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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
EXPERT GROUP MEETING

INTEGRATING INFORMATION SYSTEMS/TECHNOLOGY IN LOCAL/REGIONAL DEVELOPMENT PLANNING

31 October - 4 November 1988

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
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, therefore, will influence the design of regional planning information systems in the country. However, as the information requirements 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 implementation. These are: the Regional Statistical Systems Development 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 implementation 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 important condition, however, is to be able to set a guiding conceptual 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 meeting 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 institutionalized with the mandate given to regionalization by the Integrated Reorganization Plan (IRP) in 1972. The IRP divided the country into eleven, now thirteen, administrative 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 political 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 essential 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. Specifically, it states that "as a general policy, the government shall harness the participation of the private sector, non-government 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. 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.

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.

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.

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. 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 sub-regional operations.

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 recommendations on the implementation of development plans and programs in the region.

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 decisionmaking 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 investments will be very difficult to write off when serious error of judgement occur.  

It is for this reason that the NEDA-UNDP/IBRD Regional Planning 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 output. However, the state of the art of the decentralization process in many of the countries shows that the "authority structures" (i.e., the decentralization of planning 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).

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 outputs 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.  

(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 Physical 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).  

13/

14/
FIGURE II.

Development Planning Process (Chapter 4)

1. Situational Analysis
   - Identification and validation of needs
   - Inventory of resources

2. Development Determination
   - Review of identified problems and needs

3. Target Setting
   - Set preliminary target goals

4. Program/Project Identification
   - Comprehensive project list preparation

5. Strategic Formulation
   - Assess developmental potentials

6. Initial Screening
   - Review of development constraints

7. Pre-feasibility Preliminary Investment Studies
   - Analyze sectoral characteristics and relationships

8. Adjustment
   - Adjust targets and objectives

Analysis of data to validate and reconcile problems
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.

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.

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 activities.

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).

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 occurrence 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.).

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 information 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 difficult to obtain. Due to the proliferation of the number of private organizations, consultations with all of them is impossible and at the same time, there is no designated representative 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 III. DEVELOPMENT INVESTMENT PROGRAM FLOW CHART
provide a basis for budget preparation for regional offices of line ministries, development authorities, public corporations, local governments and other government instrumentalities 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 Investment Program (AIP) which is subjected to the regional budgeting 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, sanitization and augmentation; project packaging; and prioritization. 23/ Project identification had been discussed extensively 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 augmentation 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 development 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 initially prepared. It is in the process of sorting all these information 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-reinforcing investments from different sectors required to achieve a common development objective for a specific geographical unit.

The municipality is the basic spatial unit for project identification, 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 municipalities 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 complementation of programs/projects); functionality (the area should be large enough to spatially cover the most significant interrelations 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).

The application of the IAD concept as a planning and programming approach, in terms of information requirements, demand the specification of data on an IAD situation basis. This means clustering 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-conceived 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 programming 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 finally reaching the regional level. This seemingly bureaucratic 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 allocation 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 budgetary terms. It is at this stage that a more systematic information 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, computerization 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 implementation 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 budgeting. 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
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 decision-making 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, unforeseen 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 of 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 assistance 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.

The upgrading of the NRO libraries was built-in the UNDP assistance 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.

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 Provincial Data Banks at each of the Provincial Development Staffs of the provinces and Municipal Data Banks at each of the Municipal 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 Assistance 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 assistance 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 information 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 computer 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 showed a predominance of computer related activities. Most of the activities centered on computer 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, VISIPILOT/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 Software Packages (158 participants); and Word Processing (50 participants). (See Table I.) Several trainings were also undertaken in 1987 covering the following:
TABLE I. IRIS MICROCOMPUTER TRAININGS CONDUCTED,  
(1982 - 1986)

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

<table>
<thead>
<tr>
<th>TITLE OF TRAINING</th>
<th>DATE</th>
<th>NO.</th>
<th>PARTICIPANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Training in Word Processing (Session I)</td>
<td>Dec. 9-11, 1985</td>
<td>25</td>
<td>Secretaries/Typists of Key Officials of the NEDA Central Office Staffs</td>
</tr>
<tr>
<td>12. Training on Selected CP/M Software Packages</td>
<td>Sept. 20-30, 1986</td>
<td>39</td>
<td>NROs (I to XII)</td>
</tr>
</tbody>
</table>

(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.

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 informants 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 conceptualization 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/technology 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 implicit 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 symptom of a defective 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 information requirements for regional planning, the centralized statistical system was designed to meet national level data requirements. Also, the shift in data and information requirements was a result of a decentralization 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 sufficently met by the NROs.
Several lessons from the IRIS that support the above contentions were summarized by Dr. Bruce Koppel, NEDA-UNDP/IBRD Consultant in his Aide Memoire: A Decentralization 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, community 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 virtually 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 coordination 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 activities 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 members per region, who are not presently all involved in information systems development. The task of information systems development 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 incompatibility of information systems 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 classification 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 conducted 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 compatibles 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 information systems development if they understand the workings of such system.

The IRIS, did not digress much from the "supply-oriented" information 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 beneficiary 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) statistical 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) 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 professionalization 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 activities is to be guided by the resolution laid down by the Statistical 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 coordination 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 information relevant to rural land use planning, from which answers can be obtained to a range of planning problems related to rural development. A LUIS typically consists of two interrelated 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 development 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 within the computer-based part of the LUIS, so that a user can interrogate 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

MAP BASE

DATA BASE

administrative boundary

basic spatial unit or mapping unit (MU)

agricultural/engineering requirements

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

microcomputer storage and retrieval system

user queries

user retrievals
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 information for each barangay had been compiled to form the socioeconomic data base.

Data relevant to rural planning, such as farm marketing practices 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 development 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 Assistance 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 planning 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 subsystems which seeks to provide accurate, reliable and timely information to program planners, local executives or program administrators 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.)

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, management 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 institutionalize 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 institutions 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 formulation and implementation of development programs and projects (participatory planning);

3. To provide for accurate, timely and reliable information on the implementation and performance of development 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 evaluation system and a training program for the NRO and provincial planning offices.
FIGURE VI. THE PLANNING CYCLE IN REGION IV

- RESEARCH
  - physical/land use indicators
  - economic & social indicators
  - public opinion indicators

- SOCIAL ASPECTS
  - feedback

- EVALUATION
  - program effects
  - social impacts

- MONITORING
  - MSPI
  - RPMS

- IMPLEMENTATION
  - local officials
  - community leaders
  - target client groups

- PROGRAMMING
  - REG Proj.
  - IRB

- PLANNING
  - REG Planning
  - REG Dev. Council

- DATA BANK

MSPI - Monitoring System for Plan Implementation
RPMS - REG Proj. Monitoring System
REGP - REG Dev. Prom. Program
IRB - Integrated REG Budget
FIGURE VII. REGDIS Subsystems

Regional Development Information System (REGDIS)

DATA PROCESSING SUBSYSTEM

Data Acquisition
- Primary Data
- Secondary Data
- Survey Data
- Image Data

Data Input
- Conversion to Processing Data
- Image Processing

Data Storage
- Basic Disaggregate Data
- Area Unit Summaries
- Time Record Summaries

DATA ANALYSIS SUBSYSTEM

Data Retrieval & Analysis
- Retrieval
- Statistical Modeling

Data Output
- Report Generation
- Mapping
- Graphic Display
- Derivative Machine Records

INFORMATION USE SUBSYSTEM

Users
- Client Group
- Researchers
- Planners
- Managers
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 implemented 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 concerned 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 implementing 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 requirements 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 monitored; 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.)
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.

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XX - XXXXX - XXXX Chronology Sub-Code

Category Sub-Code

Location Sub-Code
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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. 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 information systems projects and as anticipated by the ongoing information related projects.

Policy Issues

Political commitment is always an issue in any project implementation 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 pronouncements 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 analysis 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 integrated 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 technical at all, they are social, political, human or institutional. 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 strategies 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 combinations of data are provided. The type of piecemeal, iterative 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 strengthening 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.
NOTES:

1/ Sicat, Gerardo P., New Directions in the Philippines, NEDA 1974.

2/ Ibid.


7/ Handout on the "Rules and Regulations on the Reorganization of the Regional Development Council Implementing Executive Order No. 308".

8/ Handout on "A Primer on the System of Cabinet Officers for Regional Development (CORD)".

9/ See "Rules and Regulations...".


13/ The succeeding discussions on these topics are condensed from my revised draft on the chapter on the Development Planning Process for the finalization of the draft Local Development Planning Manual (December 1985) as member of the Committee on Manual Revision in NEDA in 1987.

14/ The state of regional planning in the Philippines, at present, is still considered socioeconomic planning. The preparation of the regional physical/land plans as a separate activity will be fully undertaken starting in 1989.

16/ Ibid.
17/ Ibid.
18/ Also extracted from the draft Local Development Planning Manual.
19/ From the handout on "The RDIP: Concept, Objectives, Content and Process" given in an RDIP workshop in 1982.
20/ Contained in a Memorandum to Dir. Jose M. Lawas, NEDA Assistant Director -General dated February 18, 1982 from Ben A. Thoolen on "Prioritizing RDIP Projects: Work Program."
21/ Also from handout "The RDIP: Concept, Objectives, Content and Process."
23/ Some parts of the discussions in programming are also sourced from the draft Local Development Planning Manual.
25/ Executive Order No. 319 on "Providing for the Reorganization of the Local Development Councils," Section 6, Relation to local legislative bodies and the Regional Development Council, shows the hierarchical flow from the Sangguniang Barangay (6.1), Sangguniang Panglunsod and Sangguniang Bayan (6.2), Sangguniang Panlalawigan (6.3), to the Regional Development Council (6.4).
27/ Ibid.
29/ See Nepomuceno, Francis R.
32/ IRIS: A Brief, NEDA 1987 (Reproduced transparencies).
33/ Ibid.
34/ Additional information on IRIS trainings from the Terminal Report, Strengthening Training for Regional Development Planning and Implementation Project (PHI/83/004), February 10, 1988.
35/ See Belarmino, Isagani C.

37/ See Mallion, Francisco K.

38/ The NSCB was created through Executive Order No. 121 "Reorganizing and Strengthening the Philippine Statistical System and for other Purposes" as the highest policy-making and coordinating body on statistical matters. This change made the statistics office an independent body, which used to be attached to NEDA.

39/ See Mallion, Francisco K.

40/ The description of RSSDP is condensed from the publication on the "Implementation Strategy for the Regional Statistical System Development Project" by the RSSDP project office.

41/ This section was taken from the handout on "A Land Use Information System for Zamboanga del Sur Province, Republic of the Philippines," CSIRO/ADAB Workshop on Land Use Information Systems, Canberra, Australia, March-June 1985.


43/ The RPMS is presently being reviewed and improved by the reorganized RDCs.

44/ The discussion on RPMS is taken from the NEDA "Regional Project Monitoring Manual."

Additional References:

(6) Proceedings of the Third Annual Conference on Urban Planning Information Systems and Programs, Sponsored by The American Society of Planning Officials and Northwestern University, September 15-17, 1965, Chicago, Illinois, USA.
(7) Handout on "The RPMS: NRO IV Experience.
(8) Handout on the "Primer on the Regional Development Council"