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**Country Situation Analysis And Outlook Report
On The Use Or Potential Of Information Systems/Technology
In Regional Planning In The Philippines**

By

Daisy Elena F Ano

Paper No.8

EXPERT GROUP MEETING

INTEGRATING INFORMATION SYSTEMS/TECHNOLOGY

IN LOCAL/REGIONAL DEVELOPMENT PLANNING

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COUNTRY SITUATION ANALYSIS AND OUTLOOK REPORT ON THE USE OR
POTENTIAL OF INFORMATION SYSTEMS/TECHNOLOGY IN REGIONAL PLANNING
IN THE PHILIPPINES

Daisy Elena F. Año

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COUNTRY SITUATION ANALYSIS AND OUTLOOK REPORT ON THE USE OR POTENTIAL OF INFORMATION SYSTEMS/TECHNOLOGY IN REGIONAL PLANNING IN THE PHILIPPINES

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SHORT SUMMARY

The paper discusses, as a whole, the current situation in
information systems and information technology application
in regional planning through an assessment of the NEDA
Integrated Regional Information System (IRIS); and the
potentials of information systems/technology development
through a description of four ongoing information-related
systems being implemented in selected regions in the country.
The information environment in the Philippines is discussed
in the context of the present decentralization efforts
through reforms in the regional planning process and through
structural reforms in two key regional planning institutions:
the Regional Development Council (RDC); and the NEDA Regional
Office (NRO).

Regionalization in the country was mandated almost two
decades ago with the onset of Marshall Law declared in 1972
and the implementation of an Integrated Reorganization Plan.
The country was then divided into eleven administrative
regions (now thirteen), which also served as the planning
regions. However, the national government then did not really
put sincere efforts in promoting decentralization as much as
the concern of the present administration (as explicitly
expressed in the Medium-Term Philippine Development Plan 1987-
1992). The Regional Development Councils (RDCs) and the other
local development councils, from the barangay, municipal to
the provincial levels were strengthened through increased
roles in the regional planning process. Increased participation
of the private sector in the planning process is also a major
innovation of the decentralization efforts.

The current changes in the regional planning process, there-
fore, will influence the design of regional planning information
systems in the country. However, as the information require-
ments of a decentralized structure shifts from a "supply-
oriented" to a "demand-oriented" information system, there
are existing problems and constraints in meeting the information
requirements of the regional planning process.

The regional planning process, as discussed in the paper,
covers basically four major components, namely : planning,
programming, budgeting, and monitoring and evaluation. The
process flows from one step to the other in a cycle and is
iterative in nature. The major problems and constraints
cover generally the following categories : data production
and utilization; the institutional structures; technical
and technological requirements; political and social aspects;
and some policy issues.

The data "user-provider" gap is caused primarily by a centralized statistical system and the lack of linkage between data collected and the data used for planning, programming, budgeting, and monitoring and evaluation. Existing information from what is considered "official sources" are not disaggregated at the local level. Thus, while planning functions are being decentralized, the information system remained centralized. This problem has caused the lack of timely, accurate, comprehensive and relevant data needed for the decentralized decisionmaking process.

Institutional problems and constraints are mainly in terms of financial and manpower support to information systems development, particularly in planning agencies. This is also where political and social considerations have affected detrimentally the growth of information systems/technology application, like negative attitudes towards information systems/technology and the inadequate recognition of the importance of information in the planning process and of planning as a profession. These problems are further aggravated by the absence of a synchronized planning process vertically and horizontally.

Technical and technological problems relate to skills in information systems/technology application especially in the case of computerized information systems. Due to the proliferation of varied information systems and information technology used by planning agencies, linkage among these systems is virtually impossible.

The major policy issue is on the lack of a national or regional information policy in the country as exhibited by the difficulty of sustaining information systems projects. Financial constraints stemming from the low priority given to information systems/technology development have hampered projects' continuity. Most information systems projects are initiated only with foreign assistance.

In the case of the NEDA IRIS, the problem of available NRO staffs to permanently handle the system is true to all the regions, where the Regional Data Banks were conceived to be established. Too much preoccupation on computerization left systems development practically unattended to. The system was also set-up on the assumptions that both the information base and the coordinating network (through the NROs) were already in place.

In spite of the relatively low impact created by the NEDA IRIS on information systems/technology development, some positive contributions were identified such as the increased awareness on the benefits of a computerized information system, and the importance of an integrated regional planning information system.

Several ongoing information-related systems are geared towards strengthening information systems in the region. These systems are being piloted in select regions with the end in mind of being able to ultimately implement them in all parts of the country, if positive results are gained from their implement-ation. These are : the Regional Statistical Systems Develop-ment Project (RSSDP) being piloted in Regions I and VIII; the Land Use Information System (LUIS) Project in the province of Zamboanga del Sur in Region IX and for regionwide application in Region VII; the proposed prototype testing of the Regional Development Information System (REGDIS) in Region IV; and the regionwide application of the Regional Project Monitoring System (RPMS). All of these projects utilize the NROs as data banks in the region being the principal technical staff and Secretariat of the RDC.

Based on the experience of the IRIS and the anticipated im-plementation issues of the ongoing information-related systems in the country, a piecemeal approach to information systems/ technology development may be a more effective strategy rather than aiming for comprehensive but costly systems. The impor-tant condition, however, is to be able to set a guiding con-ceptual framework that could link all the systems together to ensure consistency in approaches. The idea is to ensure a more "beneficiary-oriented" input to the regional planning process by allowing the regional and local units to be flexible enough to adjust their data and information requirements. The question, however, remains in how to apply technical and technological innovations in information systems development (i.e., use of computers) without straining much of the meager resources of developing countries like the Philippines.

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ADDITIONAL PARAGRAPHS :

(1) On Page 2, please insert before the first paragraph of II. after the title II. REGIONAL PLANNING IN THE PHILIPPINES to read :

The establishment of development authorities at the regional and subregional levels in the 1960s may be considered as the first serious attempt at regional policy and planning. The development authorities were corporate entities and created by the Congress of the Philippines. However, these authorities became a source of political patronage and corruption, thus became generally a failure.

(2) On Page 3, please insert before the title III. REGIONAL PLANNING INSTITUTIONS after the last paragraph of II. to read :

In actuality, several forms of decentralization has been undertaken in the country, although the most ideal form is the "devolution" of powers from the central to a lower level. "Devolution" has been done to a small extent only in the case of the autonomous regions (Region IX – Western Mindanao and Region XII – Central Mindanao); and of the Metropolitan Manila Commission (MMC) in the National Capital Region. The most common form in application, however, is "deconcentration" or shifting of workload from the Central Office to its branches and "delegation" as in the Laguna Lake Development Authority (LLDA). The Regional Development Council (RDC)/ NEDA Regional Office (NRO) set-up is more of a coordinative mechanism but the most common form among all the other regions of the country.

COUNTRY SITUATION ANALYSIS AND OUTLOOK REPORT ON THE USE OR POTENTIAL OF INFORMATION SYSTEMS/TECHNOLOGY IN REGIONAL PLANNING IN THE PHILIPPINES

Daisy Elena F. Año

I.   INTRODUCTION

This paper discusses the extent of information systems and information technology and its application to regional planning activities in the Philippines, especially in the context of the present administration's regional structural reforms for decentralization. These current changes have implications on the application of the concept of Regional Planning Information Systems.

The assessment of the critical success and failure factors of the National Economic and Development Authority (NEDA) Integrated Regional Information System (IRIS) is also highlighted here considering the project as the initial attempt towards establishing Regional Planning Information Systems in the twelve regions (except the National Capital Region) of the country. The NEDA Regional Offices were identified as the regional data and information banks because of its role as the Technical Secretariat of the Regional Development Council (RDC), which is the chief planning body in the region.

Other ongoing projects initiated by NEDA aimed at strengthening information systems in regional planning are also discussed to provide an overview of other planning areas where information systems/technology are being developed and at the same time, present the outlook of information systems/technology in regional planning in the Philippines. These are the following: the experience of Zamboanga del Sur Province in Region IX, later applied in Region VII in Land Use Information System; the Regional Statistical System Development Project being piloted in Regions I and VIII; and the proposed prototype testing of the Regional Development Information System in Region IV. A discussion of the Regional Project Monitoring System installed region-wide in 1982 is also included.

The major focus, however, of the paper is on the problem areas and areas for improvement, in general, of adopting

information systems/technology in regional planning based
on an assessment of the IRIS project and the problems and
constraints presently faced by regional planners in meet-
ing information requirements. Other government agencies
may have their own experiences in information systems/
technology application, but these are not included in this
presentation. There are other existing information systems/
technology that contribute or are supportive to regional
planning outside the NEDA, however, in the region no other
government agency assumes the functions and responsibilities
of NEDA in regional planning being the technical staff of
the RDC. In the discussions of problems, these systems
were not compatible with the NEDA system in most cases.

II. REGIONAL PLANNING IN THE PHILIPPINES

The task of regional planning in the Philippines was insti-
tutionalized with the mandate given to regionalization by
the Integrated Reorganization Plan (IRP) in 1972. The IRP
divided the country into eleven, now thirteen, administra-
tive regions which also served as the planning regions. It
was felt, at that time, that there was a need to strengthen
the very weak relationship which existed between national
development plans and regional programs and aspirations. 1/

The region consists of provinces, cities, municipalities and
barangays, each as separate political units, with their own
powers and authority prescribed in the Local Government Code.
Planning for a large geographical unit such as the region
requires parallel planning processes in the component politi-
cal units. The objective of regional planning is to be able
to balance local perceptions and national policies with the
overall regional development framework. Regional planning,
therefore, bridge national and local planning. The essen-
tial element underlying planning activities in the Philippines
is the principle that each region is an integral geographical
body with delineated needs and objectives. 2/

The current trend in development of planning in the country
is a simultaneous "top-down" and "bottom-up" planning
approach. However, the plan statements in the present Medium-
Term Philippine Development Plan for the period 1987 to 1992
expressed that "bottom-up operational reforms in the day-to-day
conduct of government business shall be adopted". Specifical-
ly, it states that "as a general policy, the government shall
harness the participation of the private sector, non-govern-
ment organizations, and all other sectors of society in the

formulation and implementation of plans, policies, and programs supportive of the development goals of the country."

The policy of decentralization will have implications on the development of an appropriate information system. A decentralized government structure can facilitate the exchange of information about local needs. 3 / Also, a decentralization of policy of implementation from a central level to a regional level is not only a way to make the planning areas smaller, but also a means to shorten the communication channels from the people who implement the policy to the people who are affected by the policy. 4/

In a "top-down" planning approach, the development process typically involves collection and analysis of large quantities of data. This is contrasted to the "bottom-up" approach which emphasizes a qualitative, people-oriented and action-oriented approach to planning. The latter approach corresponds more to the era of a user-dominated information support. Thus, to provide support to a "bottom-up" function of a planning organization, the organization can work to:

(1) stimulate development of better management practices in business and public enterprises;
(2) stimulate development of entrepreneurial attitudes and skills in personnel of planning and other agencies, organizations, and firms; and
(3) stimulate development of specialized business activities, either in the public sector or in the private sector. 5 /

The current national plan defined decentralization in the country as to require: (a) the devolution of more powers from central units; (b) the strengthening of regional and local units as focal points of development efforts; and (c) more active people's participation through involvement in community organizations and non-government bodies. 6 /

III. REGIONAL PLANNING INSTITUTIONS

A.   Regional Development Council (RDC)

The formulation of the Regional Development Plan (RDP) is a primary responsibility of the Regional Development Council (RDC). The RDC is the chief planning body in the region.

Executive Order No. 308 dated November 5, 1987 provided for the reorganization of the RDC. The Council shall be the primary institution in the region which shall set the direction of economic and social development of the region and through which regional development efforts shall be coordinated. 7/ The RDC consists of the Council Proper, the Executive Committee, the Sectoral Committees and the Regional Consultative Assembly. Also, there is a system of Cabinet Officer for Regional Development (CORD) which is the concept of assigning a Cabinet member to be the President's representative and/or the Cabinet on matters requiring Executive action in facilitating regional and subregional operations. 8/ (See Figure I.)

The reorganization expanded the coordinative functions of the Council to include all of the following functions:

(1) Coordinate the formulation of long-term, medium-term and annual socioeconomic development plans and policies at the regional and subregional levels;

(2) Coordinate the formulation of the medium-term and annual public investment programs at the regional and subregional levels;

(3) Undertake the appraisal and prioritization of the region's socioeconomic development programs and projects, consistent with the standards and policies developed by NEDA;

(4) Promote and monitor the inflow and allocation of private investment capital in the regions, consistent with development objectives, strategies and policies adopted;

(5) Coordinate the implementation of programs and projects in the region which involves several agencies in their implementation; and

(6) Monitor, evaluate and formulate recommendation on the implementation of development plans and programs in the region. 9/

B. NEDA Regional Office (NRO)

The NEDA Regional Office (NRO) serves as the principal technical staff and Secretariat of the RDC. It is tasked to assist in the coordination of all RDC activities, which basically covers the following: plan formulation and implementation; program and project identification and development; budgeting and prioritization; and monitoring and evaluation of project implementation in the region.
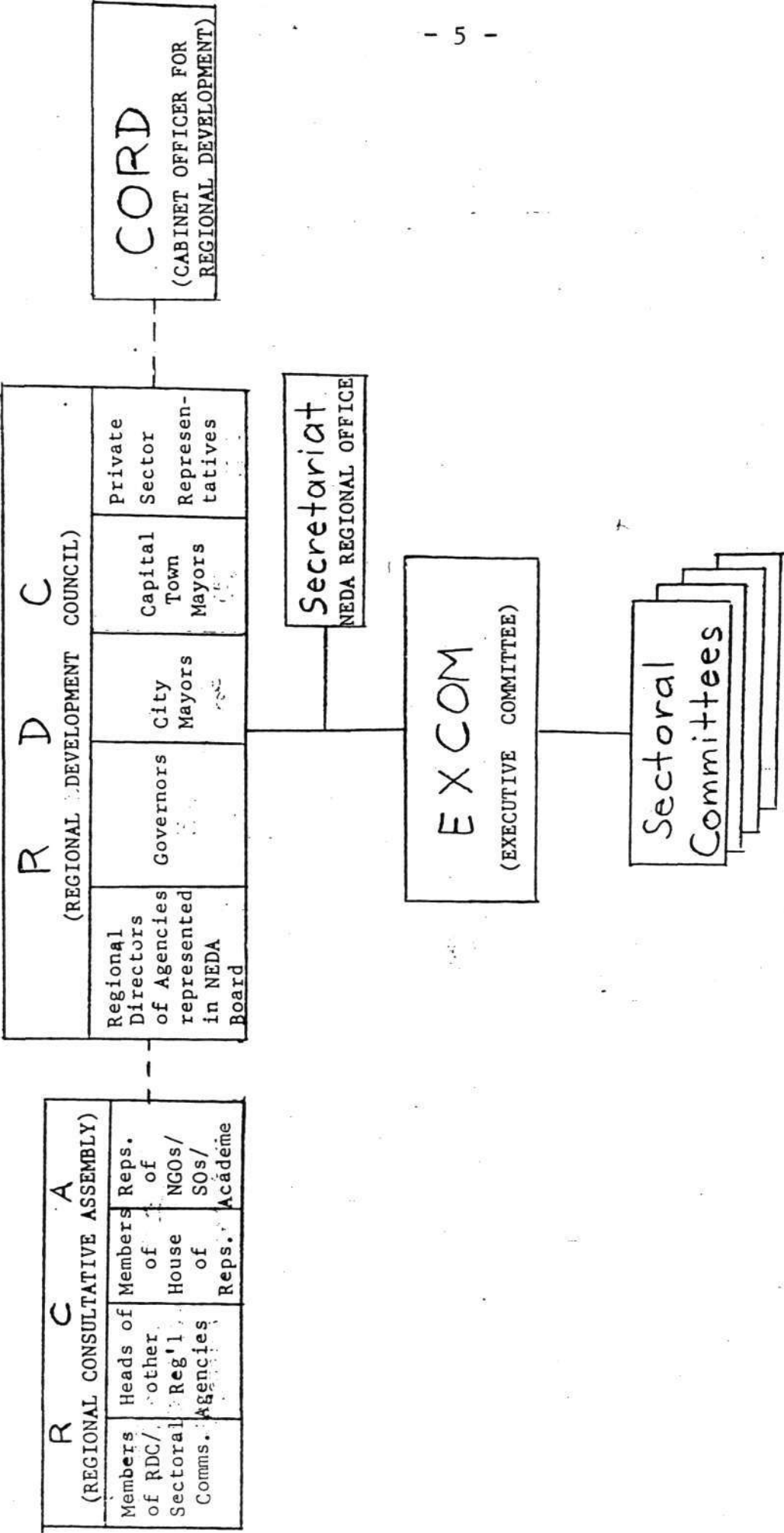
FIGURE I. ORGANIZATIONAL STRUCTURE OF THE REGIONAL DEVELOPMENT COUNCIL

Considering the extent of the NRO's role in providing the
information needed by the RDC, for them to be able to
perform its functions effectively especially in the deci-
sionmaking process, there is a demand for a comprehensive,
timely and accurate information.

The design of an information system is a critical step in
the planning process, perhaps the most critical of all. It
must be taken with great care because considerable invest-
ments will be very difficult to write off when serious
error of judgement occur. 10/

It is for this reason that the NEDA-UNDP/IBRD Regional Plan-
ning Assistance Project in the Philippines in the design and
implementation of the NEDA Integrated Regional Information
System, chose the NROs as the Regional Data Banks. For that
matter, other ongoing information system-related activities
with regional coverage also utilizes the NROs as regional
data banks.

IV.   INFORMATION REQUIREMENTS IN REGIONAL PLANNING, AND
        PROBLEMS AND CONSTRAINTS IN MEETING THE REQUIREMENTS

Planning in general, and regional planning in particular,
can be regarded as a process of information input and out-
put. 11/ However, the state of the art of the decentrali-
zation process in many of the countries shows that the
"authority structures" (i.e., the decentralization of plan-
ning and decisionmaking functions and delegation of power
and control functions) have not matched with "information
structures" (i.e., the design and implementation of data and
information networks). 12/

The regional development planning process in the Philippines
covers the entire cycle of planning, programming, budgeting,
and monitoring and evaluation.   This process follows   a
logical flow from one step of the process to the next.   For
each step, data and information requirements may increase
or decrease depending on the required inputs and desired out-
puts or results.

A.   Planning

At the regional level, the RDP is the output of planning
activities. The time frame may vary from five- to ten-year

planning periods or for perspective planning in a twenty-year or more planning period. The major steps involved in regional plan formulation may include the following: situational analysis/profile preparation; goal determination, objective and target setting and strategy/policy determination; and program/project identification. 13/ (See Figure II.)

Situational Analysis/Profile Preparation

Situational analysis basically involves: (1) an inventory of resources in the area; (2) assessment of problems and needs; and (3) the identification of development potentials and constraints. The above provides the inputs to the preparation of a Socioeconomic and Phyical Profile.

Profile preparation is a crucial preparatory stage to actual plan formulation. The information gathered at this stage influence the future outlook adopted in the planning analysis because it provides the knowledge of existing resources and limitations to development in a specific area. This is done through a resource inventory.

The resource inventory is an integral part of the profile because it provides the baseline data for both physical and non-physical resources. The inventory aims to examine the various potentials of the area which could contribute to the solution of a development problem or need.

A very important consideration in needs assessment is not only the identification of development problems but also the groups or areas largely affected by such problems. In order to strengthen needs assessment, it is desirable to establish indicators/benchmarks which could be used to confirm or support the identified problems. One can compare the existing level of selected indicators against established quantitative standards.

The inadequacy of the current indicator system for planning especially in the desired specificity and detail is a problem for regional planners. There is really no prescribed list of the minimum information required for the preparation of a profile. The data needed varies depending on the characteristics of the area (whether one is planning for a relatively urbanized or typically rural area), or depending on the type of plan being prepared (whether it is a socioeconomic plan or a physical/land use plan). 14/

FIGURE II.

DEVELOPMENT PLANNING PROCESS (CHAPTER 4)

Situational Analysis
- Identification and validation of needs/ problems and groups/ areas affected
- Inventory of Resources
- Identification of constraints

Goal/Objective Determination
- Review of identified problems and needs
- Assessment of implications of higher level plans on local (lower level) plan
- Analysis of data to validate and reinforce identified needs and problems

Target Setting
- Set preliminary targets
- Assess resource implications of targets
- Appraise resource availability and adequacy
- Adjust targets

Strategy Formulation
- Assess development potentials
- Review development problems and constraints
- Analyze relevant national and local policies
- Analyze sectoral characteristics and intersectoral relationships

Program/Project Identification
- Comprehensive project list preparation
- Initial screening
- Pre-feasibility pre-investment studies

The development of an information system depends upon a series of judgements, ranging from how much accuracy one demands of the collection process; from whether one will include a particular class of information to the way in which that class of information will be identified if it is included. This is where the problem of data congestion more often occurs. There is simply no way of making judgements about whether to include classes of information which are not either known to be or strongly suspected to be pertinent. Related to this issue/problem then, is the tendency for overcollection of data.

Most local area profiles are usually very comprehensive making it difficult for them to update even on an annual basis. However, local and regional profiles have various types of users. Sometimes, it is deemed worthwhile to make these documents comprehensive to be able to address different data requirements of different profile users.

The designation of official sources for certain data hinders utilization of vital information required in planning, Limited data is caused by a rather centralized **statistical** system. While the Philippine Statistical System is decentralized functionally, geographically it is centralized. Oftentimes clearance need to be secured from Central Offices of major statistical agencies before subnational data could be released and made available to local users. 15/

Because of the intricacies of conducting censuses and surveys, in terms of meeting the quality requirements from a statistical point of view, data availability in the desired frequency becomes a problem. In the case of the Philippine Census which publishes official data on population and household characteristics, this is done every five years with an additional allowance of three years before dissemination. Surveys on income, labor and employment, and agricultural statistics have established sampling estimation procedures that cannot extend to the municipal level. The set-up of national statistical agencies, in the first place, has been geared to support the data needs of government planners and decisionmakers at the national level. 16/

The resolution of the problem of duplication and overlapping of data from different agencies should go beyond just mere statistical coordination. There must be a recognition of the potentials of local planning units as data producers provided certain guidelines are set to ensure consistency and reliability of data.

The people's perception of their needs/problems; the result of the quantitative analysis of gaps and deficiencies; and the inputs from higher level plans on the identified problems of the area, combined together; are all valuable information to the planner. The consultative process is also a valuable information-generating activity in planning. The information on the needs, perceptions and aspirations of the people in the planning area can be gathered through a survey. They can also be solicited through the conduct of consultative meetings in each of the planning area. This latter process, however, entails more cost and will take a longer time.

Finally, for each of the resource and needs analysis, the identification of development potentials and constraints involves an assessment of the factors which enhance or limit the utilization of available resources. This serves as a guide for the planner to plan within realistic bounds.

Goal Determination, Objective and Target Setting, Strategy/Policy Determination

Goals are addressed to the identified problems and needs while objectives and targets translate goals into more concrete terms. The distinction among these three terms lies more in form and degree of specificity and quantitativeness. On the other hand, strategies are guides towards the achievement of the development goals and these are supposed to lead towards the achievement of these goals and towards specific courses of action.

In identifying goals and objectives, existing laws and policy pronouncements are information inputs to this activity. These are supplemented by existing development plans; knowledge of regional and local priorities; and consultations with those involved in regional development.

Any design is only as good as the extent to which it is put into effect. The planner cannot afford to develop his plans without due consideration of the political processes of the locality. The ideal situation would be one in which planners and political leaders work together in establishing local planning goals. In short, cooperation between planner and political leader is essential if planning is to be successful.

The personality of the local executive (if he is development-oriented or not) is part of the political considerations in planning activities. In the same manner that concern for information - related activities is subject to the local executives understanding and acceptance of its importance in undertaking developmental activites.

Targets are quantification of objectives. The attempt to specify in numerical terms the intended outputs needs proper identification of indicators which can then be used as a basis for measuring whether objectives and goals have been achieved. Targets are set based on initial projections using established quantitative standards from which adjustments are made when implementability is already considered. Making projections require trend analysis.

Most indicators, however, are sourced from secondary data due to the difficulty and cost of undertaking primary surveys. The reliability of these data is usually just assumed by the planner. The problem, however, arises when time series data exhibits erratic patterns and questionable results making it difficult to use in trend analysis.

While there is awareness in the regions about various statistical systems, e.g. Philippine Standard Commodity Classification and the Philippine Standard Industrial Classification, it is also necessary for them to have familiarity with the standard definitions and concepts used in statistical fields such as agriculture, population, prices, national income, labor employment and education. Their importance is viewed in terms of harmonizing and providing uniformity in the data produced that allow comparison of statistics over time and space (intraregional and interregional). 17/

Planning is a dynamic process and the plans are rolling plans. Refinements is done every year to firm-up set targets and strategies based on the assessment of past performance. In this aspect, timely data is important. Because assessments include information for both statistical indicators and program/project accomplishments, the planner relies on implementing agency reports. The geographical size and location of the planning area, considering poor communication and transport facilities, also are factors for delay in data generation.

The bases for strategy/policy determination can be any or combination of the following: (a) development potentials; (b) development problems and constraints; (c) relevant

national, regional and local policies; and (d) sectoral analysis. The formulation of an area-focused regional strategy requires more in-depth information of the physical and land use characteristics of the region.

With the changes in the orientation and structure of development planning, not merely the need for data and information at disaggregated levels has grown, but also the need for some extremely specialized and specific information in relation to the development strategy adopted has become imperative and urgent.

Program/Project Identification

In contrast to strategies which are usually broad and long-term in nature, programs and projects are specific activities to be implemented over a definite time frame. Program/project identification is a process of screening alternative project ideas and selecting the most promising one.

In practice, project ideas often result from several sources: development problem; unsatisfied demands or needs; development potential; and need to complement other investments. Project ideas also emanate from:

(1) The initiative of the response to government incentives, of local private or public entrepreneurs who wish to take advantage of the opportunities they perceive;

(2) Government's desire to respond to local political or social pressures originating, for example, from growing economic, social or regional inequalities;

(3) The perception of a possible external threat which may lead its investments such as those aimed at achieving self-sufficiency in food production, power generation, etc.;

(4) The occurence of national events or hostilities which can be of serious proportions; or

(5) The desire to create a local permanent development capability (investments in institution building, the development of local capabilities in project development, etc.). 18/

Program/project identification is the most crucial stage of project planning - the stage wherein initial economic viability and sociopolitical desirability of contemplated

projects are assessed. This phase initiate the process of
investment programming.

Knowledge of existing, ongoing, pipeline and proposed
programs and projects at all levels (national, regional
and local) is important at this stage. Translating the
strategies into concrete activities that are implementable
needs an inventory of the different programs and projects
that will respond to the formulated strategy. These inform-
ation are available from implementing agency's reports and
from consultations with local government units' planning
staffs.

This component considered as the "traditional" projects are
also supplemented by knowledge of programs and projects that
the region can develop in coordination with the private sector.
This is termed "private sector interface" which includes
actual, potential and anticipated projects undertaken by
private entrepreneurs; private entrepreneurs jointly with
public authorities; and public authorities in support of
private projects. 19/

Private sector data in terms of private investments is diffi-
cult to obtain. Due to the proliferation of the number of
private organizations, consultations with all of them is im-
possible and at the same time, there is no designated repre-
sentative from each of the private subgroupings which can
speak for the group. Although, private sector participation
has been institutionalized at all levels through memberships
in the development councils, these information requirements
cannot still be satisfied.

When a project is identified, estimates of the following
should be available: (a) project costs; (b) project
benefits; (c) location or area of influence; (d) project
beneficiaries and the distributional impact of the project;
(e) prospective implementing agency or agencies; and
(f) funding source. For small projects of a routine nature
this information should be readily available. For larger
projects and particularly those that are somehow unique,
there will be need for some collection and verification of
information in the field. 20/

The level of technical capability of local planning units is
a constraint in meeting these information requirements.
Project development needs specialized skills. Only a few
of the local planning units' staffs are properly trained in

the preparation of project proposals and in transforming mere project ideas into viable projects.

Turnover of trained personnel is higher at the local level due to political reasons. The position of local planners at the municipal and provincial levels is often affiliated with the incumbent local leadership. Changes in local leadership also brings about changes in local development staffs. This issue has been raised, especially at this period of transition in Philippine politics, to treat planning as a profession. In fact, clamor for making local planning units as extensions of the NEDA has been high, but this is seen by some quarters to be in conflict with decentralization and local autonomy.

The lack of awareness, on the whole, of the activities covered by the regional planning process is also a constraint. Information requirements at the plan formulation stage is actually interrelated with the succeeding stages in the cycle. Data collection and processing should anticipate the requirements for the entire process. That is the reason why the data collection and processing activity becomes a tedious process for the planners because the activity is undertaken only when the information is already urgently needed. The tendency is for the planner to make do with whatever data is available at the moment. This brings us to the need to synchronize the planning process at all levels. In order to achieve a systematic flow of information, a established schedule of activities has to be followed.

B.   Programming

The preparation of investment programs entails a systematic identification, preparation, selection and proper scheduling of programs and projects given the conditions of capital scarcity. (See Figure III..) The preparation of the Regional Development Investment Program (RDIP) is the responsibility of the RDCs, with the NROs coordinating the preparation. As adopted, the RDIP is conceived as an instrument for the translation and operationalization of the regional plans into area-specific, viable and implementable package of programs/projects via the integrated area development (IAD) approach. 21 /

The RDIP shall serve two purposes, namely: (a) to operationalize the RDP through the implementation of programs/projects designed to attain the Plan's goals and objectives; and (b) to
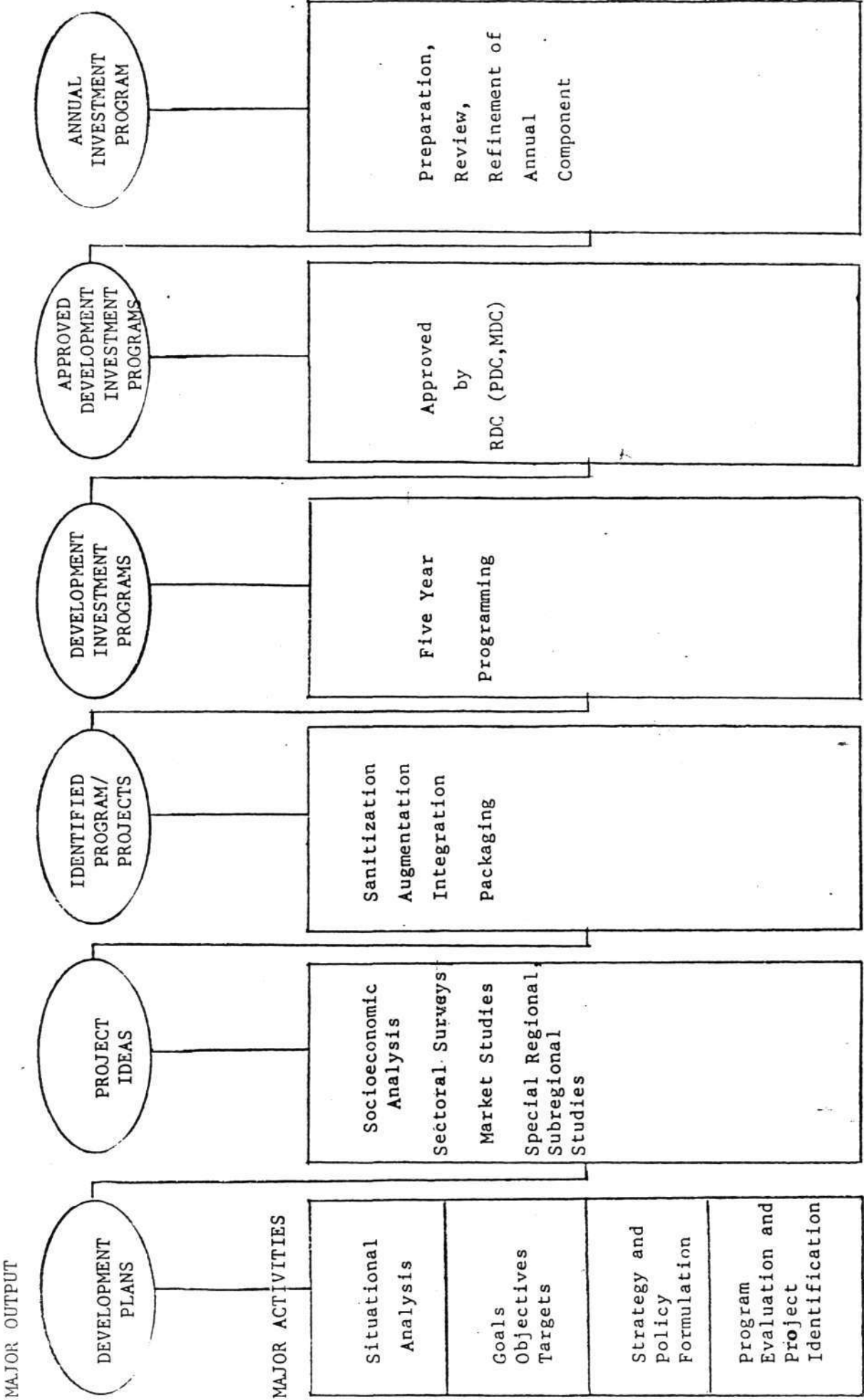
FIGURE II. DEVELOPMENT INVESTMENT PROGRAM FLOW CHART

MAJOR OUTPUT

DEVELOPMENT PLANS → PROJECT IDEAS → IDENTIFIED PROGRAM/ PROJECTS → DEVELOPMENT INVESTMENT PROGRAMS → APPROVED DEVELOPMENT INVESTMENT PROGRAMS → ANNUAL INVESTMENT PROGRAM

MAJOR ACTIVITIES

Situational Analysis

Goals Objectives Targets

Strategy and Policy Formulation

Program Evaluation and Project Identification

Socioeconomic Analysis

Sectoral Surveys

Market Studies

Special Regional Subregional Studies

Sanitization

Augmentation

Integration

Packaging

Five Year Programming

Approved by RDC (PDC, MDC)

Preparation, Review, Refinement of Annual Component

provide a basis for budget preparation for regional offices
of line ministries, development authorities, public corpora-
tions, local governments and other government instrumentali-
ties operating in the region. 22/

The estimation of regional financial resources is one of the
current concerns in making regional investment programming
more meaningful. An idea of the financial resources that are
most likely be available within each year of the planning
period will allow scheduling of programs and projects. The
estimation activity can be done by looking into past regional
allocation, evaluation of regional capacity for generating
finances and an analysis of new government commitments, thrusts
and priorities as may be reflected in new policies, guidelines
and official pronouncements. The methodology for estimating
regional budget ceilings is still being studied. Without this
vital information, investment programming has not been able
to achieve significant results.

The annual or one-year slice of the RDIP is the Annual Invest-
ment Program (AIP) which is subjected to the regional budget-
ing activity involving the national budget. Agency investment
programs contained in the approved AIP annually becomes the
basis for agency budget proposals for that budget year. The
linkage between the AIP and the budget will be discussed in the
section on budgeting.

Several processes are involved in the preparation of investment
programs. These include project identification; integration,
sanitation and augmentation; project packaging; and prioritiza-
tion. 23/ Project identification had been discussed extensive-
ly in the preceding section. This phase links planning and
programming.

Integration, Sanitization and Augmentation

When a list of project ideas or proposed projects have been
generated, one needs to undergo a process involving integration,
sanitization and augmentation.

Integration is the process of unifying the various sets of
programs/projects such that complementarity, cohesiveness and
efficiency may be achieved. Sanitization is aimed at screening,
eliminating or drastically modifying those programs and projects
which appear redundant, impractical, undesirable or inefficient

given the goals of the development plan. On the other hand projects that pass the criteria have to undergo the augment-ation process . Augmentation refers to adding potential and viable project ideas as well as modifying proposed programs/ projects and activities in order to better attain the specific targets of the development plans and at the same time, achieve maximum possible economic efficiency.

This process is iterative, going through each of the identified programs/projects to be able to come up with a list of develop-ment programs/projects. There could be as many sources of project ideas, considering the number of local units in the region, where local development investment programs are initial-ly prepared. It is in the process of sorting all these informa-tion that manual processing becomes so tedious.

Project Packaging

Projects need to be packaged to produce synergistic effects. The project package refers to the combination of mutually-re-inforcing investments from different sectors required to achieve a common development objective for a specific geogra-phical unit.

The municipality is the basic spatial unit for project identi-fication, therefore, it is at this level that development objectives have to be defined. The IAD concept is the basic approach to RDIP formulation. This spatial framework provides for delineating either the province or a cluster of municipali-ties as the IAD units where project packages are focused.

There are at least three criteria for IAD delineation, namely; contiguity (the areas should be adjoining to maximize complement-ation of programs/projects); functionality (the area should be large enough to spatially cover the most significant interrela-tions between existing problems and opportunities); and politico-administrative acceptability and feasibility (the area delineated as IAD must be acceptable to the respective local government units to ensure smooth implementation of programs/projects). 24/

The application of the IAD concept as a planning and programming approach, in terms of information requirements, demand the speci-fication of data on an IAD situation basis. This means cluster-ing data and information to suit IAD delineations. The profile,

in this instance, is prepared for each of the IAD in order to facilitate analysis of the area. This is just one variation in profile preparation which considers geographical delineations. Aside from the regional profile, there is a provincial and a municipal profile. Due to the Congressional districting, there is also a demand for district profiles and district level programming.

Prioritization

Given the very common constraint of scarcity of capital resources, it is not possible to implement all of the identified programs and projects at the same time. A very important process for determining which projects will be scheduled for implementation ahead of the others is prioritization.

In general, prioritization consists of two general features: the determination of a set of indicators; and the determination/assignment of weights to the adopted indicators.

Prioritizing projects is more than a technical process. While weights or criteria to be applied can partly be derived from the region's development objectives, these objectives are not always explicit and quantified and are sometimes conflicting. These weights or criteria should, therefore, be determined or approved by policymakers (especially at the local level).

Qualitative data like institutional capability, local acceptability or peace and order condition, sometimes override quantitative considerations in prioritization. The process of prioritization adopted is mostly of the consensus type, by a majority decision of the development councils in each administrative level.

Information derived from consultations with the local people is important at this phase of programming. The ability of the regional planner to integrate and balance all the information generated at different levels is also a must in prioritization.

Programming is relatively a new concept in Philippine planning. Despite legal mandates supporting programming activities, the preparation of the RDIP in the regions and of the local investment programs have no counterpart activity at the national level. Most government programs in the Philippines are centrally-determined and implemented on a nationwide basis.

This situation constrains the identification of locally-con-
ceived programs and projects that are supposed to translate the
local plans.

Decentralized planning and programming up to the municipal and
even to the barangay level, to a certain extent, can also be
cause for problems at the regional level. In the case of prog-
ramming activities, it is required that the list of development
programs and projects prioritized at their levels , needs to be
endorsed by each concerned local development council (from the
barangay to the municipal, then to the provincial) before final-
ly reaching the regional level. 25/ This seemingly bureaucra-
tic process delays information needed for decisionmaking at the
regional level.

C.   Budgeting

At present, the regional budget refers to the aggregation of the
budgets of the various regional offices of national government
line departments operating within a region. As prescribed in
Executive Order No. 589, the RDIP's role in public resource allo-
cation is defined as "... it shall serve as the primary basis
for public resource allocation in the regions..." The budget,
however, constitutes only a portion of potential RDIP funding
sources.

During the budget preparation, the AIP is translated into budget-
ary terms. It is at this stage that a more systematic informa-
tion flow is required. In order to ensure consistency of the
proposed budgets with the approved investment program, one should
be able to link the AIP with the budget. (See Figure IV.)

Due to the voluminous paperwork involved at this stage, computer-
ization is useful for facilitating data storage and retrieval.
Once programs/projects are funded out of the budget, it will be
easy to refer back in the approved investment program and make
adjustments for the requirements for the following year. The
same set of information is also used for monitoring the imple-
mentation of these funded programs/projects. In effect, there
is a check on how much of those programmed were funded and then
eventually implemented.

There are some problems in the linkage of programming and budget-
ing. Although planning and programming have been quite
decentralized, budgeting remains a centralized function.   At
this point, there is no "real" regional budget to speak of
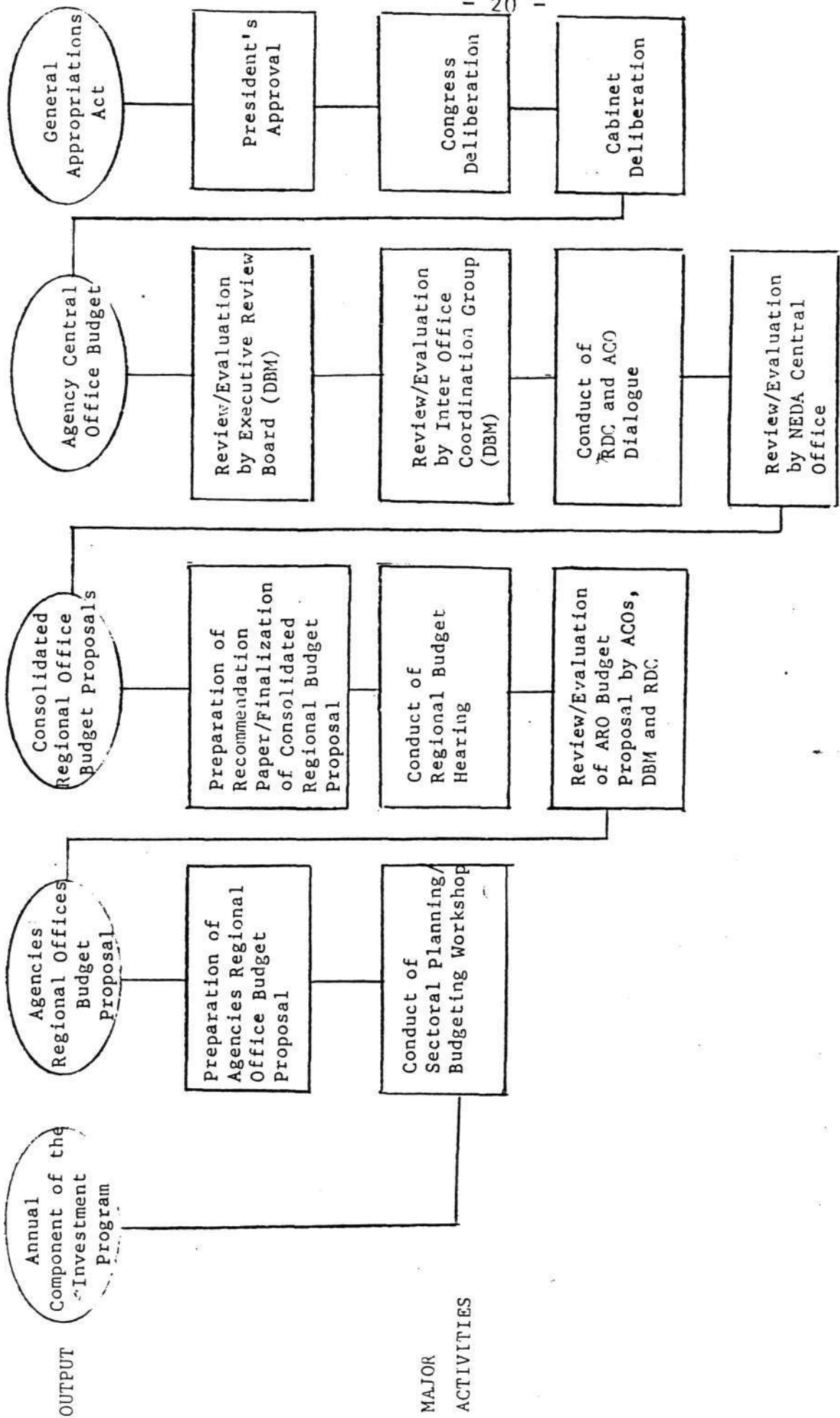because the funding of locally-implemented government programs

FIGURE IV. ANNUAL INVESTMENT PROGRAM — BUDGET LINKAGE FLOW CHART

and projects are sourced from the national budget. On the other hand, the local revenues are always not sufficient to finance developmental programs/projects. Information, therefore, on the budgetary requirements of local units are not exhaustive. Sometimes, the local units find budgeting a futile exercise and refuse to comply when asked for data.

D.   Monitoring and Evaluation

Though monitoring and evaluation are sometimes treated as one, they are actually two distinct processes and activities. Monitoring refers to the process of routine and period measurement and/or determination of program/project input activities, outputs and problems/issues encountered during program/project implementation. The role of monitoring is to collect information generally relevant to management needs, not limited to predetermined targets and assumptions but concerned also with possible contingencies and unintended consequences. 26/

Evaluation refers to a process by which program/project inputs, activities, outputs and results are analyzed and judged against explicitly stated norms. These norms can be stated program/project objectives, work schedules, budget, outputs, inputs, etc. What distinguishes evaluation from monitoring is that evaluation goes beyond collection of data on relationships between program inputs and outputs and seeks to determine the effects and impacts of the program/project. 27/

An effective monitoring and evaluation system should at least provide the following categories of information:

   (1)   Information on program/project performance which indicate whether the program/project is implemented in accordance with plan and budget;
   (2)   Information on program/project effectiveness which tell whether and to what extent the program/project has achieved its objectives, and the conditions that facilitated or hindered it; and
   (3)   Information on program/project efficiency which will allow planners/managers to determine whether program results were produced in the most economical way. 28/

In summary, though monitoring and evaluation are closely interdependent, the distinction between the two functions can be expressed in terms of the scale of the decision to be taken and the timing of the decision.

The current preoccupation of government in developing countries with development planning and implementation often leads to an inadequate amount of attention being devoted to monitoring of development activities. Some vagueness in the understanding of the term "monitoring" may also add to a further neglect of this important function. The link to administrative decisionmaking and feedback to policy levels are not adequately worked out in the development planning context. A major constraint is that many development plans appear to have been prepared without effective monitoring in mind, thus it becomes extremely difficult to establish effective criteria upon which monitoring can focus. 29/

Monitoring is the provision of information, and the use of that information to enable management to assess progress and take timely decisions that will ensure that progress is maintained according to schedule. Monitoring assesses whether project inputs are being delivered, are being used as intended, and are having an initial effect as planned. Monitoring should also be capable of assessing not only to what extent plans are contributing to the resolution of strategic issues, but also whether changing values, unforseen problems and new opportunities are suggesting the need to modify plans and/or put forward new ones.

One of the problems in undertaking genuine monitoring is the lack of skilled and trained manpower. Technical capability of existing personnel remains to be desired. The quality and timeliness cf information depends to a great deal on the quality of personnel who collect and process it. Added to this is the problem of integrating different monitoring report formats. Each implementing agency designs its own monitoring report formats to serve their own data users, i.e. Agency Central Office and agency clients.

Evaluation assesses the total project effects both intentional and unintentional and their lasting impact, which will normally occur after the full development period of a project. Much of the data needed for monitoring of project implementation will also be an input for evaluation, but evaluation may require additional data that are not required for monitoring.

Evaluation is a complex process and requires pertinent skills, that is why it is rarely undertaken as a regular function of implementing agencies. Evaluation is usually done for projects with definite "start" and "finish" dates and especially for those with foreign funding. Regular government programs/projects are often no longer evaluated because they become continuing programs, projects. Most often, outside institutions are contracted to do

evaluation to ensure objectivity. The difficulty here is that once a program is implemented and funded out of the regular national budget, regular personnel are also hired. When the evaluation recommends to discontinue a program/project, this would mean displacement of employees which is a more serious problem in a developing country like the Philippines.

The RDC, as one of its functions, evaluates and endorses project proposals for foreign assistance. This is categorized as an ex-ante or pre-program/project evaluation. This type of evaluation is undertaken before project implementation and is usually carried out to assess the developmental needs and potentials of the target group or region, test hypothesis or determine the feasibility of a planned program/project.

Lack of financial and logistical support inhibits the conduct of field inspections. One cannot rely only on monitoring reports in some occasions that the data has to be verified in the project site. Accessibility of project areas in case of field visits poses a problem for monitoring teams. Usually, most implementation problems needing verification occur in depressed or isolated areas.

Appreciation of agency officials of the role of monitoring also seems to be lacking. The planning officers of agencies act as monitoring officers at the same time. Because both functions require much work, it is monitoring that is given a lower priority over planning.

The reason, perhaps, for the lower priority given to monitoring stems from the activity being viewed only as an administrative function, rather than as a management decisionmaking tool. It is sometimes seen as just necessary compliance with the requirements of donor or lending agencies, thus, reporting has generally been more informative rather than action-oriented.

Monitoring and evaluation sometimes carry with it a negative connotation. The performance of the implementation of a program/project is usually associated with the performance of the implementing agency and the personnel assigned to the project. Project personnel do not want to be blamed for poor results so they will often not pass on information that reflects poor performance even if they are not personally responsible for it.

A more detailed description of the state of regional monitoring is discussed later in this paper on the Regional Project Monitoring System (RPMS) set up in the NROs in 1982.

V.   THE NEDA INTEGRATED REGIONAL INFORMATION SYSTEM

A.   Concept

The IRIS was part of activities undertaken under an assistance provided to the Government of the Philippines (GOP)   by   the UNDP and the World Bank in strengthening the mechanism   for regional planning and implementation.   Support was extended to GOP under three successive phases of UNDP/IBRD project assist- ance commencing in 1975 and extending until the end of 1983. The main achievements of this three-stage project is summarized as follows:

(1)   preparation of the 1978-82 and 1983-87 development plans and investment programs for all regions;

(2)   development and implementation of a regional project monitoring system for all regions;

(3)   design and implementation of an integrated regional development information system;

(4)   establishment and strengthening of linkages between investment programming and budgeting processes   in the regions;

(5)   creation of project development units in the NROs;

(6)   training in planning and project development for technical staffs of the NROs and line agencies; and

(7)   conduct of action-research directed particularly at institutional requirements for implementation   of regional investment programs.   30/

The upgrading of the NRO libraries was built-in the UNDP assist- ance in its support for maintaining and further building the materials infrastructure (e.g. books, journals, reports) for decentralization.   Although, this activity was not part of the IRIS, this contributed to building the information base at the regional level.

The NEDA Integrated Regional Information System (IRIS) was conceived to address two identified major problems: the very limited set of information available at a disaggregated level; and the absence of an organization at the small area level (regional and subregional levels) charged with the compilation and collation of information.   31/

The main goal of IRIS was to establish an integrated regional information system in all regions of the country (except the National Capital Region) which will generate information   at

the lowest level of disaggregation to be used for planning;
monitoring of development activities, and policy and decision-
making.

It was envisioned by the project that data banking systems will
be established at the four planning levels, to effect a two-way
flow of information on a systematic and regular basis! first,
from the national to the regional level and vice-versa.   The
designated data banking system consisted of a National Data
Bank at the NEDA-Regional Development Staff (RDS); the Provin-
cial Data Banks at each of the Provincial Development Staffs
of the provinces and Municipal Data Banks at each of the Munici-
pal Development Staffs of the municipalities covered by each of
the provinces.   At the initial stage, the project decided to
focus on the information requirements at the regional   level.

B.   Accomplishments

The IRIS through the NEDA-UNDP/IBRD Regional Planning Assist-
ance Project was actually undertaken in two phases. For each
of the phase, the project outlined specific objectives: 32/

Phase I

   (1) To integrate data collection and reporting activities
       at all levels of government in the region;
   (2) To establish a network of local data banks containing
       information needed in planning, monitoring, policy and
       decisionmaking at all levels of government;
   (3) To organize an information feedback mechanism which
       will enable centrally-processed information to flow
       downwards to the regions and form the regions to its
       subdivisions;
   (4) To establish a statistical support system (for data
       gathering and data analysis) which will lend assist-
       ance to local development planners; and
   (5) To develop an efficient and effective data management
       system that would meet the requirements of such
       projects/activities like the Community Employment
       Development Program (CEDP), Low Income Communities
       Assistance Program (LICAP), Library, Payroll/Personnel
       Inventory and Regional Macro Statistics.

Phase II

   (1) To coordinate computer-related activities such as data
       organization, data processing and report generation

to effect standardized and consistent flow of in-
formation between the NEDA Central Office and the
NROs;

(2)   To provide technical support to the regions in a
continuing basis which includes training/workshops
to upgrade NRO computer personnel on the latest
developments in computer technology; particularly,
in programming techniques, operation of software
packages, and computer servicing and maintenance;

(3)   To conduct periodic visits to the region for com-
puter repair and maintenance;

(4)   To design/develop an ideal data base management
systems for all NROs and the NEDA-RDS divisions;

(5)   To upgrade/expand NRO computer hardware capability;

(6)   To establish data communication network of existing
computer units to link-up all data banks in the
region with the NEDA Central Office; and

(7)   To perform ad-hoc functions.

A review of the significant developments and accomplishments
of IRIS from 1982 to 1986 33 / showed a predominance of computer
related activities. Most of the activities centered on compu-
ter hardware and software development and in computer trainings
on the use of the acquired microcomputers and selected softwares.

Within the periods of 1982 and 1983, all the twelve NROs were
equipped with APPLE II-Plus systems. It was only in 1986 that
computer peripherals (Z-80, 80-column expansion cards)   were
installed in the regions to upgrade the capability and expand
the storage capacity of the computer systems.

At the same time, several software packages were   shared with
the NROs, such as: VISICALC, VISIPLOT/VISITREND, IRIS/DBMS
SYSTEM, IRIS/DEVPRO ACCESS, MAGIC WINDOW, MULTIPLAN, WORDSTAR.
The IRIS/DBMS (Data Management System) was developed by IRIS
for use in data banking activities in the regions. It was not
immediately operationalized due to further upgrading using
DBASE II. The IRIS/DEVPRO ACCESS was a customized access of
specific development projects.

The microcomputer trainings conducted, on the   other   hand,
covered almost if not all the staffs of the NEDA Central Office
(outside the IRIS target group), aside from the NROs.   The
coverage of the trainings from 1982 to 1986 ranged from Basic
Programming and Computer Operation (102 participants); to Soft-
ware Packages (158 participants); and Word Processing (50 parti-
cipants). (See Table I.) Several trainings were also undertaken
in 1987 covering the following :

TABLE I.   IRIS MICROCOMPUTER TRAININGS CONDUCTED,
           (1982 - 1986)

TITLE OF TRAINING	DATE	NO.	PARTICIPANTS
1.Training/Workshop on the Use/Operation of the APPLE II Computer System	Sept.22- Oct. 13, 1982	30	NROs (I,III,IV,VI,VII, IX,X) NEDA Central Office Staffs (NAS,IUS,PMS, SPSS,EPRS,RDS)
2.Training/Workshop on the Use/Operation of the APPLE II Computer System	Feb. 21- Mar. 5, 1982	26	NROs (II,V,VIII,XII) NEDA Central Office Staff (RDS)
3.Training/Workshop on the Use/Operation of the APPLE II Computer System	Mar.23- Apr. 8, 1983	30	Senior Staff members of: NRO (IV) NEDA Central Office Staffs (RDS,IUS,PCS,PES, FAS,PPS,SSS,AS,PMS,EPRS)
4.Training/Workshop on the Use/Operation of Selected Software Packages	Apr. 20- Apr. 22, 1983	30	NROs (I to XII) NEDA Central Office Staffs (RDS)
5.Training/Workshop on the Use/Operation of the APPLE II Computer System	Nov. 12- Dec..17, 1983	16	NEDA Central Office Staff (Local Resource Management Project)
6.Training on the Use/ Operation of Selected Software Packages	Oct. 8- Oct. 12, 1984	8	UNDP Resident Represent- atives of the Philippines Office Staff
7.Training on the Use/ Operation of Selected Software Packages	Dec. 20- Dec. 24, 1984	5	Office of Budget and Management Staff
8.Training/Workshop on the Use/Operation of the APPLE II-E Computer System	Jun. 3- Jun. 11, 1985	30	NROs (I,II,III,VII,VIII, IX,X,XII) NEDA Central Office Staffs (RDS,PMS,MS,EIS)
9.Training on the Use/ Operation of Selected Software Packages	Nov. 16- Dec. 12, 1985 (Sat.only)	17	Directors of NEDA Central Office Staffs (IUS,PES, EIS,PMS,PCS,SSS,SAS,ADM., MS,Legal,AS,Board Secretariat)

Continuation of TABLE I :

TITLE OF TRAINING	DATE	NO.	PARTICIPANTS
10.Training in Word Processing (Session I)	Dec. 9-Dec. 11, 1985	25	Secretaries/Typists of Key Officials of the NEDA Central Office Staffs
11.Training in Word Processing (Session II)	Feb. 10-Feb. 13, 1986	25	Secretaries/Typists of UNDP and NEDA Central Office Staffs (BS,RDS,IS, IUS,AS,PMS,PES,ADM.,EPRS, PCS,EAS,Legal)
12.Training on Selected CP/M Software Packages	Sept. 20-Sept. 30, 1986	39	NROs (I to XII) NEDA Central Office Staffs (PES,EPRS,RDS,PMS,MIS,AS)
13.Training on Statistical Software	Sept. 15-Sept. 19, 1986	29	NROs (I to XII) NEDA Central Office Staffs (PES,EPRS,RDS,PMS,MIS,AS)

(1) Staff Development Training Course (April 3-27, 1987)
     10 participants;
(2) Use/Operation of APPLE II (Librarians) Phase I
     (August 24-28, 1987) 17 participants; and
(3) Use/Operation of APPLE II (Librarians) Phase II
     December 1-4, 1987) 16 participants. 34/

Systems development started in 1981 with a review of all local
planning documents and when a level survey on data sources and
availability were undertaken. At this phase, three regions
were selected, namely: Region III (Central Luzon); Region VI
(Western Visayas); and Region IX (Western Mindanao). Based on
this study, a Manual for Data Classification and Coding System
was prepared in 1982.

Region I (Ilocos) was used as the prototype region to test the
coordination mechanism at all levels (national,regional and sub-
regional) for the continued flow of the data stream. All the
available information at the provincial level from a period of
at most ten years were gathered to form the base of the   data
banks to be established in the regions.

C.   Assessment

Several sources were utilized to assist in the assessment of
the IRIS. Aside from evaluation and terminal reports of the
NEDA-UNDP/IBRD Regional Planning Assistance Project, key in-
formants were interviewed on the impact of the implementation
of IRIS. These included some of the staffs of the NEDA-RDS
who were involved in the project either at the conceptualiza-
tion stage or during its implementation. Likewise, a survey
questionnaire was distributed among the twelve NROs on the
following essential points:

(1)   extent of utilization of the APPLE computers;
(2)   extent of development and use of computer software;
(3)   extent of application of information systems/techno-
       logy in the regional planning activities of the NROs;
(4)   extent of application of knowledge learned from the
       IRIS computer trainings;
(5)   changes in manpower requirements in terms of skills
       related to the use of information systems/technology
       in the NROS;
(6)   problems in the application of information systems/
       technology in regional planning activities of the
       region; and
(7)   potentials, if any, in the application of information
       systems/technology in regional planning.

Achievement of Objectives

The objectives set by the IRIS were very ideal. It subsumed im-
plicit assumptions in their formulation which were not met in
the process. The identified problems which were meant to be
addressed by the project cannot be resolved by an integrated
information system.

Limited data at disaggregated levels was a sysmptom of a defec-
tive statistical system and lack of technical capability at the
small area level. As pointed out earlier in the preceding
sections on the problems and constraints in meeting the informa-
tion requirements for regional planning, the centralized statis-
tical system was designed to meet national level data require-
ments. Also, the shift in data and information requirements
was a result of a decentralizatioh process which has just
actually started.

The problem cited on the lack of an organization at the regional
and subregional levels charged with integrating information was
assumed to be sufficely met by the NROs.

Several lessons from the IRIS that support the above conten-
tions were summarized by Dr. Bruce Koppel, NEDA-UNDP/IBRD
Consultant in his Aide Memoire: A Decentralizaton Support
Program for the Philippines:

(1)   The key lesson is that it is essential to be very
        demand and utilization - oriented in determining
        the composition and accessibility of a data base.
        ·To do otherwise gets computers into the NROs, but
        the data bases they house are rarely, if ever,
        used. As the NROs have moved more into project-
        level concerns, the IRIS data base has offered
        little help. It is better geared to the narrower
        planning functions the NROs had in the mid-1970s;

(2)   To address the challenge of a more utilization-
        oriented information base for decentralization, it
        is important to move away from having to say that
        each point in the decentralization system (NROs,
        local governments, agency regional offices, commu-·
        nity organizations, central offices) only has the
        information base which it physically possesses.
        It is important to move towards a condition where
        major points in the system can each access virtual-
        ly the same supporting information as any other.
        This means linkage and networking - through locally
        effective interorganization cooperation and through
        networked computer-based data and text systems that
        open up wide access to physically dispersed data and ·
        text; and

(3)   It is important to note that the statistical coordi-
        nation required nationally will be required even more
        strongly at regional and subregional levels. At
        present, the government's statistical systems are
        almost uniformly not regionalized. This is the result
        of concerns about local political interference in
        data analysis. However, of necessity, these data-
        be they agency monitoring or formal census and panel
        surveys - are generated at a regional and provincial
        (and infrequently at municipal) level. It is crucial
        for the progress of decentralization that regional
        agencies and local government units have much better
        access to these data and that.they have some ability
        (they now have virtually none) to add locally - needed
        categories of information to nationally-managed data
        collection systems.

There appears to be more institutional issues that hampered the
achievement of IRIS objectives rather than on the design of the
system itself. There are just too much expectations on what the
system can attain considering that it is one of the many activi-
ties supported by the NEDA-UNDP/IBRD project assistance.

In fact, among the four levels of data banking system activities, it never went beyond the NEDA-RDS at the national level. There is even no indication at the regional level that such organized data banks exist.

Statistical coordination which was also aimed by IRIS through the NROs had no activities outlined in its implementation. It was assumed by the project that the designation of the NROs to perform such coordinative function through LOI No. 521 and NEDA Memorandum Circular No. 8-77, was being implemented. In an assessment survey conducted by the RSSDP staff in September 1987, in the twelve NROs, showed that only four regions out of twelve had established Statistical Coordination Committees.

Utilization of Outputs

Computerization was one of the strategies adopted in the IRIS implementation. Perhaps, the statement cited by Belarmino in his paper that "the decision to computerize the region's data bank activities came earlier than expected," 35/ had more negative implications than intended.

In Alabanza's assessment contained in his paper on the regional statistical development of Region I, 36/ stated that "the IRIS project had laudable objectives but did not strike the heart of the problem" which really referred to the recurring statistical problems of inaccuracy of data; duplication of certain data; problem in the timeliness of data; and lack of data in the desired disaggregation. He further commented that "despite the presence of the computer facility within the NROs, there is no region yet which has successfully sustained a viable data banking system due to the resurgence of the old problems in data generation."

Nevertheless, the provision of computer facilities in the NROs had positive utilization in regional planning activities in terms of data filing for some particular information; computerized data reporting (in the case of RPMS); word processing and printing; and in some statistical computations like population and macroeconomic data projections. It also increased awareness on the potentials of information systems development among the NROs and its clients.

In some regions, however, technical problems with regard to computer hardware and software development were encountered because of the limited capacity of the APPLE II computers and the difficulty in repair and maintenance of the facility. Furthermore, software packages are not readily available especially

in the far regions,and if available expensive to purchase.

The utilization of the computer facility is also hampered by
available skills in the NROs on computer operation. The IRIS
computer trainings were able to train at most five staff mem-
bers per region, who are not presently all involved in informa-
tion systems development. The task of information systems de-
velopment in the NRO is usually just an ad-hoc function and in
effect, even causes underutilization of the machine. Information
exchange through available computer facilities of other planning
agencies in the region is also not possible due to the incompa-
tibility of information sys tems and technology used.

The Manual for Data Classification and Coding System prepared
by the IRIS staff was not disseminated to all regions. Some
regions tried to adopt the coding system but either found it
difficult to follow or irrelevant to their needs. The NROs
developed their own data clasification and coding systems to
suit their requirements.

The technological advancement in computer facility is just too
fast for the country. From 1982 to 1985, trainings were con-
ducted on the use/operation of the APPLE II computers. Before
every concerned staff is covered by the training, the APPLE II
computer has become obsolete in the market.   For some regions
who were able to acquire new computer units, the IBM-PC compa-
tibles are preferred and used instead of the APPLE IIs.

Due to the absence of an Information Systems Unit in the NRO
set-up, no permanent personnel is assigned to information
systems development. The old system of data and information
generation is still being maintained by individual technical
division specialists for easy access and utilization. This is
abetted by the fact that those trained on computer use and
operation are mostly junior staff members (as researchers and
analysts). Some of the NROs feel that the division heads would
have appreciated more the importance of computerized informa-
tion systems development if they understand the workings of such
system.

The IRIS, did not digress much from the "supply-oriented" in-
formation system which has become irrelevant in the light of the
decentralization efforts in the regional and subregional planning
process. The importance of beneficiary inputs into information
systems/technology development was not recognized, and how bene-
ficiary participation and input in the planning process would
have been facilitated through the establishment of a regional
planning information system.

VI.   ONGOING INFORMATION-RELATED SYSTEMS

A.   Regional Statistical System Development Project (RSSDP)

The Regional Statistical System (RSS) consists of a number of
interrelated elements in the system that need to function
together in order to fulfill the role of the system. These
elements may be thought of as subsystems, each of which is
essential in the production of adequate, accurate and timely
statistics. The major essential elements include: (a) sta-
tistical coordination and standards; (b) data production and
improvement; (c) statistical training; and (d) statistical
research and development. 37/

The Regional Statistical System Development Project (RSSDP) is
a joint project of the National Statistical Coordination Board
(NSCB) 38/ and the United Nations Development Programme(UNDP).
This project grew out of an earlier project initiated in 1982
called the Small Area Statistical Framework Development Project
(SASFDP) launched in order to identify and validate issues/
problems affecting statistical coordination for developing
small area statistics. 39/

The overall objectives of the RSSDP include the following:

   (1)   To improve the statistical capability in two pilot
         regions (I and VIII) to produce relevant   data
         which are reliable, timely and comparable;
   (2)   To further develop and institutionalize capability
         for better regional statistical coordination;
   (3)   To further improve the training and professionali-
         zation program for regional statistical personnel;
         and
   (4)   To provide better interaction among data reporters,
         producers and users which would result in better
         understanding and resolution of analytical and data
         production problems encountered in the regions.40/

The implementation of regional statistical improvement activi-
ties is to be guided by the resolution laid down by the Statis-
tical Advisory Board (SAB) Resolution No. 10 on September 30,
1985 which generally "resolved that the NEDA shall be the lead
agency in the implementation of regional statistical coordina-
tion and that the following principles shall be the basis for
actions to improve statistical coordination and access of
regional and subregional units to data at these levels":

(1) Organize a statistical coordination committee in the RDC;
(2) Effect decentralized processing of data from national surveys (other than those to be cleared by the Central Office);
(3) Implement better and more flexible dissemination systems for regional/subregional data by national statistical agencies;
(4) Establish regional data banks at the NROs;
(5) Promote periodic seminars and workshops among data producers and users;
(6) Formulate and disseminate manuals and guidelines on statistical standards and methodologies;
(7) Establish review and clearance procedures of statistical forms and questionnaires to reduce duplication;
(8) Implement the Integrated Statistical Manpower Development Program to improve skills of statistical personnel;
(9) Designate a regional statistical officer to provide technical support to the NRO Regional Director; and
(10) Promote the sharing of technical expertise, manpower, equipment and financial resources among regional agencies in the conduct of specific statistical activities.

The project has two pilot regions (I and VIII), the choice was made on a survey of the status of regional statistical coordination/developmental activities in all of the NROs in September 1987. Other regions are considered non-treatment cases. This was followed by workshop meetings during November 1987 in the two pilot regions to discuss the project concept.

The first phase of RSSDP is considered an experimental study; thus results from the project are considered essentially intermediate and not final outputs. The improvements in the regional statistical system are considered only means to ends-towards utilization of new and better information for analyzing policy alternatives.

Another assessment survey is planned to be conducted in 1989 or 1990 to compare results from the initial baseline survey to cover differences in statistical data use and production procedures and differences in how analytical material derived from the statistical information system in the region is used for improving the delivery of governmental services within the region.

In summary, the overall analytical framework applied in formulating the implementation strategy of RSSDP centers on improved

statistical technology; improved operational management; and
better linkages between national and regional agency programs
with more authority to be provided to regional offices.
Suggested interventions are grouped under four components,
namely: organization (institutional issues); training and
professionalization; communication; and technical improvements
using technology transfer, research and development.

B.   Land Use Information System (LUIS) Project

During the period March - June 1985, a workshop in Land Use
Information System (LUIS) for Philippine government personnel
was held in Canberra, Australia by CSIRO under funding provided
by the Australian Development Assistance Bureau. A LUIS was
then constructed for the Province of Zamboanga del Sur in
Region IX (Western Mindanao).

A LUIS is an integrated collection of spatially-based informa-
tion relevant to rural land use planning, from which answers
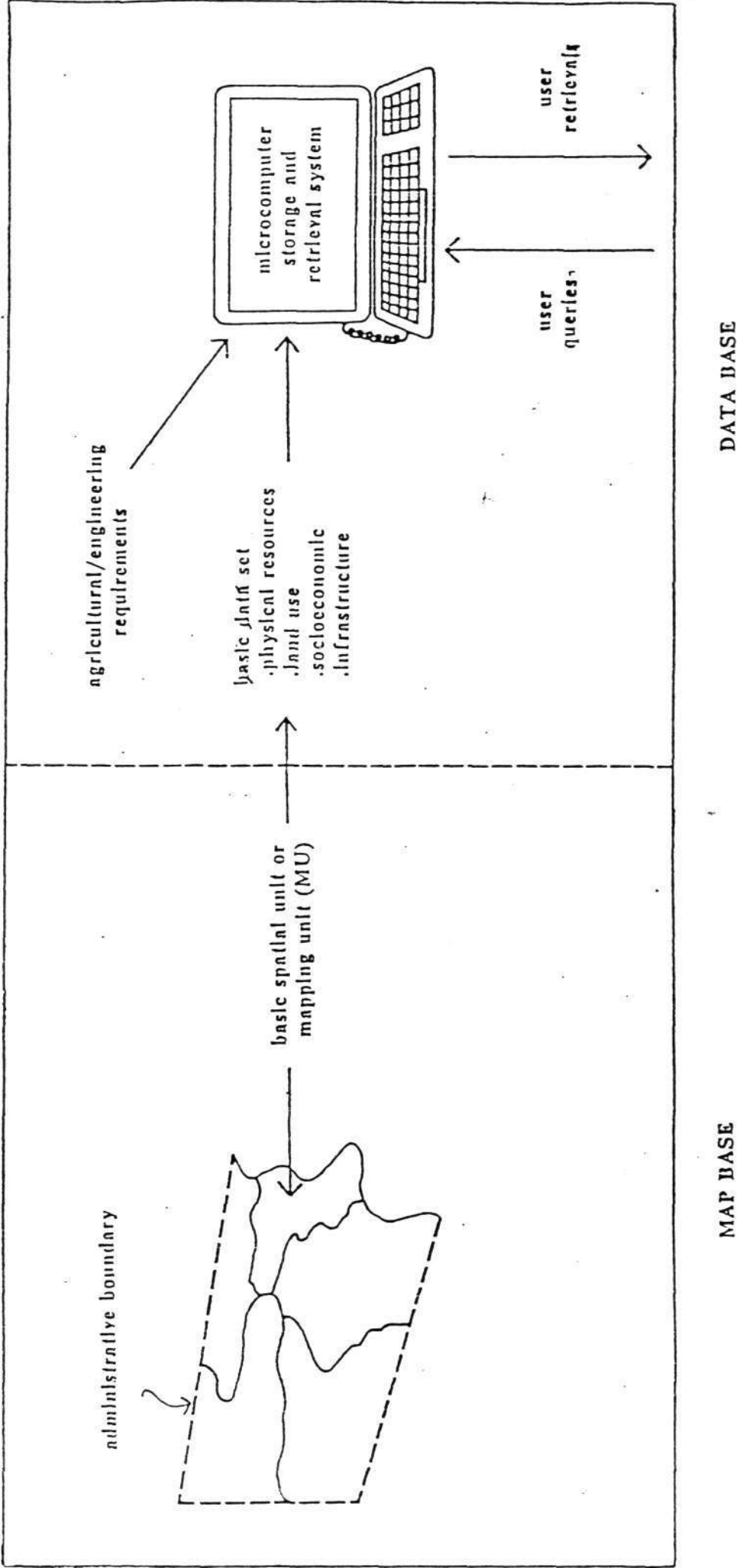can be obtained to a range of planning problems related to rural
development. 41/

As shown in Figure V, the LUIS typically consists of two inter-
related parts:

> (1)   a map base, which provides a mapped representation
> of the basic spatial units of the LUIS, commonly
> known as mapping units (delineated on the basis of
> a common set of geographic attributes); and
> (2)   a data base, which contains for each MU specific
> descriptions of its attributes.

Given the large volumes of information involved, the data base
is stored in computer-compatible form to facilitate updating
and interrogation of the information. As a rural LUIS must
provide answers to specific problems relating to rural develop-
ment for a range of different land uses, the data base must be
capable of being matched against sets of requirements for each
land use. Generally, these requirements are incorporated with-
in the computer-based part of the LUIS, so that a user can in-
terrogate the data base interactively to obtain answers to his
queries.

Maps for the whole province had been constructed by the Bureau
of Soils in association with the Philippines-Australia Develop-

FIGURE V. Structure of a typical Land Use Information System

microcomputer storage and retrieval system

user retrievals

user queries

DATA BASE

agricultural/engineering requirements

basic data set
.physical resources
.land use
.socioeconomic
.infrastructure

basic spatial unit or mapping unit (MU)

administrative boundary

MAP BASE

ment Assistance Project (PADAP)/Zamboanga del Sur Development
Project (ZDSDP). The maps were produced during the course of
a land resource survey of Zamboanga del Sur which led to the
publication of a detailed description and evaluation of the
land resources of the province in 1984. In addition, all
barangays within the province had barangay maps constructed
at the same scale. Socioeconomic and infrastructural informa-
tion for each barangay had been compiled to form the socio-
economic data base.

Data relevant to rural planning, such as farm marketing prac-
tices and incomes, are collected on a survey basis and are not
available for every part of the LUIS study area. The survey
information can then be related to the physical resources of
the areas in which the survey was conducted.

A simple computer mapping facility is currently under develop-
ment for use with data bases such as that established for
Zamboanga del Sur.

A series of municipal planning directories have been produced
for the province. These publications for each municipality
incorporate all information contained within the LUIS for that
municipality, in a form which could be readily understood and
used by municipal planning personnel.

The project in Zamboanga del Sur is being replicated in
Region VII (Central Visayas), but applied for all provinces
in the region. Adjustments in the system design is being done
to suit the regionwide information requirements.

C.   Regional Development Information System (REGDIS)

The prototype testing of REGDIS had just been endorsed by the
RDC of Region IV for technical assistance. It was proposed
to be implemented in all provinces of Region IV (Southern Luzon)
to establish a working model of a two-way communication flow
mechanism between the people;and the development planners and
administrators.

The advantage of Region IV is a relatively developed data base
up to the municipal level through the region's Planning Assis-
tance Service to Rural Areas (PASTORA) Project which is a
"learning-by-doing" planning assistance to municipal planning
staffs. The PASTORA is the source of data inputs for developing
small area statistics.

REGDIS is designed to strengthen the coordination of government
data generation activities in order to enhance development plan-
ning and implementation being undertaken by the NRO and the line
agencies in the region. It is a special type of an interactive
information system covering physical, social and economic sub-
systems which seeks to provide accurate, reliable and timely in-
formation to program planners, local executives or program ad-
ministrators and the target groups or populace in the following
management functions of development programs and projects:
(1) research; (2) planning; (3) programming/budgeting;
(4) implementation; (5) monitoring; and (6) evaluation.
(See Figure VI.) 42/

At the core of this process is a data bank which shall support
the components of the planning process in the region. This data
bank shall link the components to support the operations, manage-
ment and decisionmaking functions of the NRO. It shall also
establish linkages with other government agencies in the region
through data/information exchange. Hence, the NRO shall serve
as the coordinating center of such exchange. (See Figure VII.)

The ultimate objective of the REGDIS is to establish and insti-
tutionalize a computer-aided regional data coordination which
will ensure quick and effective interagency coordination at the
decentralized level. The system's specific objectives are:

(1) To develop a mechanism for effective two-way flow of
information between development agencies and institu-
tions and the target groups or populace;

(2) To enhance cooperation and participation of the people
in programs and projects that affect them by providing
full access for their views and opinions in the formu-
lation and implementation of development programs and
projects (participatory planning);

(3) To provide for accurate, timely and reliable informa-
tion on the implementation and performance of develop-
ment projects to local executives, development
planners and the general public so that necessary or
remedial measures can be undertaken on time to ensure
the success of the program or project; and

(4) To come up with recommendation on the nationwide
implementation of the Development Information System
(NADIS) after careful analysis and evaluation of the
pilot program (REGDIS) in the eleven provinces of
Region IV.

REGDIS also incorporates a social feedback monitoring and eva-
luation system and a training program for the NRO and provincial
planning offices.
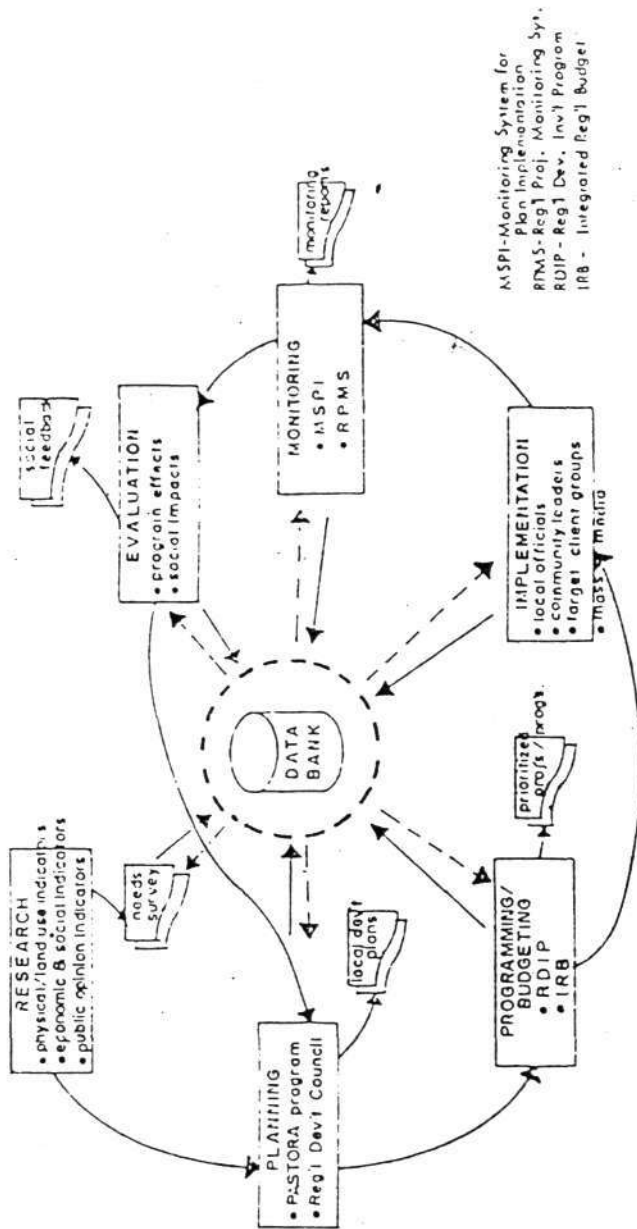
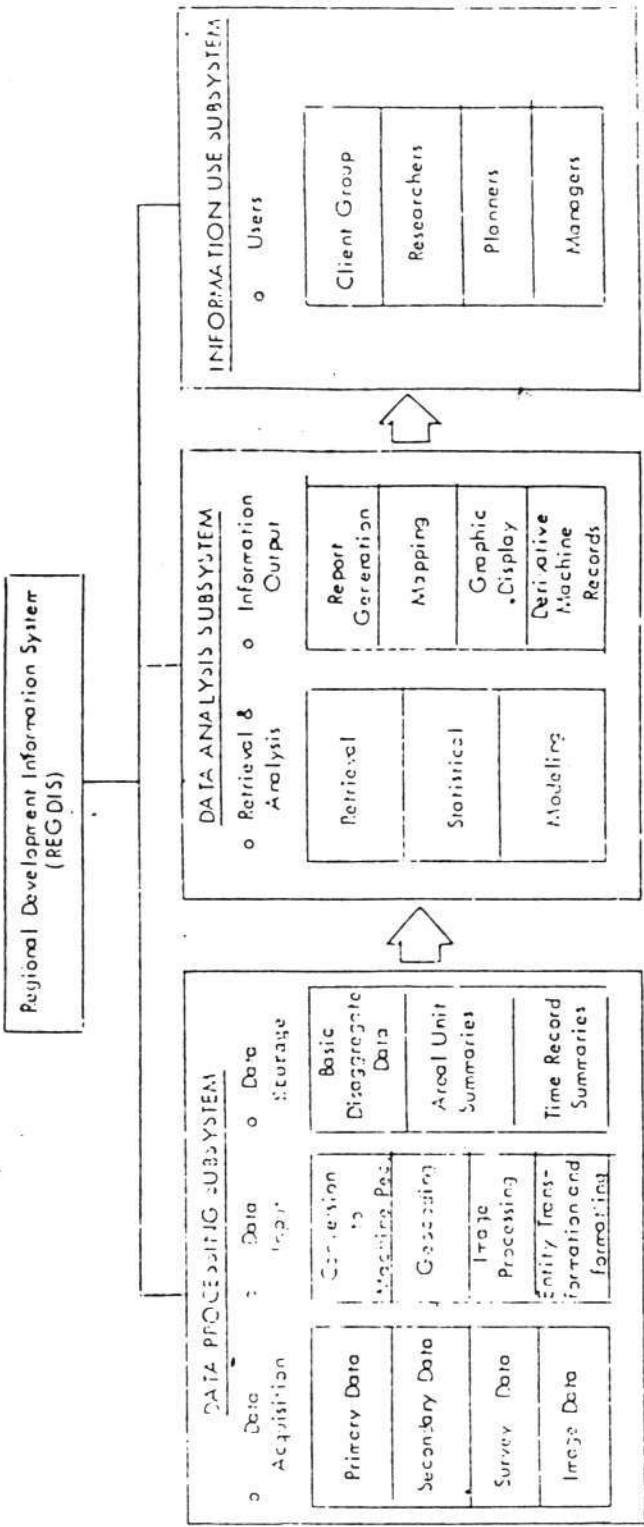FIGURE VI. THE PLANNING CYCLE IN REGION IV

FIGURE VII. REGDIS SUBSYSTEMS

Regional Development Information System (REGDIS)

D.   Regional Project Monitoring System (RPMS)

The RPMS was created in accordance with LOI 542-A which directs
the Chairmen of the RDCs to coordinate the implementation of
development programs and projects in the regions and to
establish a monitoring system for this purpose. This was im-
plemented in 1982 and has been an institutionalized activity
of the NROs. 43/

The system is designed as a method of providing a regionalized
perspective on the progress of implementation of development
programs and projects. The information gathered from such
monitoring activities will serve as a guide for authorities con-
cerned to achieve appropriate and timely decisions. Hence,
project implementation can be facilitated. 44/

The system's basic objectives are :

   (1)   To monitor the status of projects and measure their
         progress against the plans and annual budget allocation;
   (2)   To assist implementing agencies by providing timely
         feedback to the RDC and other appropriate agencies
         so that the problems in project implementation could
         be identified and corrected. Thus, preventing costly
         delays in project implementation;
   (3)   To facilitate coordination among implementing agencies
         through the dissemination of information on problems
         encountered during the project implementation;
   (4)   To identify successful projects and apply the lessons
         gained from such experience in planning and implemen-
         ting similar projects in the future; and
   (5)   To provide information that would be used in measuring
         the impact of the completed project on the attainment
         of program goals and project objectives.

The RPMS envisions to monitor and evaluate developmental projects
in the region which are nationally funded and implemented either
by the Central Office or the regional office. Projects which
are locally funded may also be included depending on the require-
ments of the RDCs and other government agencies.

The participants in this system are the NROs who will assess,
evaluate and consolidate the performance of projects being mo-
nitored ; the implementing agencies whose task is to manage the
projects and provide data concerning the status of selected
projects under their jurisdiction; and the RDCs who will initiate
necessary action to help remedy problems encountered in project
implementation. (See Figure VIII.)

OPERATIONAL FRAMEWORK OF RPMS

FIGURE VIII
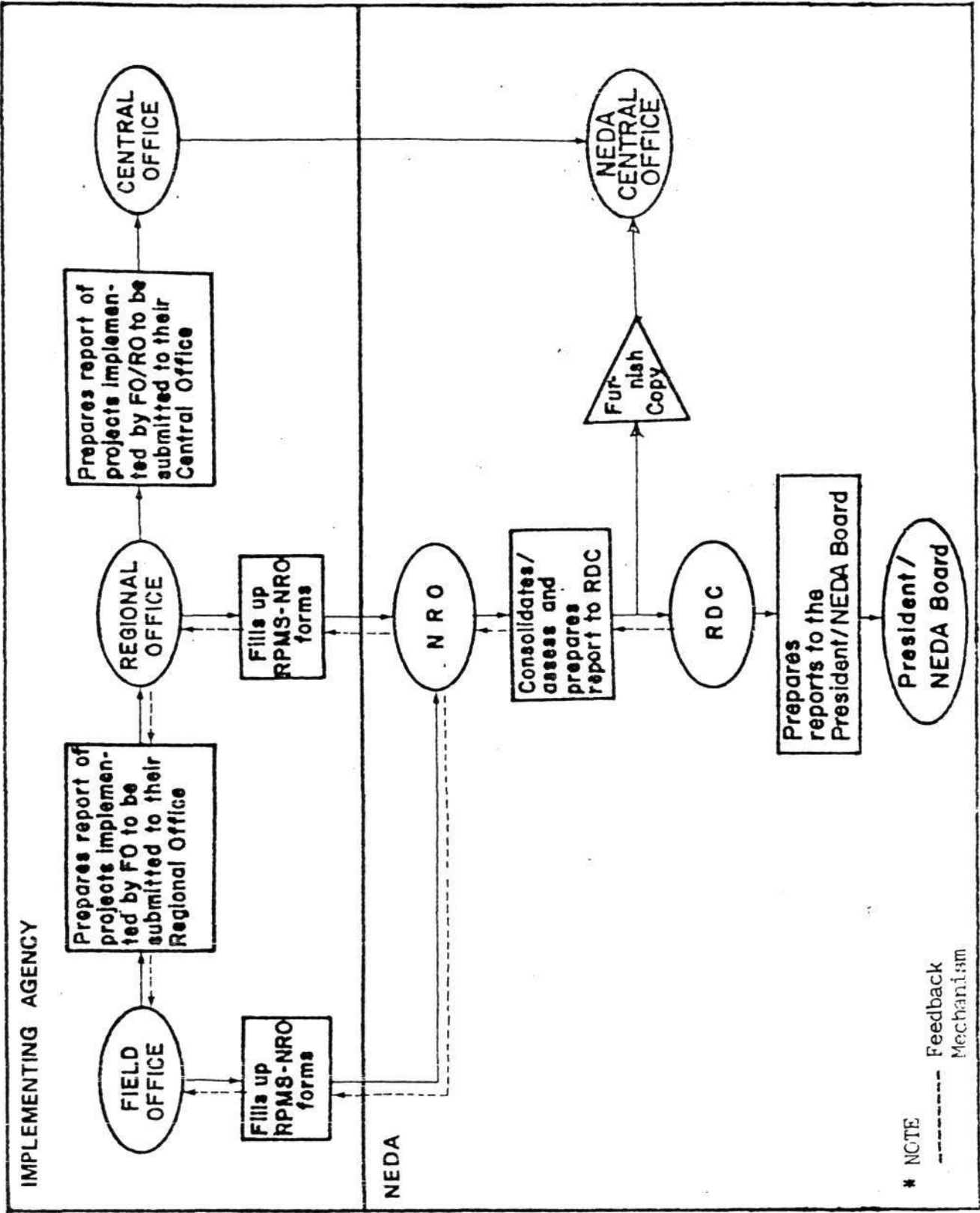
In order to attain its objectives, the RPMS will operate on
two subsystems, namely: Project Performance Reporting, which
involves the mechanics and process of generating information
in appropriate reporting forms; and Project Monitoring and
Evaluation which focuses on the procedure and methodology for
assessing progress of programs/projects.

For purposes of computerization and to facilitate transmission
of monitoring information through the Telex machine, an RPMS
project coding system has been devised. The system uses an
eleven digit numeric code to uniquely identify each project
being monitored. The code is composed of three components.
These are: (a) the location sub-code; (b) category sub-code;
and (c) chronology sub-code, separated from each other with
dashes.

$$
\underline{XX} \quad - \quad \underline{XXXXX} \quad - \quad \underline{XXXX} \quad \longleftarrow \quad \text{Chronology Sub-Code}
$$

Category Sub-Code

Location Sub-Code
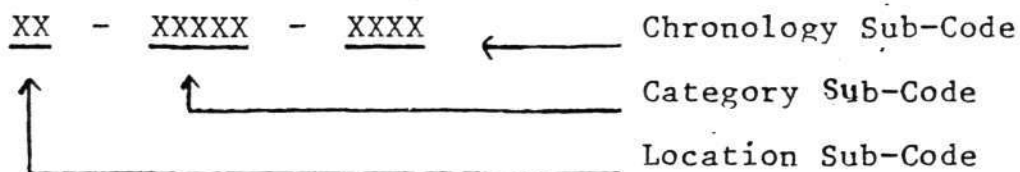
For Periodic Status Reports, codes shall be used for the
project Telex transmission report format instead of the
actual data item titles.

VII. MAJOR ISSUES IN INFORMATION SYSTEMS PROJECT CONTINUITY AND SUSTAINABILITY

There are serious policy, organizational and managerial, and
technical issues which impede successful implementation of
information systems for urban and regional planning. 45/ The
same categories can be used to analyze the major issues in
information systems project continuity and sustainability.
These issues are basically shown by the experience of past in-
formation systems projects and as anticipated by the ongoing
information related projects.

Policy Issues

Political commitment is always an issue in any project imple-
mentation efforts, whether of an information systems project or
otherwise. This refers to a strong political will to pursue
a particular government policy. Most government policies
given a higher priority are contained in policy pronounce-
ments or official policy statements. These are even supported
by legal mandates and translated into priority government
programs and projects. In this case, there is no national or
regional information policy.

Although the current national plan stated the need for timely and accurate information, this has not been explicitly translated into any implementable program. The strengthening and revitalization of the Philippine Statistical System may be considered as one of the programs geared towards this purpose, but statistical information is just one type among a vast array of needed information in the development process.

This low level of national support given to information systems development is manifested in the piecemeal approach in the implementation of information systems projects.

Usually information systems projects are only initiated when there is a foreign funding agency willing to support it. Once the foreign assistance stops, the project also stops with it.

Perhaps the reason for this low priority or even no priority given, in resource allocation for information systems project, is not surprising in developing countries with meager resources to allocate in the first place. There are a lot of pressing concerns requiring immediate attention and there is always not enough resources to finance these concerns.

This situation does not, however, mean that the need for a strong information base is not given importance. The question lies more on how can an effective information system work in a developing country like the Philippines without requiring much financial resources.

Policies for regulating and standardizing information collection, processing, management, dissemination, and reporting imply institutional changes. E.O. 215 reorganizing the Philippine Statistical System maybe considered an initial positive step. However, it will still take a long time before all the appropriate structures are put together. The RSSDP aims to formalize the institutional structures in the long-term, but at present it is already anticipated by the project that there is a need for identifying other sources of financing until such time the project is institutionalized within the national budget.

The decentralization efforts in the country have just actually begun. A lot of changes in the planning process will still be expected in the future. Therefore, adjustments in information requirements are expected from time to time. While the planning environment is undergoing a transition period, information requirements are variable.

Organization and Managerial Issues

Because information systems projects are implemented for a certain time frame as the funding allows, the personnel assigned to the project are usually temporarily hired. They can either be contractual personnel or regular personnel of the agency detailed to the project.

In the case of contractual personnel, when the project runs out of funding source, these personnel cannot be assured of absorption into the agency's regular staffing pattern in order to ensure the continuity of the project's activities. In the case of regular personnel detailed to the project, these personnel are recalled to their regular units.

There are no provisions for the position of information systems planners considering that the function has to be a specialized job; just like agricultural planners, or infrastructure planners. Data collection and anlysis is both done by the regional planner alone. This existing set-up constrains planning agencies to hire specialists in the field of information systems because they will not be able to provide a suitable position for them.

This situation is quite understandable considering that not all Philippine government agencies even have positions for planning officers or have a planning unit itself. How then can one expect an information systems unit to be given a priority?

As cited in the earlier sections on the problems and constraints in meeting the information requirements for regional planning, there is no network linking information sources and planning organizations. The RDCs in the regions do not require its members to supply a regular information flow to the council (through the NROs as the regional data bank).

Technical Issues

The information systems often implemented in the country prescribe computerization. Sometimes, because information systems projects are foreign funded, this becomes an opportunity for the donor country (especially in the case of foreign grants) to promote its technological products.

Both the design of information systems and the accompanying information technology adopted by the project are from relatively developed countries. While it is true that technical and technological innovation emanates from advanced countries, it may not necessarily be appropriate for a developing country. Sometimes, the computer facility dictates the kind of information needed.

Foremost in the major technical issues for information systems projects' sustainability and continuity is basically the lack of quality data needed by an information system. This had been extensively discussed earlier in this paper.

Inadequate technical skills in information systems is also a major problem. The educational system does not provide courses on information systems application using computers as aids to information systems development. Often information systems are perceived to be part of library science. What prevails are computer schools and training institutions emphasizing only on the use/operation of the computer and computer software.

Related to the perennial problem of a general lack of financial resources in a developing country, is the prohibitive cost of maintaining an information system (especially in computerized information systems). The cost for maintaining a computer is high not only in terms of availability of computer technicians but also due to some external factors. For instance, computer breakdowns are caused by the problem of power fluctuations, no airconditioning for computer rooms, and the like.

Although it can be argued that a computer system is not the information system, it is difficult to handle large volumes of data without a computer. Data filing may not necessarily require automation, but data analysis and processing need cross tabulation among various data sources. This situation would not pose a problem if there is only one source of information or there is only one type of information needed,which is not the case in reality.

VIII.   CONCLUSIONS AND RECOMMENDATIONS

Information system/technology is already sufficiently developed in some developing countries. The optimum strategy for information system/technology development will vary with the structure of the organization and the local conditions prevailing. Systems that are sophisticated, however, are unlikely to be established in the country for a long time, even if they are desirable at all. For the idea of an information system/technology development in government planning needs to be promoted and accepted first.

There are also problems in designing an integrated system
that will satisfy a wide range of potential users.   The
requirements of the regional planner are quite different
from policymakers and private sector users. Although it is
theoretically and technically possible to have fully integ-
rated comprehensive systems, there are enormous operational
difficulties especially in terms of the cost requirements. ,

An important issue to be resolved is the question of where
the responsibility for the information system should lie.
The initiative for system development usually comes from a
heavy user of data, such as the planning agency, but heavy
users are not necessarily best placed to run successful
systems.

Finally, the main problems in system development are not tech-
nical at all, they are social, political, human or   institu-
tional. The shift from a "supply-oriented"to a "demand-oriented"
information system is necessary to be able to support the
decentralization efforts of the Philippine government.

Because the success of a system depends to a large extent on
the status and power of the department that promotes it, it
would seem advantageous to establish an information systems
unit in the NROs for the RDC in each of the regions.

The development of information systems should be seen as an
iterative and continuous learning process, pursuing strate-
gies that are potent enough, and flexible enough, to handle
the uncertainty of future requirements and future technology.

The strategy of developing separate systems on a piecemeal
basis but in the context of an overall conceptual framework,
overcomes to some extent the problem of diverse functions
among different administrative levels of government. This
will allow the operating efficiency of the local government
units   to be preserved and opportunities for getting new com-
binations of data are provided. The type of piecemeal, itera-
tive approach allows improvements in computers to be exploited
and the lessons learned from one stage can be used to improve
the design of the next.

The ongoing information-related activities currently being
supported by NEDA have great potentials towards further streng-
thening information systems/technology development in the

country. The success of the RSSDP can initiate the resolution of statistical information problems in the country. The possible installation of LUIS in other parts of the country is a major step in supporting land use and physical planning activities. Similar initiatives in establishing regional planning information systems in the NROs as exemplified by Region IV through REGDIS, are to be expected from the other regions in the country. The future concern, perhaps, is to be able to link all these projects together (including the RPMS) under one guiding framework.

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21/ Also from handout "The RDIP: Concept, Objectives, Content and Process."
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