Surveys on forest lands to detect and appraise infestations of forest insects and infections of tree diseases and determination of protective measures to be taken, and (2) control operations to suppress or eradicate forest insects and diseases, including white pine blister rust.

(d) *Acquisition of lands.* Lands are purchased to protect the watersheds of navigable streams and to increase the production of timber with the approval of the National Forest Reservation Commission. The present programme is only for purchase of small tracts within the 55 approved purchase areas.

2. *Forest research.* Research is conducted at nine regional forest experiment stations, the Forest Products Laboratory, and elsewhere.

(a) *Forest and range management.* This research provides private and public land managers and owners with a sound basis for management of timber, forage, and watershed lands. Studies are conducted to maintain a sustained yield of products at the lowest possible costs; increase forage for domestic livestock and improve habitat

for wildlife without damage to soil, watershed, or other values; assure maximum regular flow of usable water, and reduce floods and sedimentation; and improve methods for developing and managing recreation resources.

(b) *Forest protection.* Research is conducted to develop sound measures for the protection of forests from damage by fire, insects, and diseases. Forest fire research provides improved methods of predicting fire danger, preparing for, and combating fire by combinations of ground and aerial methods. Insect and disease research develops direct controls, silvicultural measures, and biological agents to combat forest pests.

(c) *Forest products utilization.* Studies are conducted to develop new and improved forest products, reduction and utilization of waste, and use of low-quality wood and less-desirable species. They include studies to reduce costs of logging and wood utilization, and to develop basic knowledge of wood and disseminate this to forest owners, manufacturers, fabricators, and consumers.

(d) *Forest resources.* These investigations are conducted to inventory and appraise the condition of forest lands, volume and quality of standing timber, ownership of timber resources, annual growth and depletion, and the potential need for timber products. Studies of the economics of forest crop production and of marketing of forest products are also included.

Main workload factors

(Acres, in millions)

	1960 actual	*1961 estimate*	*1962 estimate*
Initial surveys (annual)	28	30	30
Initial surveys (cumulative since 1930)	577	607	637
To be surveyed (total) [a]	193	163	133
Resurveys (annual)	43	30	30

[a] Includes all of Alaska and Hawaii.

(e) *Forest research construction.* The budget estimate provides for construction of a laboratory at Riverside, Calif., for research on forest fire control problems of the Pacific Southwest.

3. *State and private forestry co-operation.* This programme, carried on in co-operation with the States, encourages private timber management. Privately owned forest lands comprise three-fourths of the Nation's commercial forest area and produce about 85 % of all timber cut.

(a) *Forest fire control.* Assistance is furnished 48 States in preventing and suppressing forest fires on private and State owned lands by financial aid, training, procurement of equipment, and a nationwide fire prevention campaign. About 92 % of the 435 million acres of non-Federal ownership is now partially covered. During 1959 the acreage burned on protected areas was 0.42 % as against an estimated 4.63 % on unprotected lands. Of the total expenditures under this programme, 79 % is contributed by States and counties, 4 % by private owners, and 17 % by the Federal Government.

(b) *Forest tree planting.* To encourage woodland owners to reforest unproductive portions of their holdings, and farmers to plant wind barriers around their fields and farmsteads — a total of more than 47 million acres altogether — the States provide planting stock at less than cost. The Federal Government shares the cost of producing the stock with the State and private landowners.

(c) *Forest management and processing.* In co-operation with State foresters, 452 projects in 2,091 counties are operated to aid small woodland owners in applying good management to their timber holdings. In 1960 these projects covered some 82,188 owners and 4.1 million acres.

(d) *General forestry assistance.* Technical forest management assistance is provided to State, community, private, and other Federal agencies, forest industries, colleges, and landowners.

5. *Relation of costs to obligations.* The relationship is derived from year-end balances of selected resources and applicable adjustment as reflected in the following table (in thousands of dollars):

	1959 actual	*1960 actual*	*1961 estimate*	*1962 estimate*
Selected resources at end of year:				
Inventories and items on order: Stores (goods unconsumed by projects)	2,219	2,344	2,500	2,500
Unpaid undelivered orders (appropriation balances obligated for goods and services on order not yet received)	7,802	4,494	5,750	7,250
Advances (payment for goods and services on order not yet received)	123	103	120	120
TOTAL, selected resources at end of year	10,144	6,941	8,370	9,870
Selected resources at start of year (—)		—10,144	—6,941	—8,370
Adjustment of selected resources reported at start of year		102	.....	.....
Costs financed from obligations of other years, net (—)		—3,101	.....	.....
Obligations incurred for costs of other years, net		.....	1,429	1,500

Object classification (In thousands of dollars)

	1960 actual	1961 estimate	1962 estimate
FOREST SERVICE			
11 Personnel compensation:			
Permanent positions	52.555	61.262	63.590
Positions other than permanent	12.265	13.896	16.592
Other personnel compensation	10.034	2.305	2.805
TOTAL, personnel compensation	74.854	77.463	82,987
12 Personnel benefits	4,230	5,472	5,747
21 Travel and transportation of persons	4,188	4,439	4,842
22 Transportation of things	5,177	4,858	5,221
23 Rent, communications, and utilities	2,833	2,505	2,821
24 Printing and reproduction	848	1,037	1,060
25 Other services	8,069	4,945	5,536
Services of other agencies	3,186	2,799	3,119
26 Supplies and materials	9,914	7,489	8,707
31 Equipment	2,821	2,711	3,466
32 Lands and structures	2,041	3,634	4,857
41 Grants, subsidies, and contributions	11,251	11,306	12,755
42 Insurance claims and indemnities	83	64	64
44 Refunds	1,623	799	.....
Subtotal	131,119	129,521	141,982
Deduct quarters and subsistence charges	1,206	1,180	1,238
TOTAL, FOREST SERVICE	129,913	128,341	139,944
ALLOCATION TO DEPARTMENT OF THE INTERIOR			
11 Personnel compensation:			
Permanent positions	84	84	85
Positions other than permanent	238	222	233
Other personnel compensation	28	27	27
TOTAL, personnel compensation	349	333	345
12 Personnel benefits	12	13	13
21 Travel and transportation of persons	8	12	12
22 Transportation of things	1	1	1
23 Rent. communications, and utilities	8	9	9
25 Other services	106	88	94
26 Supplies and materials	73	61	69
31 Equipment	23	18	17
TOTAL, DEPARTMENT OF THE INTERIOR	580	535	560
TOTAL OBLIGATIONS	130,493	128,876	140,504

Personnel summary

	1960 actual	1961 estimate	1962 estimate
FOREST SERVICE			
Total number of permanent positions	10,141	10,990	11,424
Full-time equivalent of other positions	4,873	4,012	4,728
Average number of all employees	13,910	13,683	14,789
Number of employees at end of year	20,048	21,336	22,636
Average GS grade	6.9	7.0	7.0
Average GS salary	$5,605	$6,068	$6,069
Average salary of ungraded positions	$4,724	$4,808	$4,799
ALLOCATION TO DEPARTMENT OF THE INTERIOR			
Total number of permanent positions	14	12	12
Full-time equivalent of other positions	61	54	57
Average number of all employees	78	71	74
Number of employees at end of year	212	190	198
Average GS grade	7.0	6.8	6.8
Average GS salary	$5,442	$5,661	$5,781
Average salary of ungraded positions	$4,618	$4,618	$4,618

GLOSSARY OF SELECTED TERMS

Accrual basis :

A method of accounting under which transactions are recorded in a manner that brings out the significance of the various phases of the transactions in relation to the specific time period in which they occur. A system maintained on this basis develops data on assets, liabilities, revenues, costs, expenditures, and obligations.

Accrued expenditure :

The phase of a financial transaction in which goods and services are received, representing the incurrence of a liability.

Activity :

A division of the total effort under a programme into reasonably homogeneous work processes, the purpose of which is to contribute to the accomplishment of the end product of the programme.

Allotment :

An authorization to incur obligations and make disbursements under an appropriation within a specified amount and time period. Allotments are usually made by the head of an agency to responsible operating officials within the agency.

Apportionment :

An authorization which permits the issuance of allotments for the incurrence of obligations and expenditure of funds under an appropriation within a specific amount and time period. Apportionments are made by the Budget Agency to the heads of agencies.

Appropriation :

An authorization by the legislature that permits agencies to make payments out of identified funds with specific limitations as to amount, purpose, and time period.

Capital outlay :

An expenditure that results in the acquisition of or additions to fixed assets, i.e., one that benefits future periods.

Cash basis :

A method of accounting under which transactions are recorded to reflect the availability of resources upon receipt of cash, and the use of resources at the time that payments are made.

Cost :

The phase of a financial transaction which measures the amount of goods and services used in achieving a planned objective, generally representing the application of resources to a programme purpose.

Disbursement :

The phase of a financial transaction which measures payments made, representing the expenditure of funds.

Function:

A major division of total organized effort which identifies the types of separate services provided to the public by the government.

Fund:

A sum of money that constitutes an independent accounting entity, which is set aside for specific purposes and for use in accordance with specific limitations or restrictions.

Object class :

An itemization of purchases in terms of the types of items, articles, or services needed to carry out planned operations.

Obligation :

The phase of a financial transaction which measures the amount of goods and services ordered, requiring the future payment of funds.

Obligation basis :

A method of accounting under which transactions are recorded to reflect the extent to which the government is committed to the future payment of funds.

Performance ratio :

The relationship between work output and the resources (manpower or the cost of objects) used in carrying out planned work.

Productivity ratio :

The relationship between the end product output under a programme and the resources (manpower or the cost of objects) used to turn out the end product or service.

Programme :

A division of work performed by an agency which identifies that portion of the work that produces an end product or service representative of the purposes for which the agency was established.

Project :

A series of works under an investment programme that is carried out for the formation of capital goods — the equivalent of an activity under an operating programme.

Revolving fund :

A self-perpetuating fund generally established by legislative authorization or the appropriation of working capital, under which the receipts earned by the fund are used to pay the expenditures borne by the fund.

Task :

A specific operation forming part of a process of work aimed at achieving the objectives of an activity.

Works :

A specific part or stage in the construction of a specific capital good that represents part of a project under an investment programme.

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Printed in France
18661 — March 1966 — 4,350

Price: $ U.S. 2.00
(or equivalent in other currencies)

United Nations publication
Sales No.: 66.XVI.1
ST/ECA/89
ST/TAO/SER.C/75