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An MIS Tool Promoting Development In Malaysia

By

Mohd Yunus Tamin
AN MIS TOOL PROMOTING DEVELOPMENT IN MALAYSIA

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SETIA - AN MIS TOOL PROMOTING DEVELOPMENT IN MALAYSIA

SUMMARY OF CASE STUDY

SETIA is a project jointly undertaken by the Central Agencies and the operating ministries of the Federal Government of Malaysia with the objective of integrating the information systems of the agencies responsible for planning, budgetting, implementing and accounting of Malaysia’s Five Year Development Plan projects.

The need for SETIA arose from a 1981 study undertaken by the Cabinet Committee on Steps To Speed Up The Implementation Of Development Projects, which found limitations in the information systems used for planning and implementation of development projects in government agencies. Some of the problems faced were that the information kept by the various agencies were inconsistent, incomplete, inaccurate and the systems run by central agencies were not being properly co-ordinated making it difficult to get accurate information in a timely manner.

Prior to the implementation of SETIA, the central agencies and the operating ministries adopted different methods and formats in keeping records on development projects. While the Implementation Coordination Unit (ICU) and the Accountant General’s Department maintained a computerised database, the Economic Planning Unit maintained the records in flat files in the computer. Most of the operating ministries did not have a computerised system to keep records on development projects.

SETIA is the first attempt at the integration of the information systems of the Federal Government Agencies in Malaysia. This was not an easy task, as it involves the development of a system that has to take into consideration the needs of 4 central agencies, 24 ministries an 13 State Development Offices each with their own peculiarities. It took the development team in ICU more than 5 years to devise a system acceptable to all.

The strategy finally adopted is a computerised distributed processing system, whereby each agency can maintain their own records according to their own needs using a standard file structure. Information required for SETIA is transmitted to ICU in the SETIA Database to be shared by all.

SETIA is now in its second year of running. A great deal more need to be done in terms of fine tuning the system to get general acceptance of over 100 users in 41 different agencies. At this moment there is general acceptance on the information generated by SETIA at the macro level. What is required is to develop further the information at the micro level to provide more details to satisfy the varying needs of the users. This is the task of ICU, being the coordinating machinery of the Federal Government. A start has been made in the use of new information technology in promoting development in Malaysia. It is the role of ICU to ensure continuity and sustainability of the system. With over 30 years experience in coordinating function, ICU is well placed to face the task ahead.
SETIA - AN MIS TOOL PROMOTING DEVELOPMENT IN MALAYSIA

1. INTRODUCTION

Socio-economic development in Malaysia has been a planned process that is repeated every five years. Seven development plans have been carried out since 1957, each with objectives consistent with the requirement of the changing nature of the Malaysian socio-political-economic situation. From development goals in the 1950s that emphasised modernisation of the traditional sectors to infrastructural development and agricultural diversification in the 1960s to society restructuring and poverty eradication in the 1970-80s; these plans collectively provide an explicit sense of direction for development.

Since the installation of the first computer in the Prime Minister’s Department in 1978 there has been an increasing awareness of the pivotal role of the information technology (IT) in accelerating the pace of development. This conscious realization has seeped through the very highest level of the Government as reflected in Paragraph 98 of the current Fifth Malaysia Plan (1986-1990) which stated that:

"The use of computer and other electronic technology in the planning and implementation process will be further intensified. The use of this facility will allow for the reduction of cost and delays through the setting up and use of common data collection, processing and dissemination centres."
2. ORIGIN OF THE SETIA SYSTEM

The need for SETIA arose from a 1981 study undertaken by the Cabinet Committee On Steps to Speed Up the Implementation of Development Projects which found various limitations in the information system for planning and implementation of development projects in government agencies. More specifically, some of the problems faced were that some projects were not reported by implementing agencies; incomplete, inaccurate and late reporting; and the systems run by central agencies were not being properly coordinated. In order to resolve these problems, the Cabinet Committee made the following recommendations:

Ministries/Departments with the assistance of the Implementation Coordination Unit should develop an information system or use existing systems meant for the same purpose specifically to plan and implement development projects and for making necessary decisions.

All information systems of the Central Agencies meant for the control and evaluation of the performance of development projects should be integrated. In this respect, all three systems, SIMKOM of the Treasury, the Project Monitoring System of the Implementation Coordination Unit and data collection activities of the Economic Planning Unit should be integrated so that only one information system will be used. Central Agencies and other agencies are encouraged to exchange information with one another.

It is in this environment that SETIA, acronym for (S)ystem (E)conomic Planning Unit, (T)reasury, (I)mplementation Coordination Unit, (A)ccountant General’s Department, was conceived and then developed to advance the goals of national development.
3. OBJECTIVES OF SETIA

To implement the recommendations of the Cabinet Committee, SETIA was developed with the following objectives:

1. To integrate the information systems of the Central Agencies.
2. To develop an information system for the Ministries to plan and implement development projects.

With the realisation of these objectives, the Central Agencies, Ministries and other agencies alike can share one common information system for making decisions in ensuring that:

1. projects are implemented on schedule
2. project expenditures are controlled within budget
3. problems of implementation are identified and solved
4. projects meet their planned objectives

4. SCOPE AND COVERAGE OF SETIA

The scope of SETIA is to provide an integrated information system on development projects for the Central Agencies, Operating Ministries as well as other agencies requiring the same information to ensure the consistency of data used by all agencies concerned. The information captured in this system are on federal funded development projects as well as projects funded jointly by the Federal Government/State Government/Statutory Bodies with respect to its cost and plan allocation ceilings, scope and objectives, location, sources of funding, implementing agency, yearly budget allocations, planned implementation schedules, status of implementation, expenditures as well as problems encountered in implementation.
This is the first attempt at integration of the already existing information systems, namely, The Project Planning System of the Economic Planning Unit (EPU), The Computer-based Information System of the Treasury (SIMKOM), The Project Monitoring System (PMS) of the Implementation Coordination Unit (ICU) and the Federal Accounting System of the Accountant General’s Department (AGD).

5. ORGANIZATIONAL AND MANPOWER RESOURCE PLAN

5.1 Organizational Structure

SETIA is developed using the existing organizational and manpower resources of the Federal Government, involving the Central Agencies; EPU and ICU of the Prime Minister’s Department, The Federal Treasury and AGD, all Federal Ministries and State Development Offices. FIGURE 1 depicts the organisational structure of the Federal Government machinery for the management of development projects.

5.2. Resource Needs

5.2.1 Manpower Skills and Resources

Manpower skills and resources required for the development and maintenance of the SETIA system is provided by the existing staff of the Management Information Division (MID) of ICU. Acting as the secretariat for the SETIA system, it comprises of three units, namely, Administration, Computer Operations and Application Development as shown in FIGURE 2. The secretariat is responsible for the administration of the system, provision and maintenance of hardwares and softwares as well as the maintenance of networking for the distributed system.
FIGURE 1: MACHINERY FOR MANAGEMENT OF DEVELOPMENT PROJECTS
ORGANISATION OF THE SETIA SECRETARIAT AT ICU

CHAIRMAN
DIR. GEN. OF ICU

MANAGING DIRECTOR
DIRECTOR OF MID

DY. MANAGING DIRECTOR
DEPUTY DIRECTOR

ADMINISTRATION
PR. ASS. DIRECTOR 1

ASS. SECRETARY
SR. ASS. DIRECTOR

COMPUTER MANAGER
PR. ASS. DIRECTOR 2

ASS. SECRETARY
SR. ASS. DIRECTOR

COMPUTER OPERATIONS
SR. SYSTEM ANALYST

DATABASE MANAGER
PR. ASS. DIRECTOR 3

ASS. SECRETARY
SR. ASS. DIRECTOR

MINISTRY COORDINATORS
1. HOUSING, TOWN AND LAND REFORM
2. HOPE, IND. AND SCIENCE
3. RURAL DEVELOPMENT
4. HEALTH, WELFARE
5. EDUCATION, FOREIGN ENG

MINISTRY COORDINATORS
6. TRAD. TRADE, MIN. IND., POWER
7. P.O. AND TRANSPORT
8. AGRICULTURE AND JUSTICE
9. WORKS, LANDS, RES. DEV

SYSTEM PROGRAMMING
SYSTEM ANALYST 1

NETWORKING
SYSTEM ANALYST 2

TECHNICAL
TECHNICIAN 1 & 2

STEERING COMMITTEE
DIR. GEN. EPU
SEC. GEN. TREASURY
ACCOUNTANT GENERAL

FIGURE 2: ORGANISATION CHART OF THE SETIA SECRETARIAT AT ICU
5.2.2 Budget and Financial Resources

The budget for the development, implementation and management of the SETIA system is allocated in the development budget of ICU under the Computer for National Operations Room project. The original cost of the SETIA project was estimated at USS3,500,000. This cost has been revised to USS1,900,000 under allocation made in the current Fifth Malaysian Plan. This allocation is meant for the purchase of computer equipments to be supplied to the user agencies as well as the software for the SETIA system. To date, some US$500,000 has been spent to purchase softwares and hardwares. Some US$800,000 is further expected to be spent for the period ending 1990. Thus the new estimate of outlay for hardware, its maintenance and software for the SETIA system is now expected to be in the region of US$1,300,000.

As the systems development work has been done on the existing IBM 3083, and the distributed processing operations involve linking the ICU’s 3083 with the computer facilities in the Chief Executive Information System Network in the Office of the Prime Minister, which enable the equipments supplied by the latter to the various Ministries to be used for SETIA purposes, substantial savings have been achieved besides optimizing the use of the existing computer resources.

5.3 End User’s Role

SETIA is an integrated project information system involving many agencies and end users each with their specific roles. On the one hand are the officers of the Central Agencies, namely, EPU which scrutinizes projects to be included into the Malaysia Plan, the Federal Treasury which examines and approves the yearly budget allocation for the projects to be implemented, ICU which monitors the
progress of implementation of projects and the AGD which keeps tab on the account of all expenditures of projects.

On the other hand there are the officers of the implementing Ministries and Departments, whose roles are to plan their projects, supervise their implementation and monitor their progress. They are to maintain the data pertaining to each project which forms the source of information for the SETIA System.

At the states are the State Development Officers who are users of the information to coordinate the actual implementation of the projects in the various states all over the country. Their role is to have regular meetings with the implementing Heads of Department in the states and to solve local problems encountered in implementation. Any problems or issues that cannot be resolved at the state level are brought to the attention of ICU to be resolved at the central level.

5.4 The Role Of Data Processing Specialist

The role of data processing specialist is provided by the System Analysts and Programmers of MID of ICU. They are to design, develop and maintain all computer programmes and operations that are required for the SETIA System.

6.TECHNICAL STRATEGY

6.1 Application Required By Time Phase

The SETIA system is developed to support the Federal Government's machinery involved in the management of development projects as shown in FIGURE 1. It consists of four applications performing the following functions:
1. Processing of projects to be included in The Malaysia Plan by EPU

2. Processing of project yearly budget allocations by the Treasury

3. Processing of information on the progress of project implementation by the Operating Ministries

4. Processing of project payments and disbursement of funds by AGD

The information generated from the above four processes is inputted by the agencies involved via five forms namely, S1, S1(A), S2, S3, S3(A) and vouchers as shown in APPENDICES 1, 2, 3, 4, 5 and 6.

S1 is for recording all projects approved by EPU for implementation in the five year Malaysia Plan at the beginning of the plan as well as at any time a supplementary project is approved during the plan.

S1(A) is for recording changes in project costs and plan allocations.

S2 is for recording the yearly budget allocation approved by the Treasury for meeting expenses required for implementation of the project. This is done during the yearly budget examination starting in April each year.

S3 is for recording the physical progress of project implementation by the implementing agencies. Updates are done once a month to monitor activities of projects, or as and when there is a change in project implementation status.

S3(A) is for recording project expenditures for Statutory Bodies and Self Accounting Departments.

Vouchers are used for recording all payments made by the Accountant General's Department every time a voucher is submitted for payment.
6.2 Data Base Development And Management

SETIA is completely developed in-house by the SETIA project team of ICU assisted by a steering committee consisting of representatives of EPU, Treasury, ICU and AGD. The system has been designed taking into account all the information needs of the Central Agencies as well as the operating Ministries using the hierarchical distributed processing technique whereby the processing of the information is distributed to the respective agencies to meet their information requirements as shown in FIGURE 3. Information thereby processed by these agencies are transmitted to ICU to be integrated into the main SETIA database to be shared by all agencies concerned.

Management of the main SETIA database is handled by ICU which also controls all computer operations. EPU, Treasury, AGD as well as Operating Ministries manages the respective data bases at their own locations.

6.3 Sources Of Data And Information Flow

The sources of data and inflow of information in the SETIA System is integrated with the activities of the projects namely;

1. Project planning and approval
2. Project yearly budget approval
3. Monitoring the progress of project implementation
4. Project payment and disbursement of funds

6.3.1 Project Planning and Approval

The purpose of this subsystem is to register development projects which have been approved by EPU for implementation. It also forms the basis for the creation of
FIGURE 3: THE SETIA DISTRIBUTED PROCESSING SYSTEM

LEGEND: SMPKE=CHIEF EXECUTIVE MANAGEMENT INFORMATION SYSTEM, SNA=SYSTEM NETWORK ARCHITECTURE, PMO=PRIME MINISTER'S OFFICE, PMD=PRIME MINISTER'S DEPARTMENT, EPU=ECONOMIC PLANNING UNIT, AGD=ACCOUNTANT GENERAL'S DEPARTMENT, ICU=IMPLEMENTATION COORDINATION UNIT, SDO=STATE DEVELOPMENT OFFICE
projects and filled only once in the life time of the project. On receipt of SI, EPU will examine the project proposed and subsequently assign a project identification number and register the project with its approved cost and plan allocation ceiling using the computer provided for this purpose. Information on the approved project is then transmitted to the host computer at ICU to be kept in the Main SETIA database. ICU will then print the information on project list approved and release it to EPU who will notify the relevant ministries/departments. The same information will also be transmitted by ICU to the respective ministries/departments and State Development Offices to be kept in the personal computers at their respective offices. Subsequent changes in approved costs and plan allocation ceilings are reported to the system in the same manner using S1(A) form.

6.3.2 Project Yearly Budget Allocation

Form S2 is a computer printout produced by the Ministries to request for yearly budget allocations to the Budget Division of the Treasury for all the projects that have been approved by EPU under the Plan. On approval of the yearly budget, the Ministries will input into the system the yearly budget allocation approved for the projects into their PC. This information is also transmitted by the Ministries to ICU to be kept in the Main SETIA database.

6.3.3 Monitoring the Progress of Project Implementation

All agencies implementing the projects are required to report the physical progress of their active projects or project components using S3 forms, as and when there is a change in progress, to the Ministries which will then update the progress in their personal computers. The Ministries will transmit these information to ICU at the beginning of each month to be kept in the main SETIA database.
6.3.4 Project Payment and Disbursement of Funds

The Ministries, Departments and Agencies send in payment and journal vouchers to AGD for payment on federally-funded projects. From these source documents, data is captured in the computer of the Headquarters of AGD. The SETIA Secretariat will receive this information monthly via magnetic tapes.

Statutory bodies and self-accounting departments that are commercially-oriented or received their federal development allocations that are channelled through State Government, will submit the information on payments to the Ministries using S3(A) forms as vouchers produced by these agencies are not sent to AGD. The conceptual structure of the SETIA system is shown as in FIGURE 4.

6.4 Technical Architecture, Hardware And Software Development

SETIA is implemented on an IBM 3083 host computer with a 16 megabyte memory size. The configuration of the host computer system at ICU is as shown in FIGURE 5. Disk storage of about 400 megabytes is used for the database. The 3 Central Agencies sharing the system, that is ICU, EPU and Treasury are provided with terminals, PCs and printers for developing and maintaining the system. Ministries and State Development Offices are provided with a PC of 512 kilobytes memory, a hard disk of 20 megabytes storage capacity, a printer and an emulation card to enable them to operate the system as a stand alone at the distributed locations as well as communicate with the host computer via communication lines. The network linking the PCs at the ministries to the host computer at ICU is as shown in FIGURE 6 while those at the State Development Offices in FIGURE 7.
Figure 4: Conceptual Structure of the SETIA System
FIGURE 5: CONFIGURATION OF ICU HOST COMPUTER SYSTEM
LEGEND:  

- MINISTRIES LINKED DIRECT TO ICU HOST COMPUTER SYSTEM  
- MINISTRIES LINKED THROUGH SMPKE COMPUTER SYSTEM BY SNA  

FIGURE 6: SETIANET LINKING THE MINISTRIES TO ICU
FIGURE 7: SETIANET LINKING STATE DEVELOPMENT OFFICES TO ICU
The SETIA system runs under MVS/SP operating system using Database 2 (DB2) as the Data Base Management System (DBMS). Besides the DB2 DBMS, another software package Application System (AS), is also used to provide user friendly menu driven online access to the information. For the subsystem at the distributed locations, the PCs run under the operating system Microsoft MS-DOS Version 3.2. A PC software DbaseIII Plus is used for data input, data management as well as query facilities.

6.5 Distribution And Placement Of Computers

The mainframe computer is located at ICU while PC and terminals are located at the Central Agencies and State Development Offices to provide on line access to information kept in the main SETIA data base. So far 40 terminals have been provided, 6 to Treasury, 12 to the State Development Offices and the rest to ICU.

Besides the terminals, 42 sets of PCs with printers are also located at the various agencies, namely, 7 at EPU, 20 at the Ministries, 13 at the State Development Offices and the rest at ICU. These PCs are used as a stand alone for the processing of information at the distributed locations, as well as a terminal for transmitting and loading information to/from the host system.

6.6 Provision Of User Manuals

User manuals are provided to assist the users of the system to operate the PC Sub-system at Ministries and State Development Offices as well as users in the central agencies to get access to data from the Main SETIA database in the host system using terminals. Taking into consideration that users of the system are non-DP personnel, the manuals provide a guide on how to use the system which
only requires pressing the appropriate buttons when the prompts appear on the
monitor screens. This is to ensure that information can easily be made available
whenever they are required for making decisions.

6.6.1 Manual For The PC System

In the PC system all items of information pertaining to the projects that are re­
quired for the SETIA system, as shown in APPENDIX 7, is kept in a database
using DbaseIII Plus programs prepared by ICU. Menu driven options are provided
on the PC monitor to perform the following operations:–

1. Print S1/S1(A) Form
2. Print S2 Form
3. Print S3/S3(A) Form
4. Input/Update Data
5. View Data
6. Ad-hoc Query
7. Transfer data to Mainframe
8. Load data from Mainframe to PC.

The first option allows the ministry to print S1 or S1(A) Forms which are applica­
tion forms to be submitted to EPU for the approval of new projects or request for
additional plan allocation for existing projects. The printing of these forms can be
executed by selecting the first option in the menu appearing on the screen. Once
Option No.1 is selected, the system will offer 2 types of S1 forms i.e forms for new
projects or forms for continuation (existing) projects. The ministry will just have to
select the type of forms required, and press a numbered key assigned to it.

All information required in the S1 form would be printed taking information from
the database for existing projects that require further allocations. For new projects
the ministries will have to provide the information in the new forms. Completed
S1 forms can then be submitted to EPU for consideration. On approval by EPU,
the cost and plan allocations for the projects are inputted into the PC system at
EPU and subsequently transferred to the host to enable the Ministries to load the data into its PC using Option 8.

The second option in the system is to print S2 forms, which are actually application forms to be submitted to the Treasury for the annual budget allocation. The Ministry will print these forms for all projects requiring allocation for the new budget year taking information from the database for the projects concerned. The Ministry is given the option to print these forms by specific department/agency or by specific Budget Subhead, by just pressing the relevant key assigned to the two selections. The relevant department/agency code or subhead number in which the forms are to be printed have to be entered when the system prompts. Completed S2 forms can then be sent to Treasury for budget consideration. On approval of the Treasury, the Ministry can then input the budget approved for the project to update its database using Option 4.

The third option is to print S3/S3(A) forms in order for the ministry to send out these forms to the various departments/agencies to report on the physical progress of the projects being implemented and project payments as in the case of Statutory Bodies and Self Accounting Departments. Printing is by selection of specific department/agency by entering the relevant code when prompted by the system. All projects under the selected department/agency will be listed and the latest information on these projects will be printed from the database. The reporting Department/agency will just have to update on the information printed if there are any change or progress for the projects. The ministry is encouraged to print and send out these forms monthly to the various departments/agencies. Completed forms are then submitted back to the ministry for updating the database.
The fourth option is provided for the ministry to input or update information on the projects. The updating of information can be done on-line by authorised users using a specific password. This is to ensure that only authorised personnel can change the data kept in the PC system. Updating can be done in 2 ways i.e; in sequence or by specific project by entering the project number. All updates that is done for the month will be sent to ICU monthly to update the main SETIA database in the mainframe.

The fifth option provides the ministry to view and make use of the information on the projects for management and decision-making. Information can be viewed by classifications such as by state, allocation sub-head, department, district or election constituency, project types or even by a specific project.

The sixth option is to enable the ministry to obtain information other than the pre-defined output provided under Option No.5 to cater to specific management analysis or reports.

The seventh option allows data to be transferred to the mainframe for the purpose of updating the information in the main SETIA database while the eighth option allows data to be loaded from the mainframe into the PC database.

To get a feel of the SETIA PC System, a brief operational procedures is given in Appendix 8.

6.6.2 Manual For The Host System

For the host system another manual is provided to assist users to get access to information in the main SETIA database using AS programs prepared also by ICU.
Using a terminal or a PC in terminal mode, these programs provide menu driven options to allow the users to select the informations they need from the database by pressing the appropriate PF keys as follows:

PF1 : A brief explanation of the SETIA system
PF2 : Information on projects by Ministries
PF3 : Information on projects by States
PF4 : Information on projects by Sectors
PF5 : Information on projects funded by loans
PF6 : Information on security projects
PF7 : Information on individual projects
PF8 : Writing programs for adhoc queries.

Except for option PF8, all the options are simple to operate which requires only pressing the appropriate keys as prompted on the monitor screen. A help key is also provided to get more explanations on the programs. The AS programs also provide graphical presentation of the data.

Users that require information in a format other than those pre-defined in options 2 to 7 can choose to write their own program by selecting option 8. This requires the knowledge in writing programs for which a manual is also provided with the AS software. The other alternative is to get the assistance of ICU data processing professionals to write the programs to produce the required output. It takes between a few minutes to an hour to write the programs depending on the complexity of the outputs. Some examples of the pre-defined outputs are shown in APPENDICES 9, 10 and 11.

7. IMPLEMENTATION PLAN, STRATEGY AND IMPLEMENTATION PROBLEMS

Work on the development of SETIA started in January 1984. It was planned to be completed in 2 years to be in time to use the system for the processing of the Fifth
Malaysia Plan starting in 1986. The setting up of the Main SETIA data base, originally using another DBMS was completed in January 1985 with the assistance of a consultant from the vendor, using data from the Fourth Malaysia Plan projects. However it was later discovered that the DBMS had several shortcomings, the main one being the unavailability of user friendly menu driven query facilities and colour graphics capability at that time. Another shortcoming is that the vendor do not have local support. As such it is difficult to get quick response to answers when problems are encountered in using the DBMS. As such a decision had to be taken to solve the problem of finding another suitable DBMS quickly to meet the date line of completing the system before the start of the Fifth Malaysia Plan in January 1986.

On looking around, the DB2 DBMS was found to be suitable for SETIA. Being a relational DBMS, this software is easier to use and work on developing the data base could be done much faster. The advantage of this DBMS is that it has an accompanying end user friendly query facility software AS which is suitable for non DP personnel. Furthermore, the vendor of these softwares have local support that is close by to give immediate assistance when problems are encountered.

After some trials and a week training provided by the vendor, work on developing the system started immediately in February 1986. The main SETIA database was completed in June 1986.

While the development of the main SETIA database was going on, work on the development on the distributed databases using PCs and DbaseIII Plus was also carried out. This too was completed in a fairly short time and by June 1986 most of the work necessary to implement the system was completed.
### Form Seta (Page 1)

**1. Development Head P**
- [ ] 1. Project Name
- [ ] 2. Project Code
- [ ] 3. Project Type Code
- [ ] 4. State Assembly
- [ ] 5. District Code
- [ ] 6. Area Code
- [ ] 7. Residency Area Code
- [ ] 8. Ministry Code
- [ ] 9. Expenditure/Revenue Code
- [ ] 10. Implementing Agency Code
- [ ] 11. S. Series Number
- [ ] 12. S. Section Code
- [ ] 13. Project Title
- [ ] 14. Project Code
- [ ] 15. Project Type Code
- [ ] 16. State Assembly
- [ ] 17. District Code
- [ ] 18. Area Code
- [ ] 19. Residency Area Code
- [ ] 20. Ministry Code
- [ ] 21. Expenditure/Revenue Code
- [ ] 22. Implementing Agency Code
- [ ] 23. S. Series Number
- [ ] 24. S. Section Code
- [ ] 25. Project Title

**2. Break up of Cost of the Project**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

**3. Break up of Foreign Cost**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

**4. Break up of Total Cost**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

**5. Break up of Total Cost**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

**6. Break up of Total Cost**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

**7. Break up of Total Cost**
- [ ] Local Cost
- [ ] Foreign Cost
- [ ] Total Cost

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Steps were taken immediately to train the users to use the system. This was accomplished in two weeks by training all officials of the Ministries and State Development Offices involved with the system at ICU. On completion of the training, PCs were provided to all the Ministries and State Development Offices to implement the system in August 1986.

With the finalisation on the printing of the Fifth Malaysia Plan in March 1986, data was processed using the new SETIA system and now the system is already in its second year of its operation. The task now is to see that the various agencies keep a proper maintenance of the system at their locations and all operations are carried out smoothly. They are to input the data required for the SETIA system, verify their accuracy and send them to the SETIA Database at ICU every month via the terminal/PC located at the agencies. The agencies will then use monthly-updated information in their subdatabases to plan, control and monitor the implementation of their development projects.

Other than the problems initially faced in the development of the data base, some problems are also encountered in getting user response to the system. This problem is more of psychological in nature. Most of the users of the SETIA system are layman in the use of computers who are not at ease with computers. Being so used to the traditional system of paper work management, they tend to shy away from machines. As the SETIA System was designed to be an on line system for the management, it is necessary to inculcate confidence in them so that they would use the terminals provided to get the information themselves in order to take full advantage of the system. It is hoped that this psychological barrier could be overcome with time.
Communication to Sabah and Sarawak through the 'dial-up' system is another problem faced. This arises from the quality of line served by the telecommunications authority. With the upgrading of the current cabling system, this problem should be resolved.

8. EVALUATION AND COST CRITERIA

8.1 Cost Checklist

As pointed out in paragraph 5.2.2, the amount of outlay in hardware and software so far is only about US$500,000. This amount is far much less than the original estimates of US$3,500,000 for the project. However this does not indicate the true cost for the project had it started from scratch without any existing organization and machinery. The perceived low cost were made possible because most of the facilities required to implement the system were already made available.

It is not possible to apportion the already existing machines and manpower essentially for the development of SETIA for the purpose of determining its actual costs, as SETIA forms only a part of the already existing workload for the manpower and machines available in MID for which the same costs would have been incurred had SETIA not been developed. As such in this experience the only cost that can be associated with the development of the system are the additional costs of acquiring the new additional machines.
8.2 Benefits And Impact Of SETIA

The expected benefits and impacts likely to be realised from SETIA are as follows:

- In the immediate term, by inputting data at the stages of project planning, yearly budgetting, project monitoring and project payment, and consolidating all data into a single database, integration and coordinated project management are achieved via the SETIA System. In this way data need to be gathered only once, and the information generated can be used by all the four central agencies concerned as well as any other agencies requiring information on development projects. This will also relieve the burden of the reporting agencies as the SETIA System is not only a reporting system but also a system to apply for projects incorporating several means of control.

- By providing end-user facilities at both the national and local levels, an environment for learning and experimenting has been created. Not only will this encourage user-driven applications to be developed, but also effectively decentralise the process of managing development to the local level where the direct impact of computerisation on development can be felt.

- In the longer term, a generation of development planners and administrators raised in the use of new information technologies would have been created. The consequence of this will be a powerful impact on the methodologies, efficiency and effectiveness of development management.

9. CONCLUSION

Seen in the context of conventional model of system development, the development of the SETIA system can be considered as a successful exercise. Not only has user participation actively effected in the various phases from strategic design and application development, to testing and implementation, but interagency cooperation and linkages forged amongst the four central agencies have also been more effective.
However, as the SETIA System is only in the second year of its operation, it is somewhat early, at this point of time, to form a judgement on its medium to long term impact on the process of development and as a vehicle for decentralised development. Given the five-year cycle of Malaysia’s development plans, the success of the SETIA project may best be measured at the end of the Fifth Malaysia Plan in 1990 when the system is operational for the full FMP period and its contribution to the attainment of national goals assessable. To ensure its continuity and sustainability it is necessary that ICU continue to play its role as the coordinating agency for Federal Government agencies which has contributed to the success in the implementation of Malaysia’s past development plans. With more than 30 years experience in coordinating function, ICU is well placed to face the task ahead.

SETIA SECRETARIAT
IMPLEMENTATION COORDINATION UNIT
PRIME MINISTER’S DEPARTMENT
KUALA LUMPUR
MALAYSIA
SEPTEMBER, 1988
**SETIA**

**51(A) FORM - (Changes in Project Cost & Plan Allocation)**

<table>
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<tr>
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<tr>
<td>Name of Requesting Officer:</td>
<td>15. Date:</td>
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<td></td>
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<td>16. Signature</td>
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<td>Name of Approving Officer:</td>
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<td>19. EPU Section:</td>
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## ABP1/S2 FORM SETIA

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<th>2. DEPARTMENT/AGENCY</th>
<th>3. DEVELOPMENT HEAD</th>
<th>4. SUB-HEAD</th>
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<table>
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<th>6. NOTES</th>
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<tr>
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### S3 FORM SETIA (FOR REPORTING PHYSICAL PROGRESS)

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<th>PROJECT NAME</th>
<th>START DATE</th>
<th>COMP. DATE</th>
<th>STAGE</th>
<th>% COMP. CURRENT YR ACTIVITY</th>
<th>% COMP. WHOLE PROJECT</th>
<th>PROBLEM/BRIEF NOTES ON STATUS</th>
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**NAME OF REPORTING OFFICER:** ________________________  **TELEPHONE:** ______

**OFFICE ADDRESS:** ________________________________  **DATE:** ______
## 53(A) FORM SETIA (FOR REPORTING FINANCIAL PROGRESS)

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<th>PROJECT NAME</th>
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<th>FEDERAL GOV'T. ACTUAL EXPENDITURE</th>
<th>STATUTORY BODY ACTUAL OWN EXPENDITURE</th>
<th>COMMITTED EXPENDITURE</th>
<th>BRIEF NOTES ON EXPENDITURES</th>
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NAME OF REPORTING OFFICER: ___________________________  TELEPHONE: __________
OFFICE ADDRESS: ____________________________________  DATE: __________
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**TOTAL**

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**Grand Total**

**Total Number Subsidies Acct.**
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SETIA

National Development Project Monitoring System

AN MIS TOOL PROMOTING DEVELOPMENT IN MALAYSIA

WORKSHOP GUIDE
WORKSHOP GUIDE

1.1 OBJECTIVE OF THIS EXERCISE

The objective of this exercise is to give participants a clearer perspective of the concept and operation of SETIA system through a hands-on experience on the SETIA PC model.

Also, by following through the exercise participants will be able to visualise how the officers at the Ministries can use the information available in their respective PC databases.

1.2 The PC MODEL

The PC model has been developed specially for this exercise and essentially consists of a small database (containing about 100 development projects pertaining to the Ministry of Agriculture) and some menu-driven screens. These database and screens were translated from the real system which has been implemented at the Ministries level in Malaysia.

In the real system, the basic data on the individual development projects had initially been generated at the Central Agency level and subsequently transferred from ICU (Implementation Coordination Unit) via the telecommunication lines to the PCs located at the Ministries. The officers at the Ministries who are responsible for monitoring development projects then checks and updates the data monthly or as and when there are changes to be reported. Facilities for viewing, updating and transferring data to and from the mainframe computer are provided in their respective PCs.

In most aspects the PC model is similar to the real system in the Ministries except that the real system has linkage facilities to the mainframe computer at ICU in the Prime Minister's Department in Kuala Lumpur. The PCs at the Ministries are also able to emulate as mainframe computer terminals.

1.3 THE DATABASE

The model database for this exercise contains about 100 development projects belonging to the Ministry of Agriculture. It resides in the PC and special programs had been developed to access and process its data and display the results on the PC screen.

Each record in the database contains data (information) on one development project. Each development project in the database is identified through the Project Number. It is a 10-digit number which consists of 2 digit Vote Head, 2 digit Project Head, 3 digit Sub-Head and 3 digit Serial Number. This project number is the KEY needed by the PC system to access its database. It is also the number which you will be using in the exercise.
1.4 THE EXERCISES

Four exercises have been prepared for the participants to work on. They are as follows:

1. To VIEW the summary and the listing of Ministry of Agriculture’s development projects according to States and Districts of Malaysia.

2. To VIEW detailed information on certain development projects.

3. To UPDATE some data in these projects.

4. To VIEW again those data that have been updated.

In order to have a clearer understanding of the model and the system, we shall proceed through the exercises one by one. Please follow the steps laid out in the exercises until you are familiar with the model. After going through the exercises you will be able to explore the remaining facilities available in the model.

1.5 SETIA MAIN MENU

The PC used in this exercise has been set to display the SETIA MAIN MENU (see diagram below) after system start-up. This menu provides a choice of 6 functions or options identified by numbers enclosed in square parenthesis. To select the desired function, press the corresponding number key and the system will display the subsequent menu which provides you with more options. Follow the instructions provided on these screens. Option 0 (zero) in the SETIA MAIN MENU terminates the exercise.

--- PC-screen ---

SETIA MAIN MENU

[1] PRINT S1 FORM
[2] PRINT S2 FORM
[3] PRINT PROGRESS REPORT FORM
[4] INPUT/UPDATE DATA
[5] VIEW DATA
[6] AD-HOC QUERY

[0] Return to MS-DOS

Please enter your choice [0 - 6] : [ ]
EXERCISE 1  TO VIEW PROJECTS' SUMMARY INFORMATION AND PROJECTS LIST

Objective:

In this exercise, participants can view the summary information as well as the list of various development projects in the PC database of the Ministry of Agriculture according to STATES or DISTRICTS in a particular state.

To facilitate the viewing, this exercise is divided into four parts:

1. Objective: This part of the exercise is to view the SUMMARY information on various development projects by ALL STATES in Malaysia.

1.1.1 Please start from the SETIA MAIN MENU.

1.1.2 Press 5.

The system will then display the VIEW DATA menu which provides 6 options. Choose the option to view the projects by STATE by pressing the number "1" key.

1.1.3 Press 1.

The system then displays the PROJECT INFORMATION BY STATE menu. Choose option 1 to view SUMMARY OF ALL STATES.

1.1.4 Press 1.

After you press the number "1" key, the system will take some time to process and calculate the SUMMARY for all development projects in ALL STATES of Malaysia and display the result on the screen.

A message "Do you want to print? Yes/No (Y/N):" is displayed at the bottom of the PC screen. If you wish to print, please ensure that
1.1.5 Press N.

Another message "Press <ENTER> for other options or <T> to return to main menu." is displayed.

1.1.6 Press T.

When you press "T" the system returns to the SETIA MAIN MENU.

( PART 2 )

Objective: This part of the exercise is to view the SUMMARY information on various development projects by DISTRICTS in a particular state.

1.2.1 Please start from the SETIA MAIN MENU.

1.2.2 Press 5.

The system will display VIEW DATA screen. Choose option 1 to view by STATE.

1.2.3 Press 1.

The system will display PROJECT INFORMATION BY STATE screen. Four options are provided in this menu. Choose option 2 to view the SUMMARY OF ALL DISTRICTS IN A STATE.

1.2.4 Press 2.

The system will ask for the name of the state.

1.2.5 Key in the State name.
(example: KEDAH)
and Press <ENTER>

The system will take some time to process and calculate the SUMMARY for all development projects in the DISTRICTS in the STATE and display the result on the screen.

If you wish to print, press "Y".

1.2.6 Press N.

The system then displays the message "Press <ENTER> for other options or <T> to return to main menu."

If you press <ENTER>, you may repeat the viewing of the summary for the districts in ANOTHER STATE (repeat Step 1.2.5 through 1.2.6).

1.2.7 Press T.

After you press "T" the system will take you back to the SETIA MAIN MENU.
Objective: In this third part of the exercise you can view the LIST of projects in a particular STATE.

1.3.1 Please start from the SETIA MAIN MENU.

1.3.2 Press 5.

1.3.3 Press 1.

1.3.4 Press 3.

1.3.5 Key in the State name. (example: KBDAM)

   and Press <ENTER>

   The system will take some time to process the list of projects in the STATE and display the result (which is a list of the first 5 projects in the state) on the screen.

   The system also displays the message "Press <ENTER> for more listing or <E> to exit".

1.3.6 Press <ENTER>.

   If you press <ENTER> the system will display the next 5 projects on the screen. At the end of the list, the system will display the message "END OF LIST...PRESS <ENTER> TO PROCEED".

1.3.7 Press <ENTER>.

   The system will ask whether you wish to print.

1.3.8 Press N.

   The system then displays another message "Press <ENTER> for other options or <T> to return to main menu."

   If you press <ENTER>, you may view the list of projects for ANOTHER STATE (repeat Step 1.3.5 through 1.3.8).

1.3.9 Press T.

   After you press "T" the system will take you back to the SETIA MAIN MENU.
Objective: In this fourth part of the exercise you can view the LIST of projects by DISTRICTS in a particular state.

1.4.1 Please start from the SETIA MAIN MENU.

1.4.2 Press 5. The system will display VIEW DATA screen. Choose option 1 to view by STATE.

1.4.3 Press 1. The system will display PROJECT INFORMATION BY STATE screen. Choose option 4 to view the PROJECT LIST BY DISTRICT.

1.4.4 Press 4. The system will ask for the name of the STATE.

1.4.5 Key in the State name. (example: KEDAH) and Press <ENTER> The system then asks for the name of the DISTRICT in the state.

1.4.6 Key in the DISTRICT name. (Example: KOTA SETAR) and Press <ENTER>

The system will take some time to process the list of projects in the DISTRICT and display the result on the screen.

At the end of the list, the system will display the message "END OF LIST...PRESS <ENTER> TO PROCEED".

1.4.7 Press <ENTER>. The system will ask whether you wish to print.

1.4.8 Press N. The system then displays the message "Press <ENTER> for other options or <T> to return to main menu."

If you press <ENTER> you may view a different list by entering the name of the STATE and the DISTRICT (repeat Step 1.4.6 through 1.4.8).

1.4.9 Press T.

If you press "T" the system will take you back to the SETIA MAIN MENU.

--- END OF EXERCISE 1 ---
EXERCISE 2 TO VIEW DATA ON DEVELOPMENT PROJECTS

Objective:

In this exercise, participants can view detailed information on various development projects in the PC database of the Ministry of Agriculture.

2.1 Please start from the SETIA MAIN MENU.

2.2 Press '5'.

The system will display VIEW DATA screen. Choose option 6 to view by INDIVIDUAL PROJECT.

2.3 Press '6'.

The system then will display the INFORMATION ON INDIVIDUAL PROJECT menu. Of the five options provided, choose option 5 to SELECT FROM PROJECT LIST.

2.4 Press '5'.

The screen will display a list of 12 development projects beginning with the first project available in the database.

If you press <ENTER> key the system will provide you with more project numbers.

Choose a project number and key it in the given area on the PC screen. At the same time take NOTE of the project number for subsequent use.

2.5 Key in the PROJECT NUMBER. (10 digits)

(Example: 1900101001)

The screen will now display the details on the particular development project in two parts, namely the BASIC INFORMATION on page 1 and the FINANCIAL INFORMATION on page 2.

BASIC INFORMATION

PAGE 1

[Details of the project (page 1) are displayed here...]

PRESS <ENTER> TO PROCEED TO PAGE 2

2.6 Press <ENTER>.

By pressing the <ENTER> key the system will display the next page, the FINANCIAL INFORMATION (Page 2).
FINANCIAL INFORMATION

................details of the project (page 2) are displayed here.......................

A message "ENTER <T> TO END OR <B> TO RETURN TO PAGE 1" is also displayed.

NOTE: Try pressing "B" key to see page 1 and then press <ENTER> to see page 2 again.

2.7 Press T.

Another message "DO YOU WANT TO PROCEED WITH THE NEXT PROJECT? YES/NO (Y/N): [ ]" is displayed.

NOTE: Try pressing "Y" key. The system will display page 1 of the next project in the database. You can repeat the viewing process by following the instructions from Step 2.6 onwards.

2.8 Press N.

If you press "N" key the system brings you back to the INFORMATION ON INDIVIDUAL PROJECT screen (see Step 2.4).

(1) You may repeat Step 2.4 onwards to view data on other projects by choosing and keying in the project numbers.

(2) You may view data on other projects via other options (1 - 4) by pressing the corresponding number key and following the displayed instructions.

(3) You may return to the SETIA MAIN MENU screen by pressing 0 (Return to Main Menu) for the following Exercise.

2.9 Press 0.

The system returns to SETIA MAIN MENU.

----- END OF EXERCISE 2 ------
EXERCISE 3  TO UPDATE DATA IN THE DEVELOPMENT PROJECTS

Objective:

In this exercise, participants can update some data on one or more development projects in the Ministry of Agriculture.

You may update as many projects as you wish, but first, let us update a particular project by following the Steps 3.1 through 3.11 below.

3.1 Please start from the SETIA MAIN MENU.

3.2 Press 4.

The system will ask for the password necessary to access subsequent screens. Three tries are allowed after which the system returns to the SETIA MAIN MENU.

The password prevents unauthorised updating of data in the development projects database by denying user access to the database.

(For this exercise the password is AGRIC).

3.3 Key in the password.

After you have entered the password correctly the system displays the next screen which is the UPDATE menu. This menu provides 2 options for accessing into the projects database, either sequentially beginning from the first project in the database or randomly by entering the particular project number.

For this exercise you will update the project via its Project Number.

3.4 Press 2.

After you press the number "2" key, the system will ask you to enter the project number. This number was taken from the earlier exercise.

3.5 Key in the PROJECT NUMBER. (10 digits)
(Example: 1900101001)

The system next displays the details of the project in two pages, the first page is the Project's Basic Information (Page 1). Note that the same format as in the VIEW DATA screen is used.
3.6 **Fill in the relevant fields.**

To skip to the next fields, press the <ENTER> key. You may update those data fields that are highlighted for example Percentage of completion and Problems.

3.7 **Press <ENTER> key repeatedly**

to skip to subsequent fields, and onto Page 2.

The system then displays the second page, the Project's Financial Information (Page 2).

3.8 **Fill in the relevant fields.**

3.9 **Press <ENTER> key repeatedly**

to skip to subsequent fields.

3.10 **Enter the date** in the dd/mm/yy format.

   The date must be entered, otherwise the system refuses to proceed.

   (In the real system entering the date is to signify that the officer-in-charge of the system has updated the data or that he has noted the project's data and is satisfied with the validity of the data).

To correct any data keyed in earlier press "C" key and the screen will reverse to page 1 (Basic Information). Repeat Step 3.6 above.
If you are satisfied with the data you may then FILE the amended data into the database by pressing the "F" key.

3.11 Press F.

When you press the "F" key the system will file the updated data into the database and display another message "Press <E> to end or <P> to process next record".

If you wish to make more updates of the projects press "P" key and the screen will ask for the next project number. Repeat Step 3.5 above.

3.12 Press E.

If you wish to end the updating session, press "E" key and the screen will return to the SETIA MAIN MENU.

----- END OF EXERCISE 3 -----
EXERCISE 4 TO VIEW DATA ON DEVELOPMENT PROJECTS

Objective:

In this exercise, participants can view again the data that have been updated in Exercise 3, to ensure that the updates have been effected in the database. The steps to be followed are similar to those in Exercise 3.

4.1 Please start from the SETIA MAIN MENU.

4.2 Press 5. The screen will display the VIEW DATA menu.

4.3 Press 6. The screen will display the INFORMATION ON INDIVIDUAL PROJECT menu.

4.4 Press 5. The system requests for the project number with the message "PLEASE ENTER PROJECT NO: [ ] ."

4.5 Key in the PROJECT NUMBER, (10 digits)
(Example: 190010001)

The screen will now display the details on BASIC INFORMATION (Page 1) the particular development project that you have updated.

4.6 Press <ENTER>. The system then displays the second page, the Project's Financial Information (Page 2).

Locate and note the changes you made in the earlier exercise.

4.7 Press T. When you press "T" key the system responds with another message "DO YOU WANT TO PROCEED WITH THE NEXT PROJECT? YES/NO (Y/N): [ ] ."

You may press "Y" key and the system will display the next project in the database. Repeat Step 4.6 onwards.

4.8 Press N. If you press "N" key the system brings you back to the INFORMATION ON INDIVIDUAL PROJECT screen (see Step 4.4).

4.9 Press 0. The system returns to SETIA MAIN MENU.

----- END OF EXERCISE 4 ------
1988 ALLOCATION AND EXPENDITURE BY MINISTRIES
(AS OF JUNE 1988)

(Million Ringgit)

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## PROJECT IMPLEMENTATION PERFORMANCE

**MINISTRY OF AGRICULTURE**
**DRAINAGE AND IRRIGATION DEPARTMENT**

<table>
<thead>
<tr>
<th>PROJECT NO.</th>
<th>PROJECT NAME</th>
<th>EXPECTED COMPLETION</th>
<th>STATUS</th>
<th>%COMP.</th>
<th>PROBLEM</th>
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<tbody>
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**LEGEND:** CT=CONSTRUCTION, NS=NOT STARTED, PL=PLANNING, SP=SITE PREPARATION
%COMP=PERCENTAGE COMPLETION
## INDIVIDUAL PROJECT DETAILS

<table>
<thead>
<tr>
<th>Vote Head</th>
<th>Ministry</th>
<th>Main Sector</th>
<th>Sub-sector</th>
<th>Dev. Obj.</th>
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### Project Name: JOHORE AGRICULTURAL INSTITUTE AND RETDC
### Scope/objective: CONSTR.OF RURAL ECON.TRAINING DEV.P.CENTER
### State: JOHOR
### District: BATU PAHAT
### Project Status: CONSTRUCTION
### Expected Start: 01/81 | Expected Compl.: 12/90
### Actual Start: 08/81 | Actual Compl.: NONE
### Project Cost App.: 11,180,000 | Plan Allocation: 3,240,000
### Plan Expenditure: 716,847.00 | Plan Balance: 2,353,152
### 1986 Expenditure: 716,847.00 | 1986 Allocation: 0
### 1987 Expenditure: 716,847.00 | 1987 Allocation: 1,000,000
### 1988 Expenditure: 716,847.00 | 1988 Allocation: 170,000
### 1989 Expenditure: 716,847.00 | 1989 Allocation: 0
### 1990 Expenditure: 716,847.00 | 1990 Allocation: 0

### Reporting Officer:
### Date: | Tel:
### EPU Section: SOCIAL | PF10 LOGOFF | PF11 Previous Menu | PF12 Original Menu