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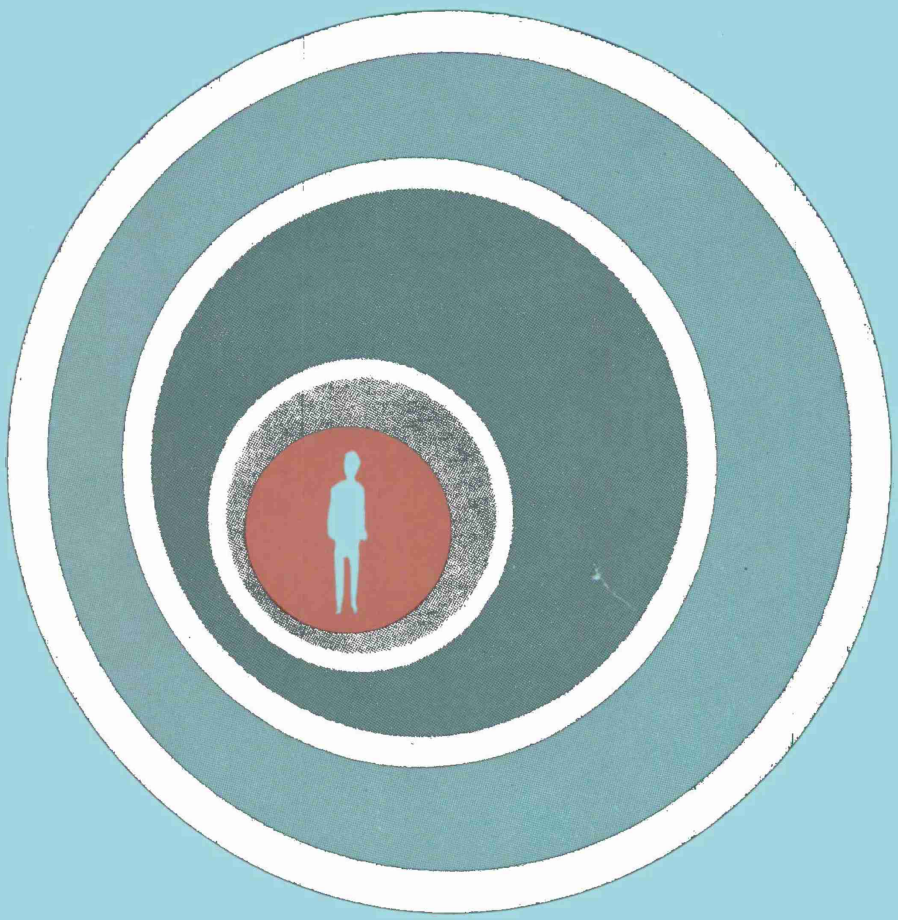

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JULY 1976

TRAINING ANALYSIS AND EVALUATION GROUP
ORLANDO, FLORIDA 32813

Technical Memorandum 76-2

A STUDY TO DEVELOP MANAGEMENT INDICES FOR THE CHIEF OF NAVAL EDUCATION AND TRAINING PHASE II - CAPITAL RESOURCE INDICES

William M. Swope, Ph.D.
Curtis C. Cordell

Training Analysis and Evaluation Group

July 1976

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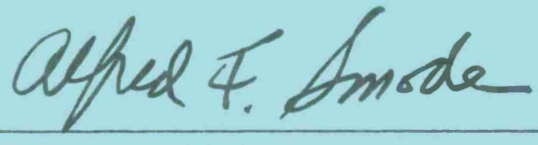

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This report covers the second phase of a four phase study undertaken by TAEG at the request of CNET to investigate the need for improvement in the quality of management information.

The results of Phase I covering Personnel Indices were reported in TAEG Technical Memorandum 76-1 dated June 1976. This report, which is a result of Phase II, develops recommendations for a set of management indices covering

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the use of capital resources. This report provides the CNET and lower echelons of command a set of tools which can be used to identify inefficiencies that exist in the use of training resources. These indices will provide information useful to the decision maker in the establishment of policy, long-range planning, and the management of resources.

Technical Memorandum 76-2

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SECTION I

INTRODUCTION

There is a need to establish within the Naval Education and Training (NET) Command a series of management indices which can be used to establish norms for resource utilization, provide a predictive capability for resource requirements, and provide a basis for determining and monitoring the efficiency with which training resources are used. In addition to providing the Chief of Naval Education and Training (CNET) with decision-making and planning information, such indices will bring to the attention of managers at all levels potential problems before they become critical.

The need for improvement in the quality of management information was recognized by CNET, and, by memorandum from CNET Code 005 of 13 May 1975, the Training Analysis and Evaluation Group (TAEG) was requested "to investigate those indicators which could be used by CNET to direct and track management policy." Guidance contained in this memorandum did not constrain the areas of investigation but did state "the best use should be made of current data systems."

The study is proceeding in four phases: Personnel, Capital, Effectiveness, and Requirements. The results of Phase I of the study, Personnel Indices, was submitted to CNET on 2 January 1976 as TAEG Technical Memorandum 75-7 (Swope and Cordell, 1975). This report, which is a result of Phase II, develops recommendations for a set of management indices covering the use of capital resources. Phase III will study the feasibility of developing highly aggregated indices for tracking training system performance. Phase IV will develop indices for tracking training requirements as they impinge on CNET. Phases III and IV are currently underway. Figure 1 graphically illustrates the major areas which affect CNET functions and require direct management control.

MANAGEMENT INDICES WORKSHOP. On 10 and 11 February 1976 a workshop to coordinate the efforts being devoted to the development of management indices was set up by CNET. Participants in the workshop included representatives from Chief of Naval Operations (OP-099), CNET, CNTECHTRA, CNET SUPPORT, Center for Naval Analysis, Naval Postgraduate School, and the Naval War College. The objectives of the workshop are outlined in CNET Memorandum Code 005 of 22 January 1976. During the workshop, summaries of work accomplished to date were presented and various participants received specific tasking covering the developmental effort. TAEG was directed to continue the development of indices for monitoring capital investment and training system effectiveness. Effectiveness (as defined during the workshop) is a measure of the performance of the graduate on the job.

CAPITAL RESOURCE FLOW

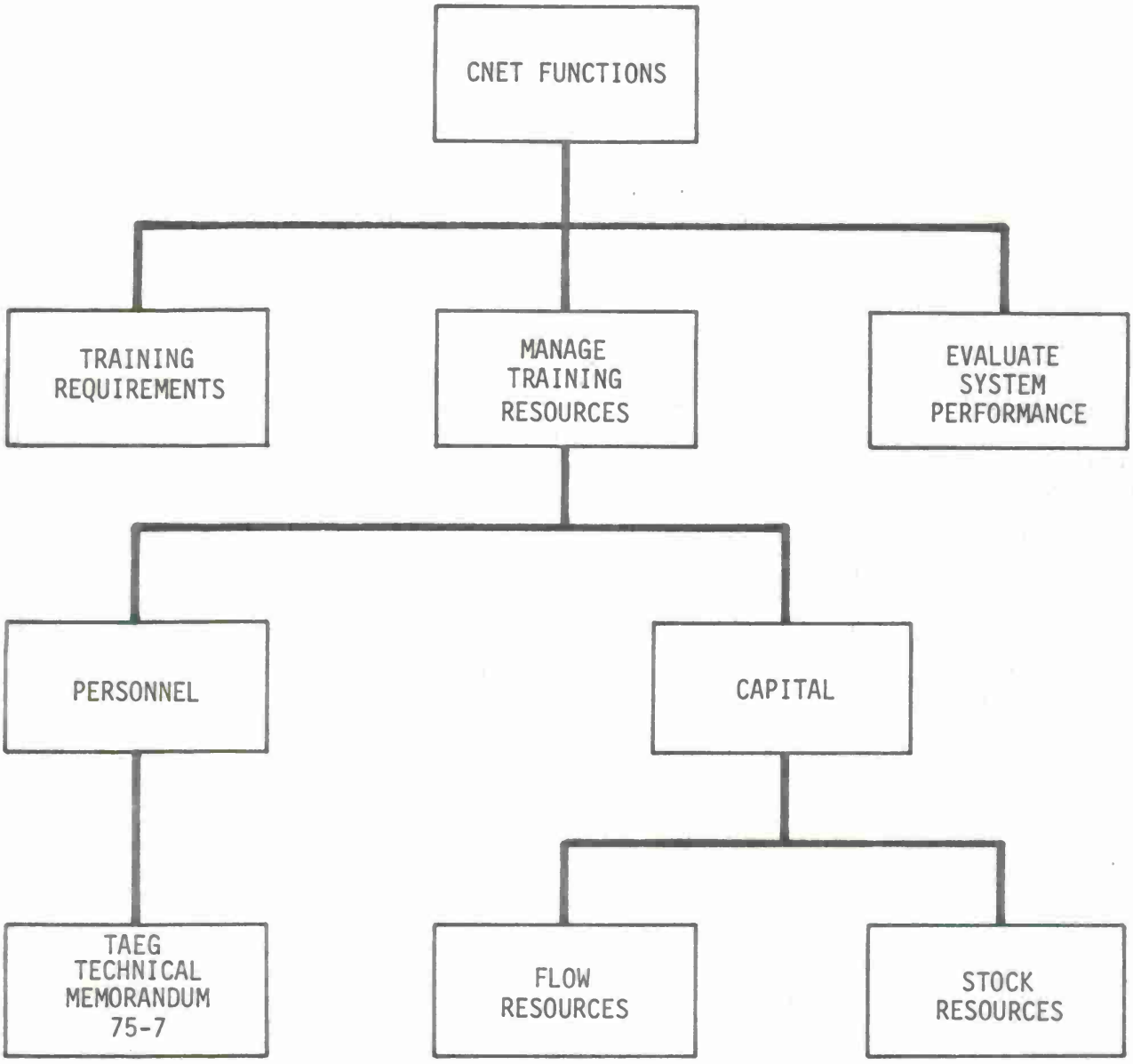


Figure 1. Areas of Management Control

Subsequent to the workshop, by memorandum from CNET Code 005 of 25 February 1976, TAEG was also tasked to "investigate the adequacy of current definitions of direct and indirect support. In particular, this investigation should determine the extent to which fixed and variable training resources are sensitive to lead times. The dependence of direct and indirect support definitions on the fixed and variable character of resources should be clearly delineated." This task has been completed and published as TAEG Technical Memorandum 76-1 (Swope and Cordell, 1976).

Three efficiency indices were selected by participants at the workshop. These were:

1. Cost per student hour,

2. Cost per graduate,

3. Cost per equivalent graduate.[1]

The workshop recommended that both the economic costs and budget costs be tracked for the efficiency indices. Economic costs are defined to include a full cost accounting of both the current budget dollars and appropriate charges for use of the capital stocks. Budget dollars include only current funding from the O&MN (Operation and Maintenance, Navy), MPN (Military Personnel, Navy), APN (Aircraft Procurement, Navy), OPN (Other Procurement, Navy), and MILCON (Military Construction) individual accounts.

By memorandum from CNET Code 005 of 25 February 1976, the Chief of Naval Education and Training Support (CNET SUPPORT) was assigned responsibility for developing "indices for non-DNET training to complement the... [recommended efficiency indices]. These indices should capture all functions not reflected in the above course related indices. Both efficiency and effectiveness measures should be developed."

The Chief of Naval Technical Training (CNTECHTRA) was assigned responsibility for performing an analysis of the utility and of the economic and budget value of the management indices proposed at the workshop. In addition CNTECHTRA was also requested to determine constituent elements of these indices which are easily computable and/or retrievable in order to assist in the analysis of changes in the indices themselves. The workshop also concluded that aggregation of the indices should be by

[1] Cost per equivalent graduate index was presented as a preliminary concept. The representative from the Naval Postgraduate School was tasked to develop more fully the concept and develop recommendations for its use.

groups of courses consistent with the Military Manpower and Training Report (MTTR) categories as follows:

Recruit Training - PE 81111N

Specialized Training - PE 81112N

Professional Training - PE 81113N

Flight Training - PE 81114N

Educational Programs - PE 81117N

The efficiency indices selected by the workshop are highly aggregated. The indices recommended in this report represent indices at a lower level of aggregration. While TAEG was assigned primary responsibility for developing indices for capital investment, the indices recommended in this report include the budgeted dollars as well since both are so closely related.

PURPOSE AND OBJECTIVES

The purpose of developing indices for capital management is to provide to the CNET and lower echelons of command a set of tools which can be used to identify inefficiencies that exist in the use of training resources. These indices will provide information useful to the decision maker in the establishment of policy, long range planning, and the management of resources. They will flag problem areas as they arise so that appropriate managerial action can be taken.

Three objectives were established for the present study:

1. Separate those capital resources which are uniquely associated with the budget process from those which represent investment. Within each area, develop indices which will provide CNET the information required in the management of capital, both flow and stock. This objective requires the development of a model depicting the source of capital, its use, and the changing inventory of capital stock. Based upon this model, a set of indices premised on the availability of an adequate data system is recommended.

2. Develop capital resource indices using data gathered from existing reporting systems. These indices are not expected to provide CNET with all the information which CNET may ultimately find necessary, but they will serve as an interim set until a more effective reporting system is established.

3. Insure that the indices developed in this study are compatible for use with those developed in the CNET Workshop of February 10-11, 1976

and with the personnel indices recommended in Phase I of the TAEG study.

ORGANIZATION OF THIS REPORT

In addition to this introductory section, section II discusses the technical approach employed and the uses to which this report can be made. Section III develops the capital resources model for the CNET Command. Section IV presents a set of capital management indices developed from the model. Finally, section V provides a set of recommended interim indices which can be computed from data gathered from existing reporting systems.

SECTION II

TECHNICAL APPROACH

DATA COLLECTION

The various activities and training support functions within CNET were identified and a model developed for classifying the resources used by these activities and functions. Flow resources and stock resources were the two major resource classes on which the study focused.

Flow resources are those which are supplied from current budgets. Stock resources are those which constitute the large capital base used in support of Navy training. In general, all funds come to CNET as flow resources; some are totally consumed within the budget year (e.g., military pay), and some are converted to stock resources and consumed over a period which extends beyond the current fiscal year (e.g., purchases typically made with MILCON funds).

Information and data on the flow resources (or budget information) are maintained in the financial accounting codes. These data sources are well documented and were investigated as a source of information and data for management indices. A part of this data base includes the reports and data prepared in fulfilling the reporting requirements of CNETINST 7300.1 and CNETINST 7710.2 which define the data collection procedures for the Resource Management System (RMS). This data base, largely in the RMS, is the best available source to determine how budget dollars, or the flow resources, are being allocated and utilized.

Resources provided from the current budget constitute only a part of the total resources consumed in training. A full economic accounting of all resources (including both the flow and stock resources) is necessary if any meaningful interpretation is to be attached to the term economic efficiency. We define economic efficiency as the allocation of a given amount of resources in such a way that maximum output is attained.

The vast majority of the stock assets constituting the capital base within the NET Command are in the form of real estate and training equipment. To determine the changing quality and quantity of stock resources it was necessary to locate data sources from which such information could be extracted. Data on the quantity and quality of real estate are maintained in CNET (Code N-35). Personnel in this code were interviewed and sample documents were reviewed to determine the types of data available. CNET (Code N-37) compiles data on training equipment. Personnel in this code were interviewed to determine what data were available to develop indices on the quantity and quality of training equipment within the

command. Results obtained from these investigations will be discussed in section V.

The highly aggregated efficiency indices selected at the workshop (i.e., cost per student hour, cost per graduate, etc.) do not provide the type of information which the CNET, or any manager, can use to make policy or to develop long range plans. These indices are too gross for establishing detailed policy. For example, the knowledge that costs are increasing is not sufficient information to form policies designed to correct the problem. Administrative edicts which force cost reductions without considering the cause of these increases may have adverse effects upon the ability of the activities to do required training. Therefore, these highly aggregated indices must be broken down into subelements which isolate the factors contributing to the increased costs. Then policies and plans can be formulated which deal with the real cause of cost fluctuations. It becomes obvious that highly aggregated efficiency indexes are descriptive rather than prescriptive.

Although the highly aggregated efficiency indices selected can be broken down into subelements, it is more appropriate to compute these indices from their subelements. The following resources expenditure subelement groupings are possible:

1. Resource Type: Indices, which separate the cost per student hour into their various resource categories, would be useful for establishing trends in expenditures for each class of resource. Aberrations in the cost to train might then be traced to the resource type, and an analysis of the cause would provide information as to whether administrative action or a policy change is necessary. Many congressional, General Accounting Office, and other administrative inquiries into government operations focus on expenditures for various types of resources. One notable example which has come under some scrutiny is the printing and publishing costs. Contracting of services, ratio of military to civilian labor, and travel are other examples of expenditures by resource type which have been reviewed in detail. Indices focusing on types of expenditures provide information which managers can use to control these expenditures. These indices can also be used to provide a data base upon which managers can form a response to administrative inquiries.

2. Formal vs. Supportive Program: It is necessary to separate and monitor expenditures by functional area because the policies required to correct fiscal problems in formal training programs differ from those appropriate for the supportive programs.

Indices monitoring each functional area costs can be developed by isolating and separating those costs from the total CNET expenditure. Undesirable changes in expenditures in each functional area can then be evaluated in more detail by focusing on individual program costs. Shifts in these program costs provide managers the information needed to take appropriate action. The moving of resources between formal training programs and supportive programs is a high level management prerogative. Indices which track the expenditures going into each program area are necessary to determine and insure that the proper allocations of funds are made between these two major areas.

3. Organizational or Management Unit Costs: Indices which track the efficiency of each individual organizational unit within the command will enable the CNET and subordinate managers to identify those units in which training costs are inconsistent with training output. In addition, indices which are aggregated on the basis of organizational units can be used by CNET and lower level managers to compare similar activities so that they can isolate those which are less efficient. These indices can also be used to track the efficiency of individual units over time. The activity level is an appropriate level for aggregation of indices. This is consistent with the recommendations made in Phase I of this study and current practice. Recommended reporting procedures will be discussed later in this report.

4. Stocks Resources vs. Flow Resources: The type of management information required is dictated by the responsibilities of the manager. Managers with responsibilities in operational areas are primarily concerned with flow resources. Those responsible for policy and long range planning must be concerned with all resources; i.e., both the stocks and flows.

   There is a time lag associated with the acquisition of most resources. Therefore, to insure availability of resources for the future, long range planning is necesssary. Managers responsible for the acquisition of stock resources require information on both the quantity and quality of their existing capital stocks. In addition, they must monitor the adjustments in quantity and quality as they occur over time in order to budget the appropriate amount of flow resources. The future requirements for resources as measured against the resources available, provides the information on which managers plan their acquisition program.

5. Budget Categories: Perhaps the most important subdivision of flow resources is by budget or appropriation category. These categories are the areas of focus in budget hearings. In addition, the management of the budget is always in terms of these categories so it is most useful to identify indices first in terms of the training mission and then by major appropriation category. Each index can be further broken down into subelements to the level of specificity necessary. The model suggested for development in section IV follows this format of disaggregation.

USE OF STUDY

It is recommended that CNET review the indices discussed in sections IV and V. Indices proposed in section V can be obtained immediately from existing data systems and it is recommended that CNET begin tracking these on a regular basis. The detailed reporting and compilation procedures can be established by working with personnel responsible for the data systems. It is expected that certain deficiencies will become apparent in the data base and modifications will be required. The model and indices of section III and IV can then be used as the basis for developing a more comprehensive set of indices.

The reliability of any given index for identifying management problems remains an unresolved issue. Experience and time with the recommended indices will enable CNET to determine the reliability and usefulness of each index. Based on this experience, a determination can be made as to which indices are most useful, areas not adequately covered, and areas not covered but which are of interest to CNET. A more useful set of indices can then be developed. A periodic and continuing review and modification of the indices will insure that all indices are relevant and useful. This study recommends several indices for tracking the operations of training systems. Data collected from each of these indices may not necessarily be in a format which provides useful information. Analysis of the data followed by change in index format where necessary will be required before CNET can have the type of management information which is useful in fulfilling management objectives. Consider, for example, a report which shows the cost per student hour. If such a report were made available monthly to CNET with no analysis it would be extremely difficult and time consuming to extract the significant management information. To circumvent this problem, it is recommended that CNET establish or assign responsibilities to an analytical group to receive the indices reports and extract from these reports the significant management information. Management summaries could be prepared for CNET on a regular basis. These summaries would highlight such items as (1) significant changes in trends, (2) courses and activities which have unusually high costs, (3) expected resource deficiencies, and (4) potential management problems as pertinent.

SECTION III

CAPITAL RESOURCE REPORTING

CAPITAL RESOURCES MODEL

This section presents a model of the capital resources managed by CNET and includes a discussion of the Flow Resources and Stock Resources blocks illustrated in figure 1. Capital resources have been divided into two types--those dealing with funds which are associated with current budgets and those which deal with the stock resources which have been obtained from past appropriations. This division of resources is carried throughout the Resource Model, figure 2, and effectively defines short-term resources as they appear in the POM and budget cycle as against investments.

Since the primary mission of CNET is to produce trained and educated Naval personnel, each type of capital resource has been subdivided into that which is expended to accomplish the primary mission (i.e., formal training) and that expended in the accomplishment of the secondary mission (i.e., supportive programs). The terms formal training and supportive programs are defined in TAEG Technical Memorandum 75-7 (Swope and Cordell, 1975), as follows:

1. Formal training programs produce, through Navy managed courses of instruction, persons qualified to perform in specific operational or staff billets. Criteria for formal training are as follows:

   - A CNET managed course of instruction,
   - A schoolhouse setting,
   - Preparation in a specific discipline, or for career enhancement,
   - Orders designating the person as a student.

2. Supportive programs are those areas of endeavor under CNET management which require the expenditure of CNET resources yet are not directly involved in training individuals.

FLOW RESOURCES

Flow resources are, in general, those which deal with annually appropriated funds. Indices developed from this portion of the model deal with the day-to-day costs, investment programs, and various miscellaneous expenditures. POM and budget submissions and the control of appropriated monies will be tracked through these indices.

CAPITAL RESOURCE FLOW

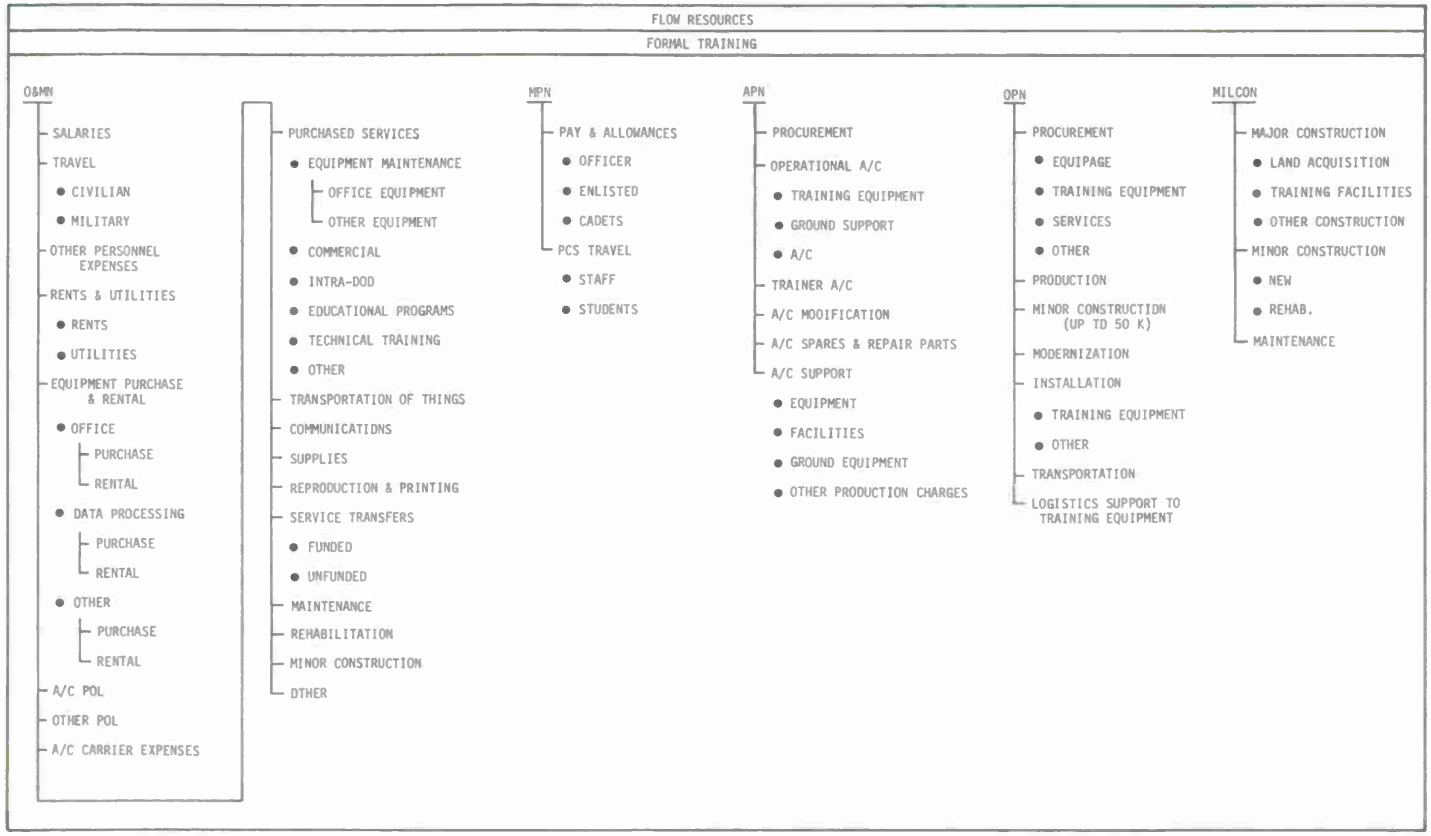


Figure 2. Resource Model

CAPITAL RESOURCE FLOW (cont)

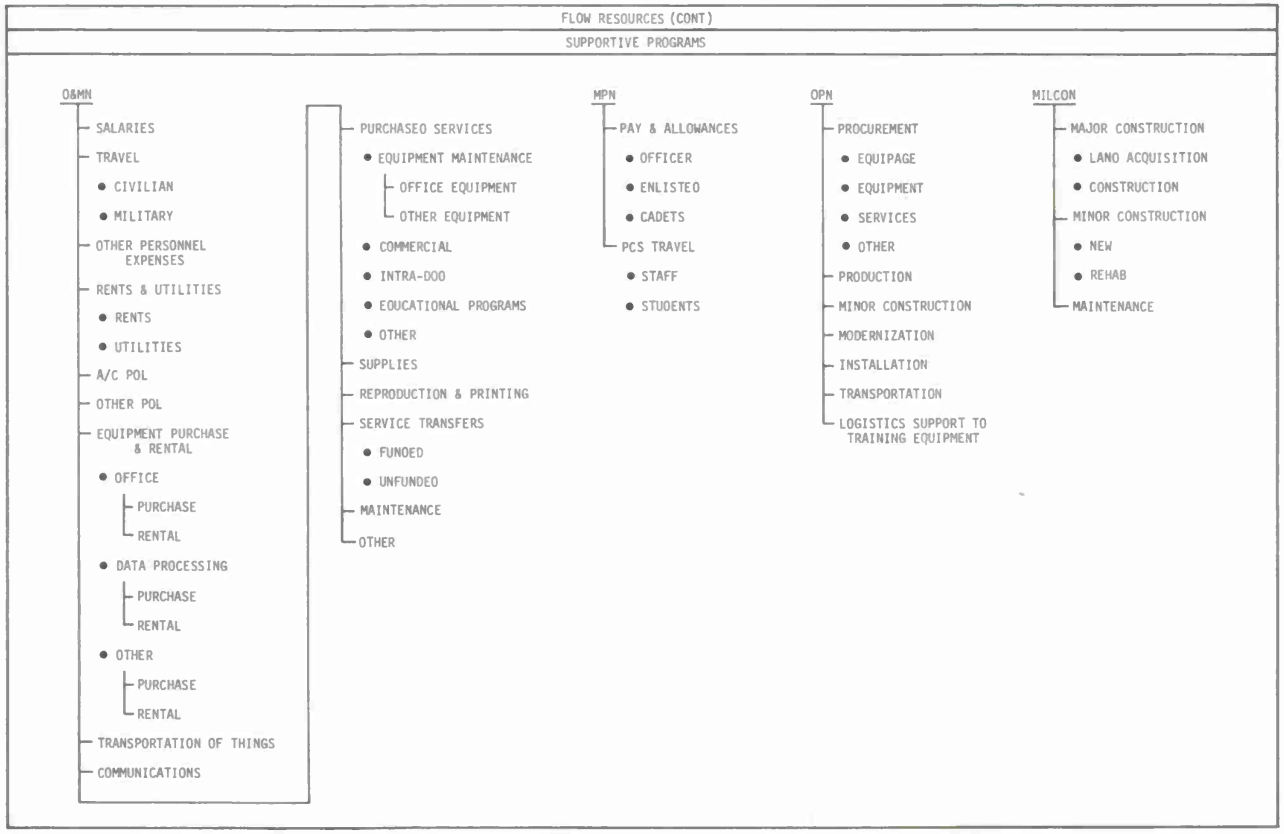


Figure 2. Resource Model (continued)

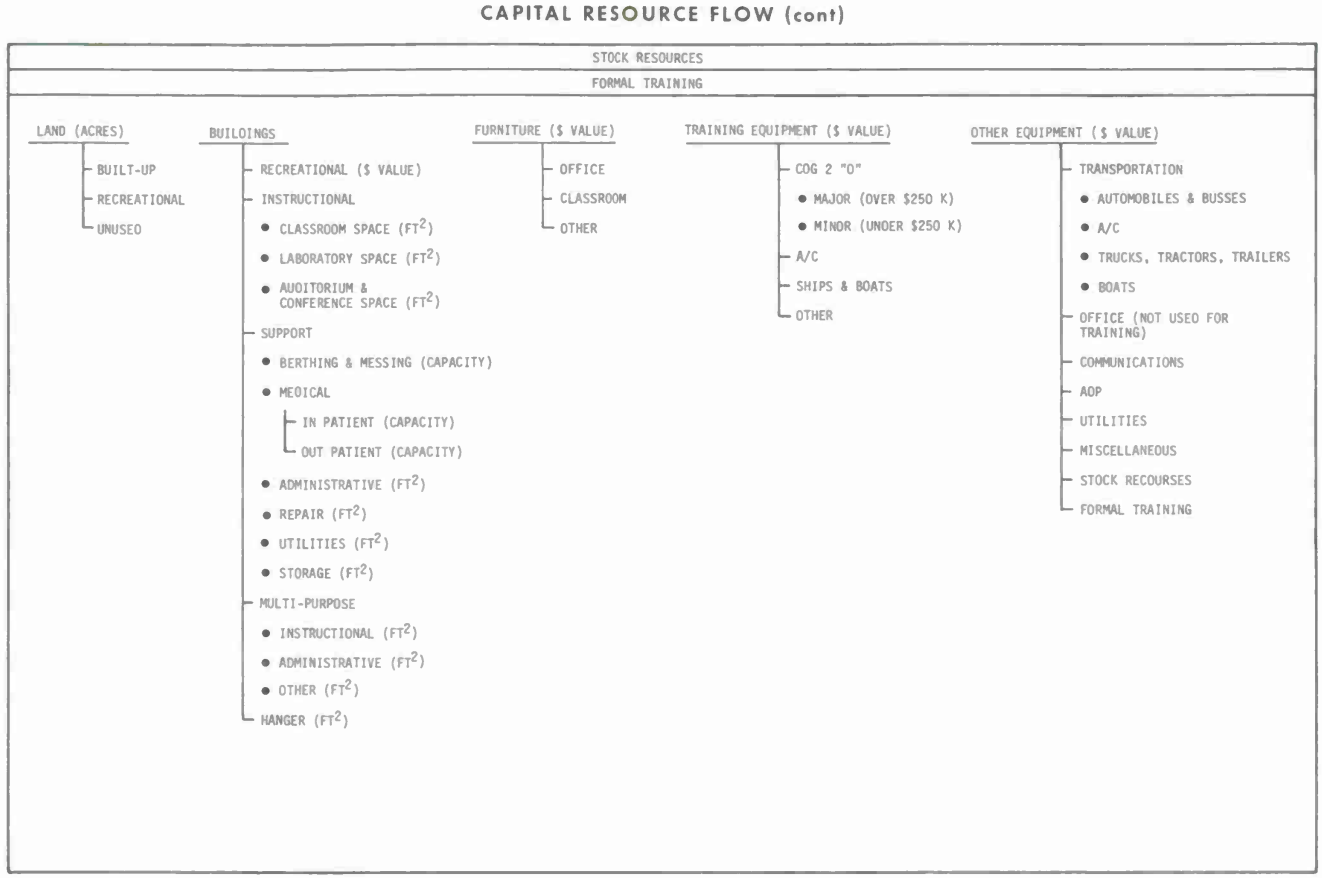


Figure 2. Resource Model (continued)

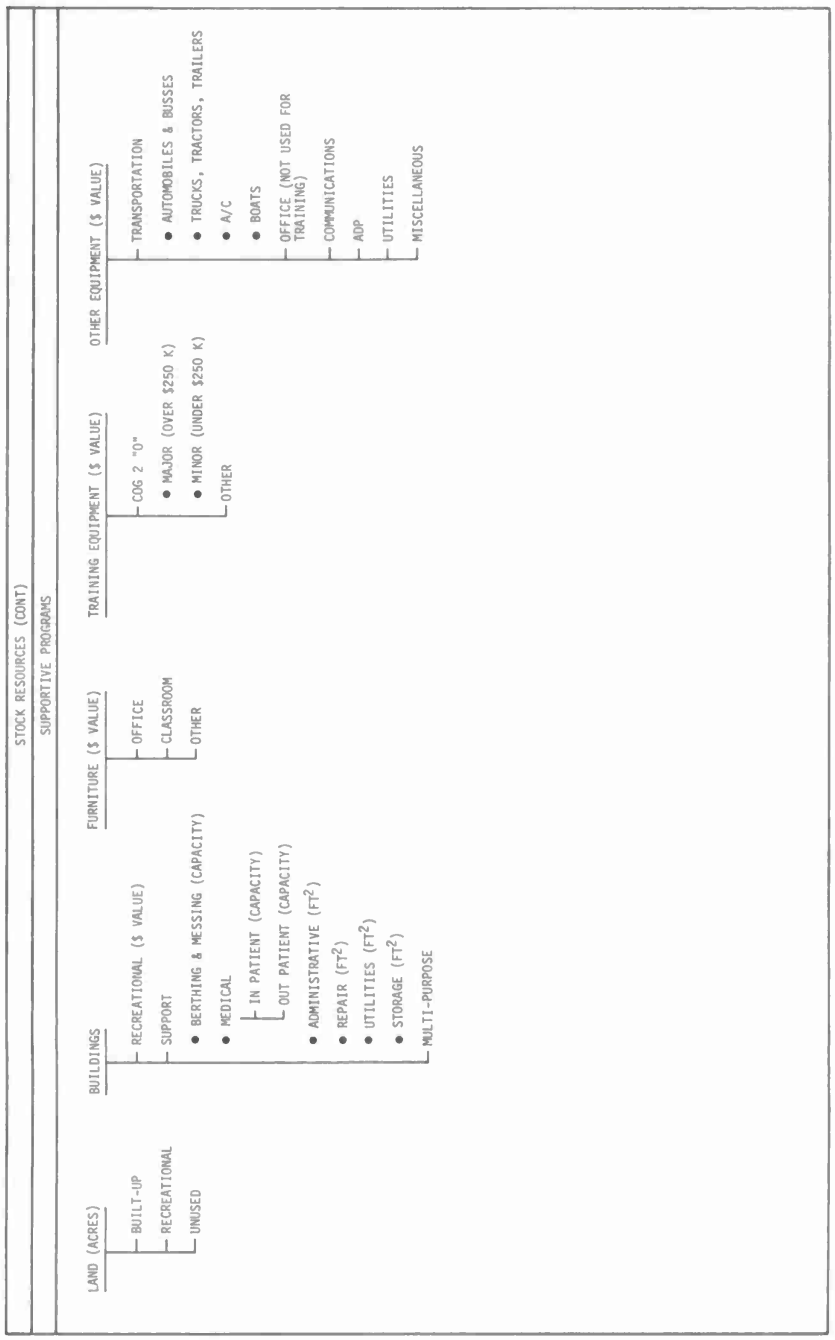


Figure 2. Resource Model (continued)

To facilitate the tracking of obligations, reports are to be made by budget area. These areas are defined in the Navy Comptroller's Manual, volume 7, chapter 4. CNET receives funds from O&MN, MPN, APN, OPN, and MILCON appropriations. Reports will be made, therefore, by appropriation account.

STOCK RESOURCES

Stock resources accumulate and are replaced by expenditures from the various appropriation accounts. They represent, in effect, the total CNET investment. The amount and type of this investment defines the limits of the CNET capability to train.

The CNET has identified long range planning as one of the major management functions of any high level command. An important aspect of this management function is to insure that the degeneration of the capital stocks which occurs through obsolescence and wear do not significantly diminish the training command's capability to meet future training demands.

Appropriations and budgets have been severely constrained in recent years. One of the simplest and often the only way to stay within resource constraints is to cancel or delay capital maintenance or development projects. Such delays or cancellations are effective in reducing current budget requirements. However, these delays lead to a more intensive use of the existing capital stocks and an accelerated erosion of the capital base. Continued erosion of this base will lead to a reduction in the capacity of the training command to fulfill future training requirements or to meet unforeseen emergencies. To restore this capability may require heavy investment funding in future years.

The problems and decisions arising because of budgetary constraints in the use of the flow resources are acute, highly visible, and usually require a quick response. The problems arising from the inefficient use and misallocation of the stock resources are more chronic in nature, less visible, but will ultimately impact on budget requirements as these resources must be replaced. A manager who hopes to minimize his long run budgetary problems must judiciously use and allocate those stock resources currently available. For this reason, a manager must have available the management information which enables him to track the quantity and quality of his current capital stocks.

The higher echelons of command are the managerial levels which make the long-range planning decisions. Their most useful indices are those which account for the entire consumption of resources. Decisions such as base closings, relocation, elimination, and combining of activities, and the redirection of major programs are the type of high level management decisions which require efficiency indices which account fully for the resources being consumed by the ongoing activities.

INFORMATION FLOW

Indices must be computed from the raw data at the management level utilizing the indices. To insure that accurate indices can be developed for each command level, it is necessary that each command have access to the relevant raw data from their own as well as subordinate levels. The remainder of this section discusses the flow of information for the collection of data. During the development of personnel indices, a problem was encountered regarding the definition of terms. This problem did not exist during the capital resources phase since the terms used to define capital resources are well defined in the NAVCOMPT Manual and the promulgating directives for the various systems. Definitions of terms not associated with capital resources used herein are consistent with definitions given in TAEG Technical Memorandum 75-7 (Swope and Cordell, 1975).

Figure 3 is an example of data flow from the source to CNET. Inputs commence with the lowest organizational level (level 1) which prepares and maintains an operating budget and/or maintains an inventory of stock resources. The term operating budget includes budget submissions for funds and the use of these funds when appropriations are received. It is the total accountability for money. Stock resources are the things acquired with appropriated funds. It is important that care be taken in the reporting of stock resources to insure the correct units are used in the report. Land, for example, is reported in acres.

Level 1 commanders gather and summarize data by budget category (O&MN, MPN, APN, OPN, MILCON). These data are to be reported as budgeted funds (those requested), funds received but not obligated, or obligated funds. These summaries are forwarded to level II where appropriate additions are made then sent to the reporting activity. Reporting activities are those commands uniquely identified by the Unit Identification Code contained in the effective edition of CNETINST 7300.1.

Commands who provide support to CNET, but are not under the command of CNET, will provide information only on expenditures in support of CNET to the NET reporting activities. These data will be included in the activity report, but identified as obligated funds. In this manner, CNET will be able to track reimbursable costs.

Each level will, in turn, insure a continuous flow of raw data, with appropriate identifiers, to the activity responsible for reporting to one data system. The activity will consolidate all reports of subordinate units and add its own and such outside activity data on obligations anticipated as are reported to it. Through an ADP system, the totals will be made available to the NET Functional Commanders.

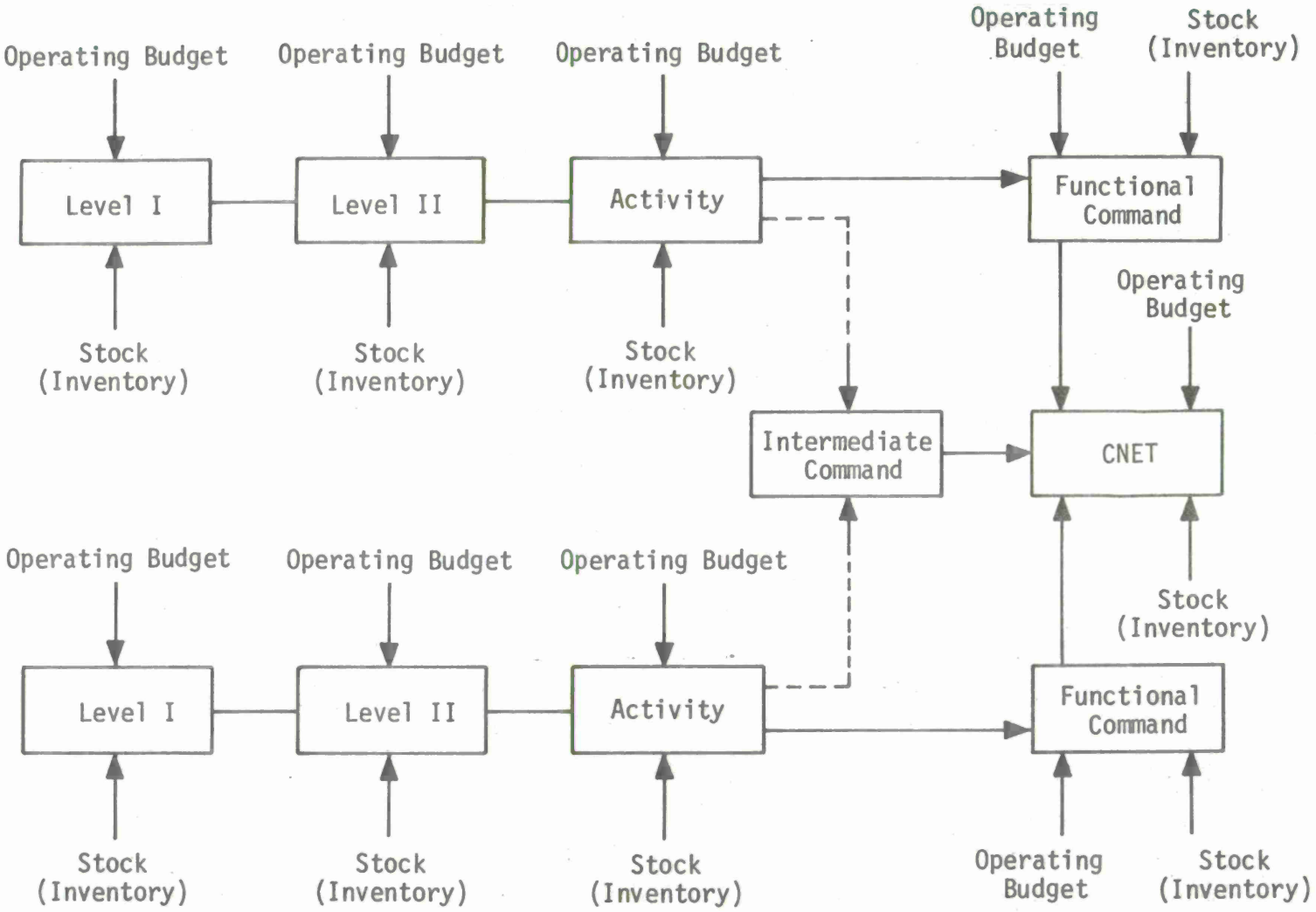


Figure 3. Data Flow to CNET

At the same time, activity commanders will insure that any intermediate commander has the same information available to him.

Data moves from each level to a data collection point. Each level must maintain the capability to develop summaries of data submitted by subordinates as well as its own. The detail maintained at each level varies with the needs of that level in the formulation of its indices.

Because the value of the capital base is static over short periods, it is only necessary to report stock resources on an infrequent, but regular, basis. It will be necessary that a one-time inventory be taken and then updated routinely. While not complete, inventories already exist for much of the capital stock within the command.

SECTION IV

RECOMMENDED CAPITAL MANAGEMENT INDICES

INTRODUCTION

The indices presented in table 1 were developed from the Resource Model, figure 2. It is necessary to view changes in, and measurements of, each index in context with related indices. In addition, when the change of an index is studied with respect to changes in the Personnel Management Indices (Swope and Cordell, 1975) covering the same general areas, a more complete picture of resource utilization can be identified. Indices are not unique or mutually exclusive, particularly within a single budget category; hence, one can expect to find some degree of overlap. To facilitate the examination of indices in context, and to minimize the possibility of misinterpretation, indices are grouped by family and level. Families of indices are those which measure from a similar base while the level of indices defines the detail within the index.

Funds are appropriated by budget category, therefore data are maintained in that manner. In terms of necessary management information, decisions are, of necessity, often influenced by the category of money available (or saved).

As with personnel resources, CNET must be capable of identifying those capital resources devoted to each aspect of his mission. Therefore, indices on flow resources are developed by program within each budget category. In contrast, stock resources are more flexible in that they can be shifted from program to program as required for use. They are accounted for as a totality within the NET Command.

FAMILIES OF INDICES. Each family contains within its own series of indices an indication of the efficiency with which resources are used. To illustrate; should the numbers of civilian personnel on board decrease, and the adjusted O&MN budget increase without a change in functions, then it is an indication that possible inefficiencies exist. This situation should cause managers to institute a search for the reason for the inexplicable change. Seven families of indices are developed in this study and are identified below.

1. Aggregate indices measure the gross capital flow within CNET and the percentage of these funds devoted to each budget area and each major program. In addition, these indices give the CNET managers an indication of the state of repair of stock resources (buildings). Aggregate indices permit CNET to monitor the level of resource allocation, by budget category, devoted to his primary mission as against supportive areas. With respect to buildings, managers can estimate with reasonable

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES

FAMILY M - AGGREGATE INDICES - FLOW RESOURCES

INDEX NO.	TITLE	INDEX
M-1	Total Net Flow Resources Devoted to Formal Training to Total NET Flow Resources Devoted to Supportive Programs	
M-2	MILCON Funds Available as a Percentage of Total Budget	
M-3	O&MN Funds Available as a Percentage of Total Budget	
M-4	MPN Funds Available as a Percentage of Total Budget	
M-5	APN Funds Available as a Percentage of Total Budget	
M-6	OPN Funds Available as a Percentage of Total Budget	
M-7	Total Net Flow Resources ÷ Total Student Hours	
M-8	Total Cumulative Backlog of Essential Maintenance	
M-9	Total Staff Personnel Costs to Total Non-Personnel Costs	
M-10	Civilian Personnel Costs to Military Personnel Costs	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY N - O&MN BUDGET CATEGORY

INDEX NO.	TITLE	INDEX
N-1	O&MN Budget Current FY to O&MN Budget Past FY	
N-2	Recouped O&MN Expenditures to Total Reimbursable O&MN Expenditures	
N-3	O&MN Funds Allocated to Essential Maintenance to Total O&MN Funds Budgeted	
N-1-1	O&MN Expenditures to Date to O&MN Budget This FY	
N-3-1	Absolute Change in Backlog of Essential Maintenance Since Last FY	
N-1-1-1	O&MN Expenditures in Recruit Training to Date This Year to O&MN Expenditures in Recruit Training Budgeted	
N-1-1-2	O&MN Expenditures in Recruit Training This FY to O&MN Expenditures in Recruit Training Same Date Past FY	
N-1-1-3	O&MN Expenditures in Technical Training to Date This FY to O&MN Expenditures in Technical Training Budgeted	
N-1-1-4	O&MN Expenditures in Technical Training to Date This FY to O&MN Expenditures in Technical Training Same Date Last FY	
N-1-1-5	O&MN Expenditures in Flight Training to Date This FY to O&MN Expenditures in Flight Training Budgeted	
N-1-1-6	O&MN Expenditures in Flight Training to Date This FY to O&MN Expenditures in Flight Training Same Date Past FY	
N-1-1-7	O&MN Expenditures in Educational Programs to Date This FY to O&MN Expenditures in Educational Programs Budgeted	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY N - O&MN BUDGET CATEGORY (continued)

INDEX NO.	TITLE	INDEX
N-1-1-8	O&MN Expenditures in Educational Programs to Date This FY to O&MN Expenditures in Educational Programs Same Date Last FY	
N-1-1-9	O&MN Expenditures in Supportive Programs to Date This FY to O&MN Expenditures in Supportive Programs Budgeted	
N-1-1-10	O&MN Expenditures in Supportive Programs to Date This FY	
N-1-1-11	O&MN Wages and Salaries Expenditures as Percent of Total Budget	
N-1-1-12	O&MN Travel Expenditures as Percent of Total Budget	
N-1-1-13	O&MN Rent and Utility Expenditures as Percent of Total Budget	
N-1-1-14	O&MN Equipment Purchase of Rental Expenditures as Percent of Total Budget	
N-1-1-15	O&MN A/C POL Expenditures as Percent of Total Budget	
N-1-1-16	O&MN Other POL Expenditures as Percent of Total Budget	
N-1-1-17	O&MN Purchased Services Expenditures as Percent of Total Budget	
N-1-1-18	O&MN Transportation Expenditures as Percent of Total Budget	
N-1-1-19	O&MN Supplies Expenditures as Percent of Total Budget	
N-1-1-20	O&MN Reproduction & Printing Expenditures as Percent of Total Budget	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY P - MPN BUDGET CATEGORY

INDEX NO.	TITLE	INDEX
P-1	MPN Budget Current FY to MPN Budget Past FY	
P-2	Recouped MPN Expenditures to Total Reimbursable MPN Expenditures	
P-1-1	MPN Expenditures to Date to MPN Budget This FY	
P-1-1-1	MPN Expenditures in Recruit Training This FY to MPN Expenditures in Recruit Training Budgeted	
P-1-1-2	MPN Expenditures in Recruit Training This FY to MPN Expenditures in Recruit Training Same Date Past FY	
P-1-1-3	MPN Expenditures in Technical Training This FY to MPN Expenditures in Technical Training Budgeted	
P-1-1-4	MPN Expenditures in Technical Training This FY to MPN Expenditures in Technical Training Same Date Past FY	
P-1-1-5	MPN Expenditures in Flight Training This FY to MPN Expenditures in Flight Training Budgeted	
P-1-1-6	MPN Expenditures in Flight Training This FY to MPN Expenditures in Flight Training Same Date Past FY	
P-1-1-7	MPN Expenditures in Educational Programs This FY to MPN Expenditures in Educational Programs Budgeted	
P-1-1-8	MPN Expenditures in Educational Programs This FY to MPN Expenditures in Educational Programs Same Date Past FY	
P-1-1-9	MPN Expenditures in Supportive Programs This FY to MPN Expenditures in Supportive Programs Budgeted	
P-1-1-10	MPN Expenditures in Supportive Programs This FY to MPN Expenditures in Supportive Programs Same Date Past FY	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY Q - APN BUDGET CATEGORY

INDEX NO.	TITLE	INDEX
Q-1	APN Budget This FY to APN Budget Past FY	
Q-2	APN Expenditures per A/C in Inventory	
Q-1-1	APN Expenditures to Date to APN Expenditures Budgeted This FY	
Q-1-2	APN Expenditures This FY to APN Expenditures Same Date Past FY	
Q-1-1-1	APN Expenditures on Training A/C to Total APN Expenditures	
Q-1-1-2	APN Expenditures on Non-Training A/C to Total APN Expenditures	
Q-1-1-3	APN Expenditures on A/C Support to Total APN Expenditures	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY R - OPN BUDGET CATEGORY

INDEX NO.	TITLE	INDEX
R-1	OPN Budget Current FY to OPN Budget Past FY	
R-2	Recouped OPN Expenditures to Total Reimbursable OPN Expenditures	
R-3	OPN Funds Allocated to Minor Construction and Modernization to Total OPN Budget	
R-1-1	OPN Expenditures to Date to OPN Budget This FY	
R-1-1-1	OPN Expenditures in Recruit Training This FY to OPN Expenditures in Recruit Training Budgeted	
R-1-1-2	OPN Expenditures in Recruit Training This FY to OPN Expenditures in Recruit Training Past FY	
R-1-1-3	OPN Expenditures in Technical Training This FY to OPN Expenditures in Technical Training Budgeted	
R-1-1-4	OPN Expenditures in Technical Training This FY to OPN Expenditures in Technical Training Past FY	
R-1-1-5	OPN Expenditures in Flight Training This FY to OPN Expenditures in Flight Training Budgeted	
R-1-1-6	OPN Expenditures in Flight Training This FY to OPN Expenditures in Flight Training Past FY	
R-1-1-7	OPN Expenditures in Educational Programs This FY to OPN Expenditures in Educational Programs Budgeted	
R-1-1-8	OPN Expenditures in Educational Programs This FY to OPN Expenditures in Educational Programs Past FY	
R-1-1-9	OPN Expenditures in Supportive Programs This FY to OPN Expenditures in Educational Programs Budgeted	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY R - OPN BUDGET CATEGORY (continued)

INDEX NO.	TITLE	INDEX
R-1-10	OPN Expenditures in Supportive Programs This FY to OPN Expenditures in Supportive Programs Past FY	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY S - MILCON BUDGET CATEGORY

INDEX NO.	TITLE	INDEX
S-1	MILCON Budget This FY to MILCON Budget Past FY	
S-2	Construction Obligations This FY to Construction Budget This FY	
S-3	Maintenance Obligations This FY to Date to MILCON Budget This FY	
S-3-1	Backlog of Essential Maintenance This FY to Backlog of Essential Maintenance Same Date Past FY	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY T - STOCK RESOURCES

INDEX NO.	TITLE	INDEX
T-1	Total Classroom Space Available (sq. ft.)	
T-2	Total Berthing Capacity (No. Students)	
T-3	Total Messing Capacity (No. Students)	
T-4	Total Medical Capacity (No. Students)	
T-5	Total Investment in Office Furnishings (Dollars)	
T-6	Total Administrative Space Available (Sq. Ft.)	
T-7	Major Aids and Training Devices (Dollars)	
T-8	Minor Aids and Training Devices (Dollars)	
T-9	Ships and Boats (No. Students) Operational to Ship and Boat Inventory	
T-10	Non-Training Equipment Inventory ($)	
T-11	Total Land Area Available	
T-12	Aircraft Operational (No. Students Training Capacity)	
T-13	Aircraft Operational to Aircraft Non-operational	

TABLE 1. RECOMMENDED CAPITAL RESOURCES INDICES (continued)

FAMILY T - STOCK RESOURCES (continued)

INDEX NO.	TITLE	INDEX
T-1-1	Total Classroom Space Unused (Sq. Ft.)	
T-2-1	Total Berthing Space Unused (No. Students)	
T-3-1	Total Messing Space Unused (No. Students)	
T-4-1	Total Medical Capacity Unused (No. Students)	
T-6-1	Total Administrative Capacity Unused (No. Students)	
T-10-1	Non-Training Equipment Vehicles ($) to Inventory Value	
T-10-2	Non-Training Equipment Office Equipment ($) to Inventory Value	
T-10-3	Non-Training Equipment Communications Equipment ($) to Inventory Value	
T-10-4	Non-Training Equipment ADP ($) to Inventory	
T-10-5	Non-Training Equipment Service Contracts ($)	

accuracy the relative state of repair of those stock resources. Finally, in time, norms can be established which managers can use to evaluate deviations which appear in the indices.

2. O&MN budget category indices depict for the manager three primary items needed in the decision making process. First, a rate of change in the expenditure of the budget; second, a rate of expenditure of authorized funds; and third, an accountability of reimbursables. The collection of these data is by type of training or support, therefore, the area of change and the trend by functional command become apparent to managers.

An extremely important area of the O&MN budget category deals with civilian personnel expenses and other than permanent change of station (PCS) military travel. For example, when the indices tracked by CNET deviate markedly from an established trend, then personnel indices should be examined to establish a possible cause.

3. MPN budget category indices are very closely tied to the Personnel Management Indices as they apply to the military contingent of the NET Command. From the MPN budget category, CNET managers can establish indices which can be used in conjunction with the appropriate Personnel Management Indices, to identify changes in the grade structure of military personnel.

4. APN budget category indices are designed to assist managers in determining policy with respect to aircraft costs. Two considerations are of prime importance. First, the trend in adjusted cost per aircraft and second, the ratio of non-training to training aircraft. The tracking of these indices over time will produce a trend which is useful in long-range planning and provide one indication of changes in the efficiency with which these resources are used.

5. OPN budget category indices are similar to O&MN indices except that there are no personnel costs in the OPN budget. Trends established in this area of expenditure are of particular use in establishing start-up costs and fixed costs for an activity.

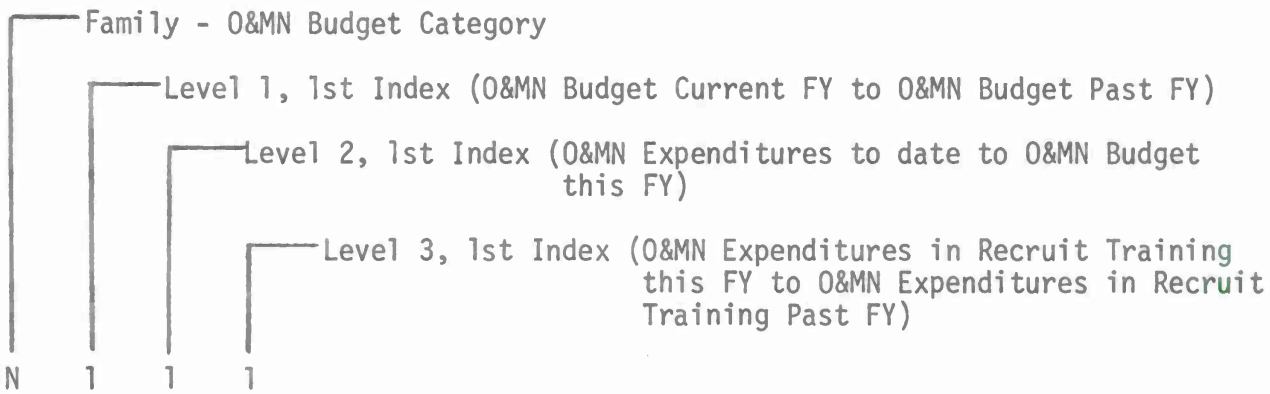
6. MILCON budget category indices are the primary source of information for CNET managers on the long-term increases in facilities and the state of repair of existing buildings.

7. Stock resource indices provide CNET with information on the capability to train. When these indices are used in conjunction with Personnel Indices, the CNET can predict the training expansion capabilities of this command. Thus, adequate information is available to plan for mobilization. Stock resource indices are, in general, static over a

given annual period. Therefore, an update would be required only annually or in response to a specific need.

LEVEL OF INDICES. Within each family, levels of indices have been formulated which define the degree of detail in the index (a ratio). It is unlikely that the CNET would require detail beyond level 3 except in infrequent instances. For this reason the recommended level in this study stops at level 3. However, indices can be developed to the level (or detail) deemed necessary at each command echelon.

Level 1 indices are highly aggregated indices and may be the only level the CNET will be required to monitor on a regular basis. In the O&MN Budget Category Family (Family N), a level 1 index gives a comparison of the existing budget to the past FY budget. Level 2 refines this gross ratio into greater detail. For example, a level 2 index compares the expenditures to date with the prior years' expenditures thereby giving CNET some idea of the rate of outflow. Level 3 indices refine the level 2 indices still further. An example of indices identified by family and level is shown in the following:



The list of capital resources indices in table 1 are recommended for long-term development. All cannot be calculated from data contained in existing reporting systems. In addition, these indices will require periodic review to insure data furnished management are correct and in a form usable to management.

SECTION V

RECOMMENDED INDICES FROM EXISTING DATA

The indices identified in section IV were not limited to those which could be computed from existing data systems. As modifications are made to existing data systems and new systems are implemented, the information necessary to compute the indices proposed in section IV can be collected. To satisfy the immediate need for management information, a set of indices which can be computed from existing data systems is recommended in this section. Because most of the existing data systems are automated, only minor modifications will be required in the way the data elements are compiled to compute the recommended indices. In many instances no change in computational methods will be required.

The first part of this section deals with the flow, or budget, resources. These are further subdivided into those which focus on the detailed expenditure patterns as derived from the expense element classification of the RMS, the expenditures by the major program elements, and the expenditures by individual activity. Activity expenditures are further subdivided into formal and supportive programs. The second part discusses indices dealing with capital stocks which are further subdivided into those indices which attempt to monitor the level of capital assets within the command, and a set of indices which will provide information to CNET on the quality and changes in quality of the capital assets.

The major source of data for the budget related indices is the RMS. This system already tracks in detail the budget and expenditure of funds and reports this information in a series of detailed financial reports. Although these reports are an excellent source of financial information, they are so detailed that many important trends are obscured. Even though the data are already available from which analysis could be performed to focus managers attention on operational inefficiencies, there is little evidence that the information is used to full advantage. The emphasis of most of the data system is on the collection of data, and little effort has been devoted to an analysis of the data.

The following indices can be evaluated in three possible ways. First, a measure of an index can be compared with some known standard and a judgment made as to the reasonableness of the index. This presupposes that we have a known standard against which comparisons can be made. For most of the indices discussed in this report such a standard or norm does not exist. Second, the indexes can be evaluated by a cross-sectional analysis. In cross-sectional analysis, the index on a particular activity or facet of training is compared with other similar activities. The difficulty with a cross-sectional analysis approach is that most activities differ in their functions and cross comparisons

have only limited validity. Despite this limitation there are instances where such comparisons are valid, and useful management information can be obtained. Third, indices can be evaluated in a time-series analysis. In time-series analysis, the same index is computed for successive time periods and the current index level is evaluated against performance in previous time periods. The major advantage of time-series data is that the activity is being compared with past performance and the changes in performance are a strong indication of changes in management efficiency. The major disadvantage is that the functions of activities change over time and the comparisons may not be valid. However, since the purpose of an index is to provide the analyst and manager with flags which identify potential or indicated problems, time-series analysis may be the most effective type for the CNET. Changes in an index must be investigated at their source before policy can be established to correct what may be possible inefficiencies. Therefore, functional changes should be readily identified during this analysis phase.

FLOW INDICES

A detailed breakdown of expenditures showing expenditures by 17 resource subclasses are identified in the RMS. The expense elements are discussed in CNETINST 7300.1. The information on these expense elements is being compiled in the current RMS and reported monthly in detail in NAVCOMPT Report 7000.8.

The indices recommended herein are more highly aggregated than the variables in the RMS and are summarized for each activity. These indices will make explicit the type of equipment, supplies, and services which consume the budget. It is often in these areas where auditors and efficiency evaluations seek answers to the question of how well an organization is managed. By tracking these indices, management will be able to focus on the resource areas contributing to aberrations in expenditure patterns and to develop policies appropriate to the use and control of these assets. Each table of indices has at its foot a recommended source of information for that table.

Table 2, Activity Summary of Resource Expenditures, provides a summary by activity of the resource expenditures for each resource class. When an expenditure is compared with the work units performed, CNET will have the capability of identifying significant changes in the utilization of flow resources for training. Changes in the rate of consumption of any particular resource which cannot be attributed to relative price changes, changes in resource productivity or changes in ouput, would identify potential inefficiencies or areas wherein policy changes may be necessary.

TABLE 2. ACTIVITY SUMMARY OF RESOURCE EXPENDITURES

ACTIVITY_____

Numerator (Dollars)	Denominator	Ratio	% of Total Expenditures
Military Salaries	Manhours of Training		
Civilian Salaries	"		
Personnel Travel	"		
Other Personnel Expenses	"		
Rents & Utilities	"		
Equipment Purchase & Rental	"		
Aircraft POL	"		
Other POL	"		
A/C Carrier Expenses	"		
Purchased Services	"		
Transportation of Things	"		
Communications	"		
Supplies	"		
Reproduction & Printing	"		
Service Transfers	"		
Other	"		
Total expenditures	Manhours of Training		

Recommended Source: N-6

Table 3, Program Element Summary of Resource Expenditures, is a suggested format for compiling data for the five major program elements for which CNET is responsible. Given the aggregate expenditures for each program element and the work units performed a gross productivity index can be established.

Information on the total budget expenditures for each program element can be extracted from the RMS as it is presently configured. These indices would identify for the CNET those programs which are in need of management attention. The five program elements are consistent with those agreed upon at the February workshop.

It must be emphasized again, as it has been throughout this report, that the units of output per dollar of expenditure should not be taken out of context in making a judgment as to whether the absolute level represents an efficient level. If the method of computing the index is consistent between reporting periods then the change in the index becomes the most important management information.

Table 4, Formal Training vs. Supportive Program Expenditures, presents a breakdown of expenditures which support the formal training programs versus those which are used in supportive programs. This division of expenditures should reflect the changing nature of support required to develop, implement, and maintain the new instructional systems which are currently under development. The distinction in the expenditure ratios between those two areas will enable managers to more clearly identify the resource implication of decisions to institute more sophisticated instructional strategies.

Budget Execution. The CNET has responsibility for the education and training budget and must insure that the resources acquired each fiscal year are efficiently used. It is also his ultimate responsibility to insure that commitments made within the fiscal year are within his budget. Throughout the command the CNET has some flexibility to shift resources, but if commitments are being made which exceed available funds then such management options will not be available. The CNET, therefore, should be aware of the funds expended and how these expenditures compare with those which have been budgeted as the year progresses. Table 5, Activity Expenditures to Budget, presents a suggested format for compiling this information by activity and budget category. Such information should be compiled and made available at least monthly. CNET report 7000-4 contains this information in considerable detail and can be used to prepare the activity summaries. The detail from 7000-4 will provide the necessary information which CNET would need to isolate the cause of expenditure patterns which will lead to budget deficiencies.

TABLE 3. PROGRAM ELEMENT SUMMARY OF RESOURCE EXPENDITURES

PROGRAM ELEMENT	BUDGET TOTAL EXPENDITURES	Percent of Total Budget	Man-hours Trained (Or Enrollment)	Expenditure per Man-hour Trained
Recruit Training				
Specialized Training				
Professional Training				
Flight Training				
Educational Programs				
TOTAL				

Recommended Source: N-6

TABLE 4. FORMAL TRAINING VS. SUPPORTIVE PROGRAM EXPENDITURES

Activity	Work Units	Formal Training		Supportive Programs		Formal Training Expenditures + Supportive Training Expenditures
		Total Expenditure	Expenditure ÷ Work Units	Total Expenditure	Expenditure ÷ Work Units	
1						
2						
3						
.						
.						
.						
.						
N						
Total Command						

Recommended Source: CNET Functional Commanders

TABLE 5. ACTIVITY EXPENDITURES TO BUDGET

Budget Execution			
ACTIVITY	Budgeted	Expended	% Remaining
ACTIVITY 1			
O&MN			
MPN			
OPN			
OTHER			
Total			
.			
.			
.			
ACTIVITY N			
O&MN			
MPN			
OPN			
OTHER			
Total			
Command Total			
O&MN			
MPN			
OPN			
OTHER			
Total			

Recommended Source: N-6

STOCK INDICES

In the interest of long-range planning, the resources which constitute the capital assets are perhaps too often ignored or relegated to a minor role in the decision-making process. Managers who must assume responsibility for long-range planning need to know the existing structure and dynamic characteristics of the fixed resource base. The majority of high level long-range plans deal with decisions on how the fixed assets are to be augmented, maintained, or replaced.

The capital assets are largely in the form of land, facilities, and training equipment. For long range planning the most manageable of these are facilities and equipment. It seems reasonable to conclude that if these assets are to be effectively managed, then CNET must be informed as to their quantity, quality, and location.

The Plans and Program group at CNET (N-35) has responsibility for managing the data on inventories of facilities and grounds. The Shore Activities Basic Facilities Requirements List Report (OPNAV 11000/1) provides data by activity and facilities. This report provides information on space available, measured in units appropriate to the facility. The Engineering Evaluation Worksheet (OPNAV 11000/2) identifies each building and provides pertinent information on type of building, condition, and use of the building.

The Program Objective Validation Report identifies by activity the total facility assets, basic requirements, and any excesses or deficiencies which exist for each activity.

The aggregations suggested are considerably less detailed than those available from the above reports. The units of measurement selected would be appropriate to the asset being measured. Tracking and measuring the quality of capital assets within the command is at best difficult. The quality and value depends upon such factors as use, obsolescence, degree of specialization, and location. The effects of those factors upon the quality and value of the capital assets changes in capricious ways making it nearly impossible to establish a methodology which can be used to track reliably the total value of these assets. Yet management needs information on the value of these assets to manage efficiently. That these assets are not financially liquid makes them no less important in management decisions.

Often the only alternative open to operational managers in determining the value of the capital assets associated with any decision is to study each situation on its own merits. Since high level planning decisions require more highly aggregated data, other, less precise, methods of tracking the value of capital assets will be necessary to provide this

information. The quantity of capital assets within the command can be inventoried and a basis established for maintaining and tracking the quality of the assets.

Table 6, Stocks - Facilities, shows the facilities under CNET control for both training and support. Although the present recommendations do not include a tracking of support facilities available from host activities, it may, in the future, be necessary for CNET to include these assets.

Table 7, Stocks - Training Equipment, shows the total training equipment available. So much diversity exists in this equipment that to obtain any meaningful aggregated data will require that the dollar value be tracked. The remaining value of the equipment, when compared with investment costs, can serve as a proxy measure of the general quality of equipment within the command. The value based upon "opportunity cost" would be more appropriate but would be too difficult and expensive to track in a data system.

An inventory of all training equipment under CNET control is not presently available. However, efforts are under way in CNET (Code N-37) to inventory all training equipment. This inventory will be maintained in the Centralized Training Material Management System (CENTRA).

Table 8, Backlog of Essential Maintenance, provides information on the status of the maintenance of facilities within the command. The backlog of essential maintenance is already being tracked and, for the entire command, this backlog has been increasing for the last several years. For example, the backlog is 70 million dollars for FY 76 and is expected to increase to over 90 million dollars for FY 77. Continued deficiencies, which indicate a serious erosion of the capital base, will ultimately impinge upon the capability of the command to perform its training mission. It is only appropriate that the CNET be made aware of these trends so that remedial long-range plans can be implemented.

TABLE 6. STOCKS - FACILITIES

	Classroom		Administrative		Billeting		Medical		Recreation		Other	
ACTIVITY	Total	Excess*	Total	Excess*	Total	Excess*	Total	Excess*	Total	Excess*	Total	Excess*
1												
2												
3												
.												
.												
.												
.												
.												
.												
N												
Total Command												

Recommended Source: N-35

* Excess = Total Assets - Requirements (Enter Neg numbers)

TABLE 7. STOCKS - TRAINING EQUIPMENT

ACTIVITY	Total Investment	Accumulated Depreciation	Remaining Value
1			
2			
3			
.			
.			
.			
N			
Total Command			

Recommended Source: CENTRA (when fully developed)

TABLE 8. BACKLOG OF ESSENTIAL MAINTENANCE

ACTIVITY	Total Backlog of Essential Maintenance	Percentage of Total Assets Classified as Substandard
1		
2		
3		
4		
.		
.		
.		
.		
N		
Total Command		

Recommended Source: N-35 (Plans and Programs)

REFERENCES

Swope, William M. and Cordell, Curtis C. A Study to Develop Management Indices for CNET. Phase I - Personnel Indices. TAEG Technical Memorandum 75-7. December 1975. Training Analysis and Evaluation Group, Orlando, FL. 32813.

Swope, William M. and Cordell, Curtis C. Training Resource Classification: Direct-Indirect and Fixed-Variable Cost Categories. TAEG Technical Memorandum 76-1. June 1976. Training Analysis and Evaluation Group, Orlando, FL 32813.

Technical Memorandum 76-2

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