PART I BACKGROUND OF THE ENHANCEMENT OF INFO-COMMUNICATIONS ACCESS IN RURAL COMMUNITIES

1. OBJECTIVES OF THE STUDY AND COMPOSITION OF THE FINAL REPORT

1.1 Background of the Study

Ministry of Energy, Communication and Multimedia (MECM), as the responsible ministry for development and dissemination of IT technology and multimedia throughout the country, including rural areas, initiated the Rural Internet Program (RIP) in order to provide Internet access to the rural community. As the first step, MECM launched 14 pilot Rural Internet Centers (RICs) in 2000. After the first stage of RIP, MECM had a plan to implement full-scale RIP and requested technical support from JICA for working out an optimum action plan. JICA accepted the request and "The Study on Enhancement of Info-Communications Access in the Rural Communities in Malaysia" (the Study) was started in January 2002.

1.2 Objectives of the Study

Objectives of the Study are as follows.

i) Formulate an Action Plan for the enhancement of the info-communications access in the rural communities in Malaysia, in particular for the implementation of RIP and thereby bridge the digital divide between the urban and rural areas, and

ii) Carry out the technology transfer in the field of the enhancement of info-communications access in rural communities to counterpart personnel and the people concerned in the course of the Study through the workshops, seminar, training in Japan as well as the joint implementation of the model RIC projects.

1.3 Study Area

The study area covers the whole of Malaysia.

2. WORK SCHEDULE AND PLAN OF OPERATION FOR THE STUDY

2.1 Work Schedule and Outputs

The Study started in the end of January 2002 and will be completed in March 2003. As shown in the Figure I.1, study period extends over about 14 calendar months with activity in 12.5 of those months.

The Study has been carried out in four (4) phases.

Phase I : Basic Research and Preparation of the Basic Plan for Model Projects

Phase II : Preparation of the Interim Action Plan

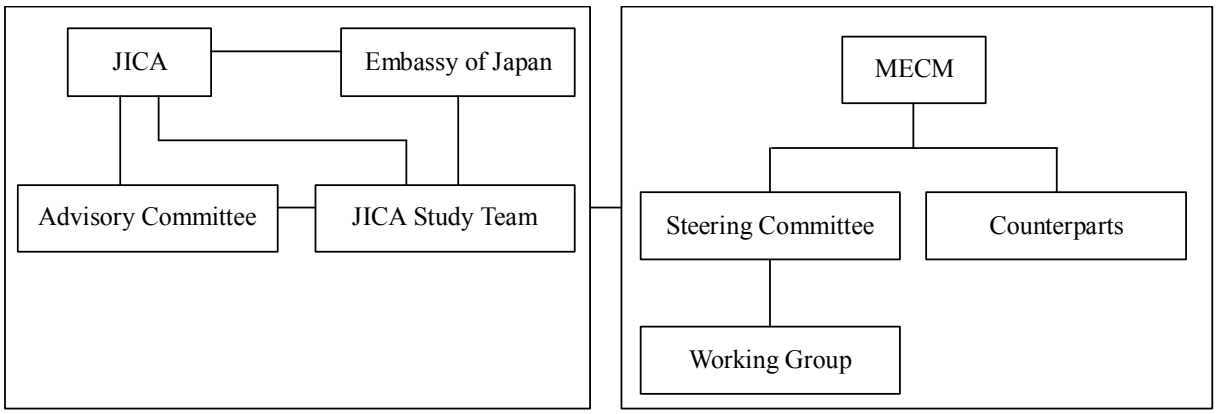
Phase III : Planning and Support for Implementation of Model Projects

Phase IV : Formulation of the Final Action Plan

The Study team prepared and submitted 4 English reports and organized 10 workshops and 1 technology transfer seminar in total.

2.2 Organization for the Implementation of the Study

As stipulated in the Scope of Works, the Study has been carried out by the joint efforts of the Malaysian and Japanese sides. On the Malaysian side, MECM was assigned as an executing agency, and 7 officers were assigned as counterparts of the Study. MECM, at the same time, assumed the role of a coordinating body between Ministries and organizations concerned. A Steering Committee was established with members of 10 related Ministries and organizations, and a Working Group was also formulated with personnel from the same Ministries and organizations for supporting implementation of the Study. On Japanese side, the JICA Study Team (the Study Team) carried out the Study under the supervision of Japan International Cooperation Agency (JICA).



3. CURRENT CONDITIONS OF INFO-COMMUNICATIONS ACCESS ENHANCEMENT

3.1 Socio-Economic Conditions in Malaysia

Malaysia had a total population of 23.27 million in 2000. It had grown by 2.4% per year during the 1995- 2000 period, and expected to grow by 2.3% per year to 26.04 million in 2005.

Gross National Product (GNP) has increased from RM 212 billion in 1995 to RM 311 billion in 2000. It has grown at high rate of 7.9% per year. Per capita income has grown at about 5.6% per year from RM 10,190 to RM 13,359 (about US$ 3,516).

Incidence of poverty for Malaysian citizens was 8.7% in 1995. It decreased to 6.1% in 1997, but increased again to 7.5% in 1999. During 1999, 3.4% of the urban population suffered from poverty while the corresponding percentage was much larger at 12.4% in rural areas. There were 351,000 households suffering from poverty in 1999. Of this figure, 264,000 were living in rural areas.

3.2 Review of Government Policy and Legal Framework for Info-Communications Access Enhancement in Malaysia

The Malaysian government holds a policy for their economy to catch up with the economic level of advanced countries by 2020. The objective of the Government policy is to position Malaysia as a competitive knowledge-based economy. The government is expanding info-communications infrastructure into rural areas aiming at equitable access to information for all citizens. The Malaysian government introduced a new set of benchmarks in “Framework for

Industry Development (FID) for 2002-2006" as targets for info-communication technology (ICT) penetration for 2007 as follows.

Penetration Targets (%) Set by the "FID 2002-2006" (%)

	2001	2007
Fixed Telephone lines	20	30
Fixed lines in rural areas (including public payphones)	-	25
Internet dial-up subscribers	9	30
Broadband		
・Population coverage	-	80
・Subscribers	-	50

The Malaysian government has been developing a legal framework for introducing a competitive telecommunications market and an effective system to promote a knowledge-based economy. The Malaysian Communications and Multimedia Communication Act (CMA) has been enforced since 1998 for this purpose. Under this new Act, communications and broadcasting were integrated, and the "Malaysian Communications and Multimedia Commission (MCMC)" was set up, and later separated from the "Ministry of Energy, Communications and Multimedia (MECM)" in 1998.

3.3 Current Conditions of Info-Communications Access Enhancement in Malaysia

According to the MCMC, there were 4.71 million fixed telephone lines, 7.48 million mobile telephone lines (including prepaid users at 58%) and 2.12 million dial-up Internet subscribers at the end of 2001. Especially, the number of mobile telephone users and the Internet subscribers have been increasing rapidly.

Internet users are characterized as young (almost half of the users are aged between 16 and 25 years old), educated (74% have post high school diplomas), and people with relatively high income (73% have incomes of RM 1,000 or higher).

Although the environment for info-communications access has been improving in Malaysia as a whole, regional disparity in info-communications related infrastructure still exists between urban and rural areas. Telephone lines and Internet subscribers tend to be concentrated in urban areas. The three most urbanized regions, including Kuala Lumpur, Selangor, and Pulau Pinang, with a population share of 26% of the country have 51% of Internet subscribers and 40% of telephone lines. On the other hand, rural states, including Perlis, Kelantan and Kedah, have a population share of 15%, but the share of internet subscribers and telephone lines are limited to 8% and 9% respectively. Despite the number of telephone lines in the rural area being increased, info-communications infrastructure is still not sufficient in rural areas.

3.4 Current Conditions of Info-Communications Access and Needs in Rural Communities

For understanding the demand for info-communications access in rural communities, which are a target area of RIP, a needs survey has been conducted through questionnaires and interview surveys covering an area of 13 pilot Rural Intent Center (RIC) sites and 3 model RIC (including 1 existing pilot RIC) sites. The objectives of the survey were as follows.

- To understand the current situation of rural communities in terms of IT literacy, info-communications access and awareness and usage of RICs.
- To analyze the needs for enhancement of info-communication access in rural communities and requests for RICs.

The total number of respondents was 2,244 people, among which 53.5% were male and 46.3% were female. The rest of 0.2% was unknown. With regard to age, the percentage of people whose age was between 6 and 12, 13 and 18, 19 and 29, 30 and 39, 40 and 49, 50 and over were 4.4, 18.7, 22.9, 20.1, 19.1, 14.7% respectively. The rest of 0.1% was unknown. For profession, composition of farmer, office worker, entrepreneur, self-employed, student, housewife, unemployed, working for other people and others were 7.5, 18.4, 2.2, 9.6, 28.1, 10.0, 3.9, 8.7, and 11.5% respectively. The rest of 0.1% was unknown.

According to the Needs Survey, 65% of the people in rural areas do not have a PC at home. Although 58% of respondents answered that they had used a PC, the proportion of these among people over 50 years old remained low at 40%. Moreover, about 65% of the people who have never used a PC show a willingness to learn how to use one. Only 32% of people in the rural community have used the Internet according to the survey.

"Add more computers", "Instructor" and "Open on Saturdays and Sundays" appeared as the three major requests for RIC operation.

According to the Demand Survey, people in the rural community feel that they have limited access to "Local Information" which would be useful for their daily life even though they usually access information through media tools such as TV, radio and newspapers. For RIC services, providing "Public Information" appears as the highest demand among almost all age groups except those under 12 years of age, for whom the demand for "Local Mail Magazine" is slightly higher than that for "Public Information".

4. EFFORTS MADE FOR INFO-COMMUNICATIONS ACCESS ENHANCEMENT

4.1 On-going Projects for Info-Communications Access Enhancement in the Rural Communities

Following the Government policy of bridging the digital divide between the urban and the rural areas, various Ministries and organizations are implementing projects for enhancing the info-communications access in the rural communities. Major on-going projects are described hereunder.

Name of Project	Executing Agency	Target Group	Target Area	Internet Access	Transmission of local information through local Web site	IT training	Fee
Info-Desa	Ministry of Rural Development	All	Rural	○	×	○	Charged
E-Bario	University of Sarawak	All	Rural	○	×	○	Charged
Smart School	Ministry of Education	Students	Nationwide	○	×	○	Free
Computer Laboratory	Ministry of Education	Students	Rural	○	×	○	Free
Mobile Internet	MIMOS, UNDP	Students	Rural	×	×	○	Free
E-learning for life	UNDP, Ministry of Education, Coca Cola	All	Semi rural	○	○	○	Charged
Rural Internet Program	MECM	All	Semi rural	○	○	×	Free
Universal Service Provision	MECM	All	Rural	○	×	×	Free

Remarks: ○: The sign ○ signifies "Service is provided continuously".

×: The sign × signifies "Service is not provided".

4.2 Performance and Problems of Pilot RIP

MECM started RIP in March 2000 to reduce the digital divide between urban and rural areas. A total of 14 pilot RIC have been established for all the 13 states.

Implementation of the pilot stage was carried out through donations given by various entities. For instance, Pos Malaysia provided the place for RIC, Telekom Malaysia with Internet access

lines, INTEL with PC, Maxis with printers, Medan Sedunia Digital (MSD) with technical support for local web pages, INTAN with IT training and MicroSoft with Windows Software.

Major components of RIP comprise the following.

- Infrastructure and facilities for Internet access
  2 fixed telephone lines, 2 PCs and 2 printers.
- Local Web page
  Every RIC was encouraged to set up its own web pages. Providing information on the local community such as history of the area, social and economic activities, tourist spots, public facilities, etc. through Internet, the web pages are utilized for activating the communities.
- IT Training
  INTAN trained the community people. The training program included, introduction of computers, how to send/receive e-mail and how to browse the Internet.
- RIC Committee
  To support RIC activities, the RIC Committee was set up. The Chairman and members were selected among the Headmasters of Schools, Heads of Villages and District Officers.

The current situation of RICs is as follows.

Current Situation of RICs

No.	Area	Number of Usable PCs	Web Contents	Person in charge of O&M	Number of Committee Meetings	Promotion	Training	Current and Previous Average Users/Day When in Operation
1	Sg. Air Tawar	2	Existing	Postmaster	2	None	By INTAN	8
2	Kanowit	1	Existing	None	1	None	None	10
3	Kubang Pasu	0	Not existing	Postmaster	1	None	By INTAN	8
4	Kepala Batas	0	Existing	Postmaster	1	None	None	4
5	Batu Kikir	0	Existing	Postmaster	1	None	By INTAN	4
6	Sg. Rambai	0	Not existing	Postmaster	1	None	None	8
7	Lurah Bilut	1	Not existing (preparing)	Postmaster	3	None	None	8
8	Mata Ayer	0	Not existing	Postmaster	2	None	By INTAN	10
9	Pengkalan Hulu	0	Not existing	Postmaster	1	None	By INTAN	10
10	Sipitang	2	Existing	Postmaster	1	None	None	10
11	Gua Musang	0	Not existing	Postmaster	1	None	None	4
12	Benut	0	Not existing (preparing)	Postmaster	2	Poster	None	10
13	Merbok	2 (not on-line)	Not existing	Postmaster	2	Poster	None	20
14	Ajil	0	Not existing (preparing)	Postmaster	10	Leaflets	None	10

Issues to be challenged include the following. These issues have to be solved for implementing full-scale RIP.

- Inadequate environment for facility installation. There are pass-through on wall and no air-conditioning facility. Modems, in some cases, are broken due to lack of lightning protection.
- All the computers in 9 out of the total of 14 RICs are out of order. Out of 28 PCs installed in 14 RICs, only 8 PCs are still in use. Establishment of a maintenance and repair system is needed.
- Defects in the OS and the Internet access occur often, and takes a long time to be repaired.
- Malfunction of the OS occurs due to authorized and unauthorized reloading. Unauthorized use of passwords was also observed.
- In many cases, trouble and unauthorized use cannot be checked due to lack of a full-time supervisor for RIC and PC/Internet use.
- Local homepages are not frequently updated, or, in some cases, not updated at all.
- RIC Committees are not very active and supporting activities are insufficient.
- Lack of publicity for the RIC resulted in the situation that many community people do not know of its existence.
- Opportunity for IT training is scarce, and people with low IT literacy can not use RIC.

5. EXPERIENCES OF ADVANCED COUNTRIES FOR INFO-COMUNICATIONS ACCESS ENHANCEMENT

With a view to working out an appropriate action plan for RIP, information was gathered and reviewed about the regional information center projects implemented to date in the advanced countries, in particular Japan and USA. Clear differences are observed between these countries and Malaysia, in particular the rural communities, concerning the IT environments including the level of available IT technologies, IT infrastructures development, affordability of equipments, IT literacy of the people, etc. However, some of the experiences of the advanced countries are considered worth consideration and referred to in working out RIP framework as well as Action Plan, in particular the followings.

It is noted that though the main objective of RIP is to provide the core services of Internet access, local homepage and IT training, those experiences would be also useful for working out the additional activities utilizing the function of RIC with the initiative of the local organizations and enterprises.

- Organizational framework for the implementation and management of the project Organizational framework for the implementation and management of the projects, i.e.,

Government, local government, volunteers, NPO, university, private enterprises, third sector and various combinations thereof seems effective and applicable to RIP.

- IT training
  Training of community people by the graduates of the project seems effective approach and applicable to Malaysia, aiming at self-sustainable operation of RIP. Life-long learning approach is also very relevant to RIP whose target groups include middle and senior people.

- Web Contents/Homepage
  Providing local information and public service information seems of common interest and useful both for the advanced and Malaysian communities. Manner of collecting the relevant information and updating the local homepage should be referred to.

- Community Activation
  Way and process for using Internet as the tool for community activation including initiating and developing the interactive communications among the various local organizations seem useful for applying to RIP.

- LAN
  In some cases, LAN is used and found as effective tool especially for interactive communication, sharing the same information among circles/organizations in the community.

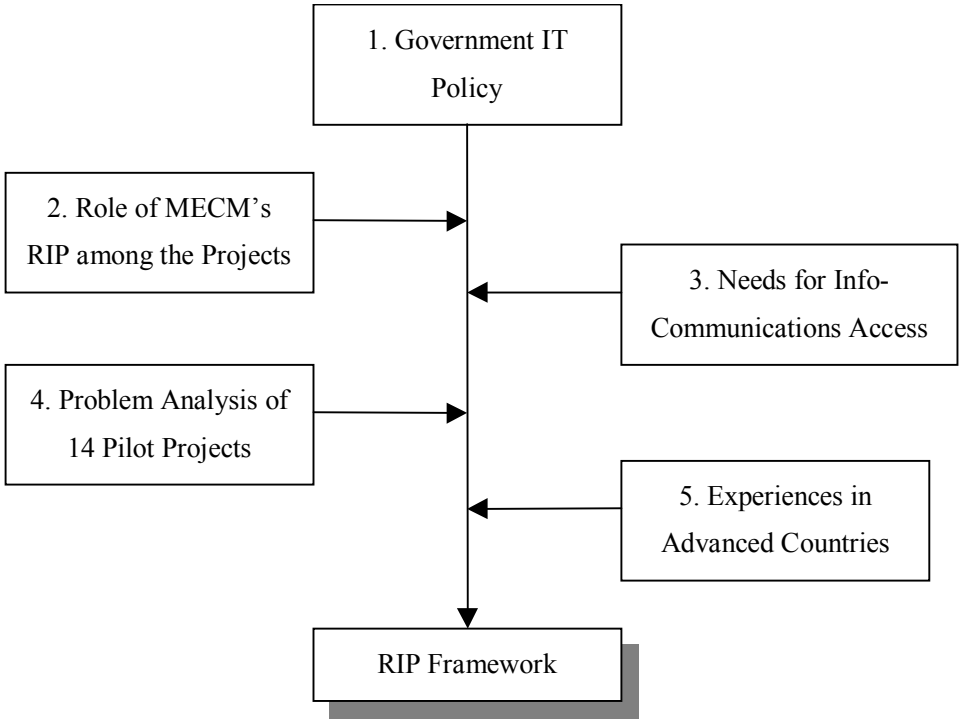
PART II FRAMEWORK FOR RIP

1. RIP FRAMEWORK

1.1 Objective of the Formulation of RIP Framework

RIP was launched in 2000 by MECM. However, it is still under pilot stage and implementing and managing organization remain tentative. Objective and target group of RIP are also yet to be defined in detail. Before formulating the Action Plan, therefore, framework of RIP was worked out to set up a clear framework for the full scale implementation of RIP.

Process of RIP framework formulation is shown below.



Formulation Process of the RIP Framework

As one of the important Government policy, bridging digital divide between the urban and rural areas are clearly stated in the national development plans. However, no definite target nor data concerning the IT development in the rural areas, were prepared for the realization of this policy. It is recommended therefore that data should be collected with regard to the current development of IT infrastructures and IT demand in the rural communities and specific policy target including Internet subscription rate as well as the timing of introducing the advance IT infrastructure including the broadband into the rural areas, should be set up.

1.2 Objective and Target Area of RIP

The current Five Year Plan, as well as Vision 2020, stipulates the importance of the bridging the digital divide between urban and rural areas. The objective of RIP is to improve the info-communications access in the rural communities and thereby to contribute to accomplishing the goal of this national policy. Considering the characteristics of the objective and the low income level of the rural residents relative to the urban, it is recommended that RIP should be implemented as a public undertaking.

The target area for locating RIC should be semi-urban/semi-rural areas where telecommunication facility for Internet access is available. Remote rural areas should be the responsibility of the Ministry of Rural Development (MORD). Hence, district centers and mukim centers are considered to be appropriate locations for RIC.

1.3 Project Period of RIP

Considering the rapid change of IT environment as well as the national five year plan periods, project period of RIP should be from 2003: Mid term review year of the 8th Malaysia Plan, through 2008: Mid term review year of the 9th Malaysia Plan.

1.4 Target Group

i) Primary target group

The primary target group should be the age group above the secondary-school age, i.e., above 17 years of age who are not taken care of by the projects of the Ministry of Education (MOE).

ii) Inclusion of the younger generation

Due to the low percentage of school attendance in the rural community, many young people are left behind regarding IT education. This young age group is also included in the target group.

iii) Discouraging use by small children

To facilitate the use by target groups, use of RIC by small children, i.e., under 10 years old, should be discouraged.

1.5 Concept of RIP and Scope of RIC

Reflecting the objectives of RIP, the concept of RIP is formulated as follows.

- Providing Internet access stations.
- Considering gaps in info-communications facilities and people's income between urban and rural areas, the Internet service is provided free of charge.
- All generations of users are welcome to use RIC, though priorities are set, except small children.
- Information service regarding the local community is provided as one sphere of regional development.
- IT training is carried out for improving the low IT literacy of the rural people.

In line with the above-mentioned RIP concept, RIC should provide the following services/functions.

i) Provide Internet access terminals in the places to which rural residents can afford good access and let the residents use Internet freely and free-of-charge.

ii) Develop and update the local homepages to provide useful and interesting information for the rural residents.

iii) Hold IT beginners' courses frequently to raise the IT literacy and skill level of the rural residents for using RIC.

iv) Transfer the homepage updating skills to RIC Committee and Task Force members.

v) Based on the above i) through iv), activate the social and economic activities in the community.

The services of i) through iv) above should be the core services of RIC and should be provided throughout the project period free-of-charge. RIC activities mentioned in v), is a desirous perspective of RIC and should be promoted. Those activities should be carried out with the initiative of the concerned organizations and enterprises in the communities. Both the costs and revenues attributable to the implementation of those activities should be borne and belong to these concerned organizations. It is noted that the priority should be placed on the provision of the core services of RIC.

2. DESIROUS PERSPECTIVE OF RIC

If any additional activities can be carried out utilizing the facility and software equipped to provide the core services, it would be a desirous perspective of RIC on the condition that they should contribute to the promotion of social activities and regional economy. These additional

activities are expected to contribute to the enhancement of the living standard, income level and formation of the knowledge economy.

Though the scope and degree of the additional activities depends on the external conditions and the eagerness of the communities, they may include the followings.

i) Enhancement of community activities

- External conditions: Eagerness of the communities
- Utilization of the software applications developed in the model projects, i.e., E-reservation, E-public comments and E-greeting card.
- Activities may include setting up of the community electronic bulletin board and electronic regional forum and publication of mail magazine.

ii) E-Government related services

- External conditions: Progress of the E-Government
- Activities may include down-loading of the official documents including birth report and various application forms, renewal of the driving license, provision of public service information and information about tenders by the ministries and the local governments.

iii) E-commerce related activities

- External conditions: Progress of the electronic authentication of personal identity, assurance of the security and settling the accounts
- Activities may include advertisement of local products and enterprises and receiving the orders and virtual mall.

For the additional activities, using RIC for sizable length of time is not considered for developing the software, etc. except for the short time use including uploading of software applications, checking the orders for the products, etc. In case conflicts take place for using RIC between the core service and additional activities, priority should be given on the former. All the costs of additional activities should be borne by the parties concerned and not by RIC and all the revenues should belong to the parties concerned.

Whether or not the additional activities should be allowed should be discussed and decided by RIC Committee and the decision should be informed to MECM. Unless they disturb the core services, in principle MECM should respect the committee's decision.

PART III IMPLEMENTATION AND EVALUATION OF THE MODEL PROJECTS AND FEEDBACK TO ACTION PLAN

1. SELECTION AND FORMULATION OF THE MODEL PROJECTS

1.1 Objective of the Model Project Implementation

Objectives of the model project implementation should be to verify the effectiveness of the components and contents of RIC as proposed in the interim Action Plan (draft Action Plan) and to provide the feedback to work out an appropriate action plan for RIP..

1.2 Selection of the Model Project Sites

The 3 model project sites were selected based on the following agreements and criteria.

i) Compliance with the agreement between the Malaysian side and Japanese side
According to the agreement between the Malaysian side and Japanese side, 3 model projects should be selected in total, one in Peninsular Malaysia and one each in the states of Sabah and Sarawak. The one in Peninsular Malaysia should be selected from among the 14 on-going pilot RICs and the other 2 should be newly set up.

ii) MECM's criteria to select RIC locations was applied for setting up the pilot RICs
The location or the community where the model RICs should be set up, should comply with the MECM's criteria for setting up RICs including the on-going pilot RICs. Namely, population should be less than 10,000, average monthly household income should be less than RM1,500 and telephone lines and transport access should be available, .

iii) Conformity to the RIP principles with regard to the site conditions
Model project sites should be located in rural areas but not remote rural areas.

iv) Availability of facilities/buildings for setting up the model RICs
Suitable facilities/buildings for setting up the model RICs should be available and the cooperation of the owners/administrators of the buildings should be secured.

Considering the above, in Selangor state, Sg. Air Tawar which is the center of 2 mukims was selected. The existing RIC which was one of the 14 pilot RICs was selected as the model.

In Sarawak state, Bau, which is a district center, was selected as the model project site. It is located a 1-hour drive from Kuching, the state capital. In Sabah state, Kota Marudu, which is a

district center, was selected as the model project site. It is located a 3 hour drive from Kota Kinabaru, the state capital.

1.3 Formulation and Implementation of the Model Projects

The 3 model projects were formulated at the selected sites to serve for the above-mentioned objectives of the model projects. Accordingly, the following 3 models were formulated.

One of the model projects was selected from among the 14 pilot RICs. Most of the pilot RICs are not actively operated and need to be revitalized. Therefore trials should be made on how to make them active and thereby to get feedback for the revitalization of the on-going pilot RICs. Problems of the pilot RICs and their counter-measures are given below.

Problems and Counter-Measures for Pilot RIC Operation

Problems	Counter-measures
1. Inappropriate Physical Environment for Facility/Equipment Storm water blows into RICs through the openings on the wall. Air-conditioner is not equipped. No proper equipment is installed against the lightning.	• Carry out reform of the buildings. • Equip with the lightning rods and uninterrupted power supply.
2. Inadequate Maintenance Maintenance system is not established yet and various troubles occurred concerning PC operation, Internet access, operation system, etc. PC are not operating in 9 RICs out of 14. Out of 28 PCs, 20 are out of order.	• Include the maintenance and repair article for about 3 years into the procurement contract for the equipment. • Employ a full-time supervisor for each RIC, aiming at quick finding of the troubles and informing to the maintenance company for repair.
3. Foul and Improper Use Foul and improper uses including installation of improper software applications, illegal use of the passwords, are being taking place.	• Assign a full-time supervisor who constantly monitors the use of RIC to prevent the foul and improper use.
4. Low Frequency of Homepage Updating In general, the frequency of homepage updating is very low or none due to the low interest and low skill level of the residents.	• Make the homepage contents interesting to the residents by letting them involved in the information collection. • Hold IT training courses for homepage updating and let the RIC Committee and Task Force members acquire the necessary skill.
5. Inactive RIC Committees In most of the RICs, the activities of RIC Committees are inactive including the publicizing activities for raising the awareness of residents for RICs.	• Include the voluntary-base people and organizations who are interested in RIC activities besides the representatives of the Local Governments, including community organizations, entrepreneurs and school teachers. • Include those who have relatively high IT literacy/skill and younger generation who can spare time for RIC supporting activities.
6. Inadequate Publicity of RIC Activities Many community people do not know the existence of RICs and the available services.	• Distribute RIC pamphlets, guide map, etc. to schools, community organizations and village chiefs. • Taking the opportunities of IT training, community events, publicize the RIC activities and services.
7. Low IT Literacy and Inability of Using RICs by Rural Residents Due to the low IT literacy and skill level, the rural residents are not able to use RICs/Internet.	• Hold IT training courses for beginners regularly. • The full-time supervisor should teach the skill to use RIC/Internet to the users. • Develop self-tutorial software for users so that they can learn by themselves.
8. Natural Disasters Lightning and flooding caused damages to the facility/equipment of RICs.	• To recover the damages, insure the facility/equipment against those disasters at the time of procurement.

Sg. Air Tawar model project was selected for the revitalization of the on-going pilot RICs. Considering that the inactivity is largely attributable to the inadequate management of RIC operation and maintenance of the equipment, emphasis for upgrading was placed on these aspects rather than the facility and equipment. Facility and equipment were kept basically the same as in the pilot stage except for adding one more PC with one more fixed telephone line. Space for the RICs also remained the same as it had been for the pilot.

Major emphasis of upgrading was placed on:

- Revitalization of the activities of the RIC Committee
- Activation of the community involvement
- Provision of local homepage and updating by the RIC Committee/Task Force
- Provision of training for homepage updating for the RIC Committee/Task Force in charge of updating of local homepage
- Provision of the IT training for beginners

Bau model was formulated to overcome the following difficulties associated with the post office type RICs.

- In the on-going pilot RICs, a part of the existing post office space was made available for RICs. The RIC space was, therefore, just barely sufficient for placing 2 to 3 PCs. The 14 pilot RICs were equipped with 2 PCs each.
- RIC operation hours must be the same as the business hours of the post offices. Namely, 8 am to 5 p.m. except for lunch hour. Post offices are closed on Sundays. On Saturdays, some are open in the morning and some are closed the whole day.

A Civic Center or a community hall was selected for establishing a RIC. One room of about 60 m^2, which is large enough to house 5 PCs, was provided for the exclusive use of the RIC. The Civic Center belonged to the Sarawak State Government, and provided an opportunity for the trial for the cooperation between MECM and State Government/Civic Center for RIC management. To verify the demand for using RIC at night and on weekends, trials were made operating RIC during these hours.

In formulating the Kota Marudu model, RICs was established as a multi-station/high-speed network model. In case one building can not provide the necessary space for RICs, a number of buildings should be utilized for establishing RICs. Namely, a main station and multiple sub-stations should be set up which should form a network being connected by telecommunication facilities.

Three RIC stations were set up, one in the post office as the main station, one in the state library and one in the District Office. A high-speed wireless communication system was established to connect the 3 stations to enable Internet access from all 3 stations. A leased line was utilized to verify the need for high-speed access. In the 3 stations, a total of 5 PCs were installed. The three stations were under the supervision of Pos Malaysia, the State Library and the District Office and thus the effectiveness of the overall cooperation among these was also verified.

2. IMPLEMENTATION SCHEDULE, ORGANIZATIONAL STRUCTURE AND MONITORING FOR THE MODEL PROJECTS

2.1 Implementation Schedule of the Model Projects

Model projects were implemented from late August through mid-November 2002. Schedules of the 3 Model Projects are given below.

Model Project	Prior Workshop	Operation Start	Post Workshop
Sg. Air Tawar	Sep.5, 2002	Sep.6, 2002	Nov.1, 2002
Bau	Aug.27, 2002	Aug.28, 2002	Nov.4, 2002
Kota Marudu	Sep.11, 2002	Sep.12/18, 2002	Nov.5, 2002

In the Kota Marudu model project, among the 3 stations connected to each other by LAN, the post office station or the main station started operation first and the other 2 sub-stations followed upon the completion of the LAN.

For all the model projects, prior workshops were held in order to publicize the establishment of the RIC as well as the services to be made available for the communities. Around the end of the model project period, post workshops were held with the attendance of the concerned bodies of MECM, the Study Team, RIC Committees and the Task Force as well as some of the RIC users and IT training participants. A presentation was made by the Study Team on the achievements of the model project implementation as well as the problems to be solved for the sustainable operation of RICs. There was discussion among the participants to share the understanding of the achievements and to exchange views for the improvement of RICs.

The model project period was substantially completed when workshop-2 was conducted. After that, all the models continued to be operated and managed by the Malaysian side since they were successfully operated and maintained.

2.2 Organizational Structure for the Model Project Implementation

Responsibility for the implementation rests on the Malaysian side while the Japanese side extends full support for the implementation through the Study Team. On the Malaysian side, MECM was the executing body assuming the final responsibility for the implementation. In particular, the Communications and Multimedia Division assumed the direct responsibility with the cooperation of the IT Division in the field of the Web contents development and maintenance.

At the model project sites, the RIC Committee and Task Force were formed to cooperate with the MECM/Study Team for the RIC operation, in particular, organizing workshops, IT training, publicizing the RIC activity and promoting community participation. Owner organizations of the model RIC stations/buildings extended cooperation in overall supervision of the buildings and assuring security.

2.3 Monitoring of the Usage of the Model Projects

A monitoring of RIC usage was conducted to evaluate the performance of each observation, its records and a questionnaire survey to the users.

The monitoring items are as follows.

- Attributes and number of users
- Motivation, purpose and reason for use
- Satisfaction level for the RIC facility, Internet access speed and operational hours
- Satisfaction level for the local homepage

The following items were also monitored for the IT training course for beginners.

- The number of applicants and attendance for the IT training course
- Attributes of trainees
- Satisfaction level for training hours and its material
- Acquired skill level

3. IMPLEMENTATION, EVALUATION AND FEEDBACK OF TELECOMMUNICATION INFRASTRUCTURE AND FACILITIES

3.1 Outline

The following infrastructure and facilities were implemented in the 3 model projects for the comparison of reliability and Internet access speed.

Communication Infrastructure

Model Project	Infrastructure	Number of PCs
Sg. Air Tawar	Fixed telephone line	3
Bau	Fixed telephone line	4
	CDMA FWA	1
Kota Marudu	Fixed telephone line	2
	Leased line with wireless router system	3

Business Hours of the Three Model Projects

Model Project	Station	Business Hours
Sg. Air Tawar	Post Office	Mon.-Thurs., 8:30～17:00, Fridays 12:30～14:30 (Closed 、 Sunday and First Saturdays of the month)
Bau	Civic Center	8:00～17:00, 7 days a week (Closed for Lunch) 12:30～13:30 17:00～19:00 (Starting on the 3rd week of October, as a trial also open every Tuesday, Thursday)
Kota Marudu	Post Office (Main Station) District Office (Sub Station) Library (Sub Station)	Mon.-Thurs., 8:00～17:00, Fridays (Post office and District office only), 12:30～14:30 (Closed Sundays and First Saturdays of the month)

3.2 Performance

With regard to the Internet access, the following performance was observed.

- Internet access speed by fixed telephone line was about 40 kbps both for uploading and downloading.
- The wireless router system worked effectively, connecting the 3 stations successfully.
- Using leased lines together with the wireless router system, high speed Internet access with more than 110 kbps for downloading and more than 120kbps for uploading was achieved.

- Internet access speed through CDMA FWA was about 42 kbps for downloading and less than 8 kbps for uploading

3.3 Evaluation and Feedback

Performance of telecommunication infrastructure, facilities and equipment of the model projects can be evaluated as follows.

- The wireless router system has been proven to be workable and useful for RICs if several buildings have to be used for an RIC operation.
- Judging from the major usage of RIC users and the satisfaction level of the users found by the questionnaire survey, fixed telephone lines can meet the communication speed demands for most of the RIC users including Web browsing, sending and receiving e-mail with ordinary load size. Taking also into account the cost requirements for installation and communication, fixed telephone lines are considered an appropriate infrastructure for RIC.
- Judging from the low access speed (8kbps) for uploading, CDMA FWA is not considered to be an appropriate communication line for RICs in terms of updating homepages. However, where CDMA FWA and fixed telephone lines are already provided but provision of additional fixed telephone lines are difficult or takes too much time, CDMA FWA can be the supplementary infrastructure for RIC in addition to the fixed telephone lines.
- Provision of an exclusive line for internet may be suitable where the requirements for Internet access speed is relatively high, i.e., sending and receiving such large volume data as a large volume of text, photographs or maps. With a wireless router system, high-speed access can be utilized from multiple RIC stations.

Performance of facilities and equipment of the model projects can be evaluated as follows.

- Judging from the results of the survey, which shows use of PC is 34%~56%, 4 to 5 PCs at one RIC is appropriate.
- Judging from the trial operation in Bau as well as of the requirements of the users found by the questionnaire survey, it is desirous that business hours be extended after 5:00 PM on weekdays and Saturdays and Sundays.
- Judging from the requirement of the users found by the questionnaire survey, a space of 30 to 60 m^2 for the exclusive use of RIC is desirable.

- It was found that the post office RIC is more popular, attracting more users per PC/Internet due to the high publicity and frequent visits of the community people. Namely, people come to know of the existence of RIC without intensive publicizing activities.
- Consequently, an expanded post office with an annex for the exclusive use of RIC is considered the best facility for an RIC.

4. IMPLEMENTATION, EVALUATION AND FEEDBACK OF MAINTENANCE AND REPAIR

4.1 Outline

Maintenance and repair of the wireless router system was to be carried out based on the contract agreement between the Study Team and the contractor/supplier of the system for the maintenance period of 1 year which included the model project period.

Maintenance and repair of the other equipment including PCs was to be carried out by the contractor/supplier based on the contract agreement between MECM and the contractor/supplier.

4.2 Performance

Performance of the maintenance and repair was as follows.

- There were troubles with the telecommunication facilities, in particular, with modems due to lightning damage in Bau and Kota Marudu. Installation of equipment to prevent lightning damage is essential.
- In Bau, trouble, such as inability to establish a connection, sometimes happened to the Internet access system through CDMA FWA. Causes should be studied further.
- Troubles were usually found by the monitoring staff and the contractor/supplier was informed quickly. However, repairing by contractor/supplier was not quick enough in some cases, taking more than 1 week in the worst case. In Kota Marudu, it was found that the contents of the contract were the problem such as the fact that onsite repair was not included in the contractor/supplier's responsibilities.

4.3 Evaluation and Feedback

An evaluation was made on the performance and feedback was obtained as follows.

- Finding the trouble quickly and reporting it to the repair company quickly is a pre-condition for the successful operation of an RIC. To do this, staff should always be stationed at the RIC.
- It is also essential that a specific organization/company be clearly assigned the task of maintenance and repair through a contract agreement.
- The maintenance agreement should be made so that quick repair will be carried out. Repair should be done onsite regardless of the location of RIC in relation to the major cities.

5 DEVELOPMENT, EVALUATION AND FEEDBACK OF WEB CONTENTS

5.1 Outline

The following Web contents were to be developed and installed for use in RIC.

- Three kinds of homepages were to be developed, comprising a JICA homepage for publicizing RIP and JICA Study, a homepage common for the 3 model projects and individual homepages for the 3 model projects. The URL of these web pages are shown in the table below.

Web Site	URL
RIC Common Homepage	www.idesa.org.my/ric/
Sg. Air Tawar RIC	www.sgairtawar.idesa.org.my/
Bau RIC	www.bau.idesa.org.my/
Kota Marudu RIC	www.kotamarudu.idesa.org.my/

- The application software for E-Greeting Card, E-Public Comments and E-Reservation were to be developed.
- Several links with the related Web sites were to be set up.

5.2 Performance

Performance of the Web Contents development and use were as follows.

- All the homepages were successfully developed by a Malaysian consultant with supervision by the Study Team.
- The application software for E-Greeting Card, E-Public Comments and E-Reservation were also successfully developed and used.

- Individual local homepage for each model project was successfully updated in total 8 times in 3 sites by the RIC Committees/Task Forces who participated in the training course for homepage updating, including information collection.
- Links with the relevant Web sites including the sites for ministries and related projects have been set up.
- On the average, one RIC user accessed 1 to 2 pages of the individual local homepages, showing a strong interest. In Kota Marudu, public news was the most popular page with 131 accesses , followed by 112 for the photo gallery, and 111 for local news. In Sg. Air Tawar, Public news was also the most popular page with 93 accesses , followed by 81 for local news while in Bau, the local news was the most popular page with 62 accesses, followed by 53 for the photo gallery.

5.3 Evaluation and Feedback

The evaluation was made on the performance and feedback obtained as follows.

- Local homepages should be developed to provide community-specific information to the community people. Development should be done by a Malaysian consultant due to the high skill required for development. However, updating should be done by the RIC Committee/Task Force with community involvement, because they know best what is the most interesting information for the community people. Updating skill should be acquired through IT training to be provided by a Malaysian company. Updating activities, including information gathering, attract the attention of the people to RIC and are also considered to be useful for the promotion of community involvement.
- Software application for E-greeting card, E-public comments and E-reservation were used for a considerable time. These can be useful instruments for promoting the use of RIC. The developed software for the model projects can be utilized for the other RIC.

6. IMPLEMENTATION, EVALUATION AND FEEDBACK OF IT TRAINING

6.1 Outline

IT training was carried out by the instructors employed by the Study Team at each RIC.

6.2 Performance

- As planned, 3 kinds of IT training were carried out, i.e., IT training for PC beginners, IT training for Internet beginners and IT training for homepage updating for RIC Committee members/Task Force.
- In total, 179 persons participated in IT training for PC beginners and 158 in IT training for Internet beginners. Due to the limited seating available for the training courses, it was found that at least 202 people could not be accepted for IT training for PC beginners and 393 persons for IT training for Internet beginners as far as confirmed. The actual number may be bigger.
- As a whole, IT training participants evaluated the degree of acquiring the targeted skill as fair, i.e., not excellent but not poor.
- The majority of the participants considered that the training materials including the text, typing module, mouse module and self-learning kit were well prepared and useful for training.
- The majority of the participants considered that the training time was a little bit too short and that they should repeat the lessons.
- Though the primary task of the monitoring staff was to monitor the use of RIC, they also played the role of trainer/instructor for the users on how to use RIC equipment and the Internet.
- Out of 22 participants in the training course for homepage updating, 11 RIC Committee members/Task Force acquired the targeted skill in total in the 3 model projects. They successfully acquired the skill needed for homepage updating. It was more successful for Sg. Air Tawar and Bau than Kota Marudu. The success in Sg. Air Tawar and Bau may be attributable to the composition of the participants including that these members had higher IT skills at the time of participation and included members of the younger generation.
- Most of the participants considered that the 16-hour/2 day program for homepage updating was a little bit too short.
- There was a tendency that participants belonging to the younger generation and with certain previous IT skills were more successful in acquiring the targeted skill.

6.3 Evaluation and Feedback

The evaluation was made on the performance and the following feedback was obtained.

- There exists a strong demand for IT Training for PC/Internet beginners regardless of the age and gender. This training is considered to be a prerequisite to the success of RIC. IT Training for PC/Internet beginners should, therefore, be a major component of the RIC scope.
- Time allocation for the training course should be longer and repeated training opportunities should be provided.
- Training materials developed for the model projects are useful and should continue to be used in the other RICs. They should be continuously improved with the feedback of the user's opinions.
- The training course for homepage updating is very useful and a prerequisite for the continuous updating of the local homepage. The trainees should include the younger generation and persons who already have some IT skills.

7. IMPLEMENTATION, EVALUATION AND FEEDBACK OF RIP/RIC MANAGEMENT

7.1 Outline

The following framework was contemplated for the management responsibility of the model projects.

Responsibilities of MECM are summarized below.

- Setting up a counterpart group for the implementation of the model projects.
- Installation and arrangement for the telephone lines, CDMA FWA, leased lines and maintenance thereof.
- Arrangement for an Internet hosting service and subscription.
- Procurement of PC and ancillary equipment and installation and maintenance thereof.
- Forming the working group for model project implementation comprising the counterparts for the Study and implementation of the projects.

Responsibilities of the Study Team are summarized below.

- Extend cooperation for the implementation of the model projects in the fields of telecommunication infrastructure, Web contents, management and community involvement.
- Assigning one member who should spend most of his time at the site to extend timely assistance for the RIC operation.
- Installation and arrangements for the wireless router/LAN system.

- Development of the local homepages and software applications by employing Malaysian companies.
- Carrying out IT training for beginners and training courses for homepage updating by employing Malaysian instructors.
- Preparation of training materials including self-tutorial CD.
- Employment and supervision of Malaysian monitoring staff to monitor the use of RIC.
- Facilitation of the RIC Committees for the management of RIC and community involvement.

Responsibilities of the RIC Committee and Task Force are summarized below.

- Organizing workshops, IT training courses and carrying out publicizing activities.
- Coordinating the concerned bodies.
- Updating the local homepages, including the collection of the data/information.

7.2 Performance

MECM together with the Study Team fulfilled the planned management tasks.

- Day-to-day management works and supervision of the RIC operation including the starting up and closing down of the PC and taking the necessary actions for repairing, were carried out by the monitoring staff employed by the Study Team.
- The monitoring staff eventually also assumed the role of IT trainers by teaching the users how to use PC/Internet through on-the-job training. They also contributed to organizing the IT training courses.

RIC Committee/Task Force fulfilled the planned tasks.

- The RIC Committees/Task Force successfully accomplished their tasks including organizing various events, carrying out publicizing activities and coordination of the concerned bodies.
- They updated the local homepages in total 8 times in 3 model RICs.
- Day-to-day management could not be carried out by the RIC Committee since they have their own jobs/work to do and could not attend the RIC on a full-time basis even assuming that several members attempted to do it in turns.

7.3 Evaluation and Feedback

The Study Team's role in the RIC management was substantial. To replace its function, a new Division responsible for RIC/RIP management should be set up within MECM for the full-scale development of RIP.

RIC management at the site shall be done as shown below.

- The monitoring staff's role was much bigger than expected and their supervision was essential for the successful operation and maintenance of RIC. A full-time supervisor should be assigned and stationed at each RIC.
- Major tasks for the RIC Committee/Task Force should comprise:
  - Organizing workshops, IT training courses, various events for the promotion of the RIC activities.
  - Collection of relevant information/data and updating the local homepage.
  - Publicizing the RIC and its activities.
  - Discussing the solutions for the problems occurring in association with the operation of RIC and measures to strengthening the activities of RICs.
  - Working out a draft plan for operation for the subsequent year and submission thereof to MECM.
- To fulfill these tasks, it is necessary that the RIC Committee should assume 2 distinctive functions at the same time. Namely:
  - Official and authorization function representing or on behalf of the local authority with regard to the operation of RIC.
  - Voluntary task force function to carry out RIC activities.
- To carry out the dual functions, the RIC Committee should include representatives of the Local Authority, community-based organizations and people interested in RIC activities. A Task Force comprising the interested people who can spare time for supporting RIC activities is also needed.

8. IMPLEMENTATION, EVALUATION AND FEEDBACK REGARDING HUMAN RESOURCE DEVELOPMENT FOR RIC MANAGEMENT

8.1 Outline

It was planned that the manpower development should be carried out in the following manner.

- Manpower development in the form of the on-the-job training and with the facilitation of the Study Team through:
  - Holding RIC meetings for the implementation of the model RIC in compliance with the set schedule.
  - Organizing and attending various events .

- Attending the homepage updating training course, acquiring the necessary skills and updating the local homepage.

8.2 Performance

The following describes the performance and achievements in manpower development for the RIC management.

- The number of Committee/Task Force members ranged between 13 and 21 depending on the model RIC. These members participated in the planned activities with the facilitation of the Study Team.
- In the training courses for homepage updating, altogether 22 members participated and 11 members succeeded in acquiring the skills. It was observed that younger members and those with relatively high IT literacy were more successful than others were.

8.3 Evaluation and Feedback

Though subject to confirmation of their performance level after the model project period has ended without the Study Team's facilitation, Committee/Task Force members are judged to have acquired the necessary know-how for managing RICs. Eleven Committee/Task Force members got the homepage updating skills, which is considered sufficient to continuously update the local homepage.

The following feedback should be reflected in the Final Action Plan.

- Manpower development for RIC management should be carried out in the form of on-the-job training.
- At the start of RIC operation, facilitation is needed to provide the required know-how and a capable consultant should be employed for certain period.
- Training courses should be provided for Committee/Task Force members for acquiring IT skills for homepage updating.

9. IMPLEMENTATION, EVALUATION AND FEEDBACK OF PUBLICIZING AND COMMUNITY INVOLVEMENT ACTIVITIES

9.1 Outline

The following activities were planned to be carried out for publicizing the operation of each model RIC and for promoting community involvement.

- Holding a prior workshop (WS-1) when the model RIC starts its operation with a view to publicizing the scope and services to be provided by RIC.
- Holding a post workshop (WS-2) when the model project period is finished with a view to publicizing the achievements of the model RIC as well as to discussing how to upgrade its activities.
- Holding a photo contest with a view to finding interesting information and scenery, which are worth including in the local homepage.
- Carrying out various activities to publicize the usefulness of the RIC, including distributing pamphlets, informing local organizations and entities about the operation of RIC .
- Develop and upload the Web site (homepages) for publicizing the activities of RIP/RIC and the JICA Study.

9.2 Performance

All the planned activities were successfully carried out as follows.

- WS-1 was organized by the joint efforts of MECM, the Study Team, the RIC Committees, State Governments as well as the owner organizations of the buildings where the model RIC were established. WS-1 was held with the participation of 260 community people besides the concerned parties.
- WS-2 was organized similarly and held for each model RIC when the model project period is finished, i.e., early November 2002 with the participation of 95 community people besides the concerned parties. In addition to the presentation of the achievements and evaluation thereof, meetings were held to exchange views and opinions among the participants.
- A photo contest was organized by the RIC Committee with the facilitation of the Study Team and carried out once for each model RIC with around 30 participants on the average, comprising RIC Committee members, Task Force members and other community people. Photos taken were evaluated by the participants to choose nice ones, which were incorporated in the local homepage.

- As publicizing material, pamphlets for the model RICs were prepared and distributed. Signboards introducing RIC activities were prepared and placed in the model RICs. Information about RIC activities was given to the schools, village chiefs and other concerned people.
- Web site (homepage) for publicizing the activities of the RIP/RIC and JICA Study with 10 pages was successfully develop and uploaded. Access by the users was considerable, with around 2 pages accessed per user on the average.

9.3 Evaluation and Feedback

An evaluation was made on the performance and the following feedback was obtained.

- Though publicizing activities were carried out, many users indicated in the questionnaire survey carried out in the Study that they came to know of the existence of the model RIC when they visited the building/offices where the RIC stations had been established. Stronger publicizing activities are, therefore, needed when an RIC is established in buildings/offices that do not have many visitors who use its service.
- A photo contest was carried out once for each model project. An average of 30 people participated and enjoyed information gathering for homepage updating. Photos taken by digital camera were incorporated into the homepage by the participants themselves. However, the total community involvement activities may need to be expanded.
- The photo contests attracted many community people and raised the publicity level of RIC. This kind of event should be held frequently.
- Pamphlets and signboards introducing RIC activities are effective publicity tools and should be used. Introducing RIC activities and asking for the cooperation of the community organizations including schools, Women's Unions, Youth Unions as well as the village chiefs were effective as publicity tools and good use was made of them.
- Common local homepage introducing the scope of RIP and services to be provided by RIC are effective and the one developed for the model projects should be kept for use. Frequent upgrading should be made incorporating new information about the RIP/RIC activities.

10. OVERALL EVALUATION AND FEEDBACK OF THE THREE MODEL PROJECTS

10.1 Outline

Most of the on-going 14 pilot RICs are not actively operated and need to be revitalized. Sg. Air Tawar model project was selected as a revitalization model from among the 14. Accordingly, a corner of the existing post office is the space utilized for RIC with 3 PC connected with the 3 telephone lines.

The following items were emphasized in this implementation.

- Revitalization of the activities of the RIC Committee
- Activation of community involvement
- Provision of a local homepage and updating by the RIC Committee/Task Force
- Provision of intensive IT training for beginners and a training course for homepage updating for the RIC Committee/Task Force

The Bau model project was selected as a non-post office model to try to overcome the constraints of the pilot RICs established in the post offices including the constraints of space and business hours.

The Civic Center, a community hall, was selected for establishing RIC. One room was allocated especially for the RIC with 5 PC/Internet. CDMA FWA was used in addition to fixed telephone lines. Because the Civic Center belonged to the Sarawak State Government, the effectiveness of the cooperation between MECM and State Government /Civic Center would be verified.

The Kota Marudu Model was planned as a networked and high-speed model. Three RIC stations were set up, one in the post office as the main station, one in the state library and the other in the District Office. A high-speed wireless communication system was established to connect the 3 stations to enable the Internet access from all the 3 stations. Leased lines were used to verify the need for high-speed access. In 3 stations, altogether 5 PCs were installed. The three stations were under the supervision of Pos Malaysia, the State Library and the District Office and the effectiveness of the overall cooperation among these was to be verified.

10.2 Performance and Use

Three RICs were established, as planned, with the necessary facilities and equipment. Until the end of October 2002 when monitoring of data was completed for the model projects, 1,751

people used the 3 model RICs in total, of which 634 or 36.2% were the first-time users. The ratio of use of the PC/Internet deducting the time used for IT training and for repair, was about 50 %.

The following feedback was obtained through the observations of the Study Team and analyses of the monitored data.

(1) Sg. Air Tawar Model

- Compared with that in the pilot project stage, the number of users increased considerably, from around 8 users per day to 10.5 users per day.
- A more substantial change was the age of the users. For the model project, more than half (53 %) were in the target age group above 17 years old while during the pilot project stage, the majority were children.
- Usage changed substantially. Major usage for the model was Internet browsing and e-mail while in the pilot stage it was playing computer games.

(2) Bau Model

- The number of users was 11.0 per day. With 5 PC, the number of users per unit was 2.2 per day, which is considered rather low. During the model project implementation, it was observed that the number of visitors to the Civic Center was not large compared with the visitors to the post office and it was not as familiar to the residents as the post office was. If this type of building/facility is used for an RIC, strong publicizing activities would be essential.
- As a trial, the Bau RIC was opened weekday evening and Sundays for a few times. Many users came to RIC in those times. Arrangements should be made to open RIC during these hours.

(3) Kota Marudu Model

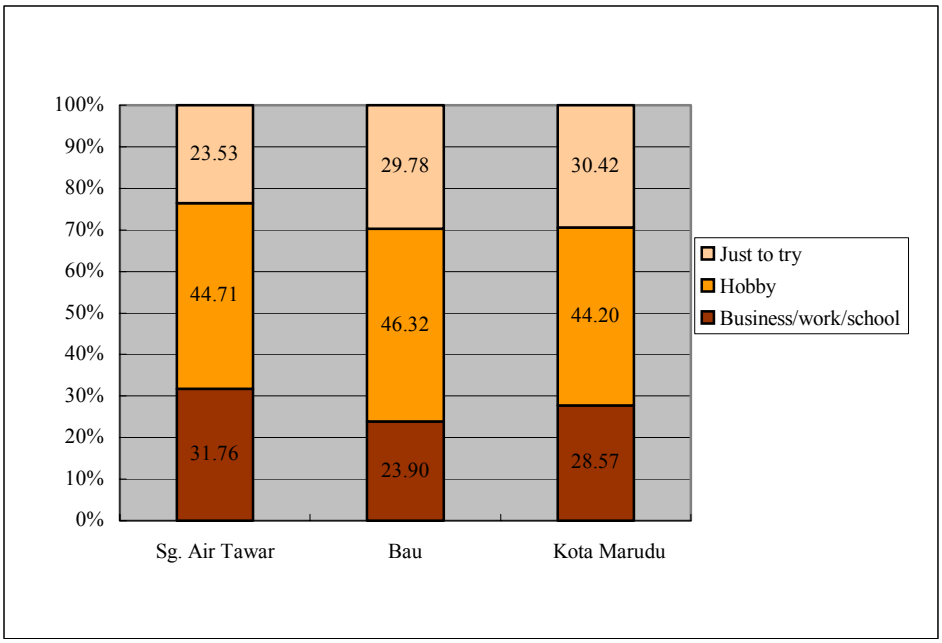
- The total number of users for the 3 stations was 15.6 persons per day. With 5 PCs in total, the number of users per unit was 3.1 persons per day per PC, which is considered to be in a reasonable range.
- Among the 3 stations, the post office station was the most popular in terms of the number of users per PC per day, followed by the district office station and the library station.

A questionnaire survey was carried out for the new model RIC users in the Study in order to find out their reasons for using the RIC and their level of satisfaction as well as their demand for RICs. In total, 634 users answered the questionnaire. As a whole, most of the users were satisfied

with the facility/equipment and services provided by RICs, though the degree was different according to the model RICs as given hereunder.

(1) Motivation for Use

Motivation for use is shown below.

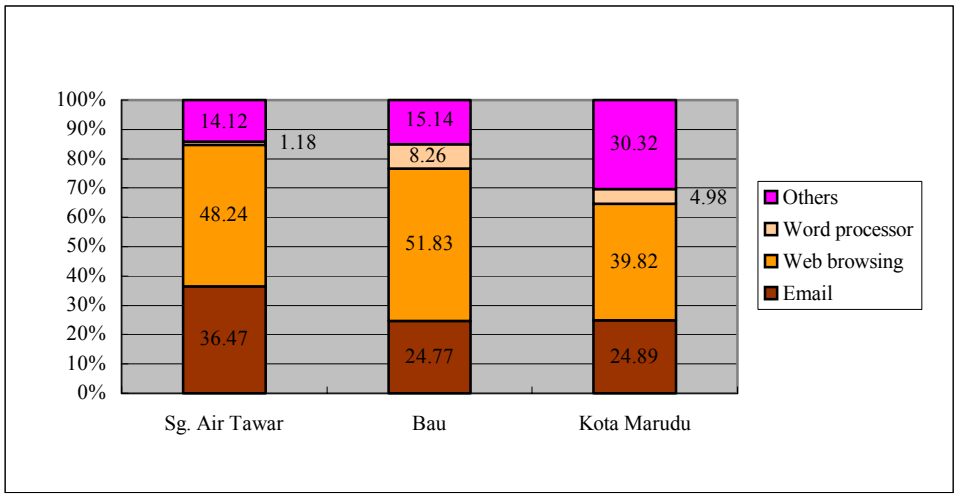


Motivation for Use

"Hobby" was the biggest reason for using RICs. Using for "business, work and school works" and "just to try" followed with about the same ratio in the total. No significant difference is observed according to the model RICs. Excluding "hobby", the other two categories account for more than half of the motivation. Since "just to try" seems to increase for Internet/PC beginners, this motivation is considered to meet the objective of RIC.

(2) Purpose of Use

Purpose of use is shown below.

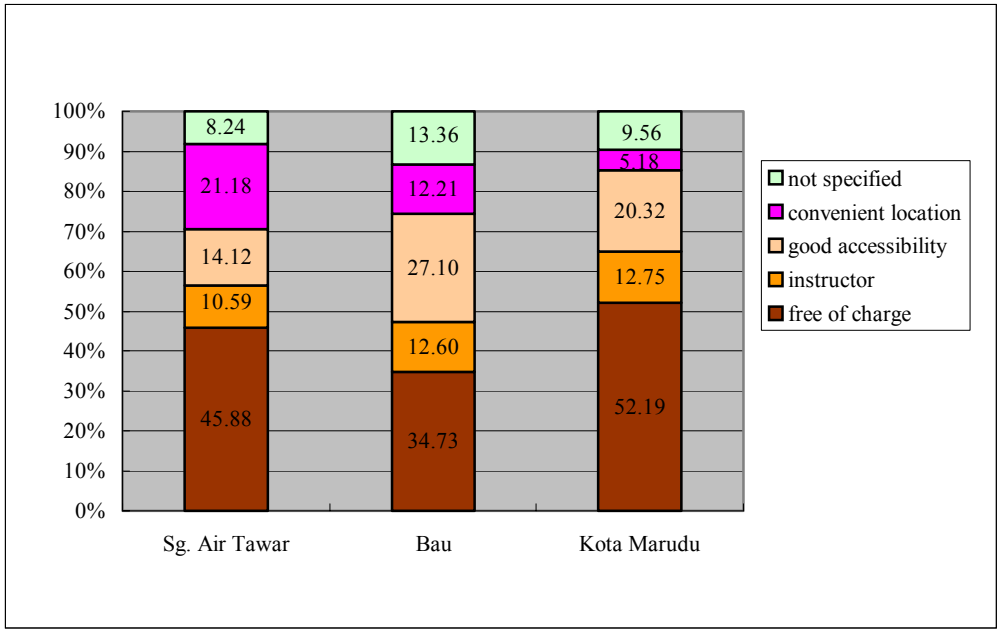


Purpose of Use

"Web browsing" is the major purpose for using RICs, accounting for 40 % to 50% depending on the model. "E-mail" use follows this. Together the Internet use accounts for 65 % to 85 %. No significant difference is observed according to the model RICs. Internet service, which is a key function of RICs, is considered to have been well utilized in the model RICs.

(3) Reasons for Using RICs

Reasons for using RICs shown below.

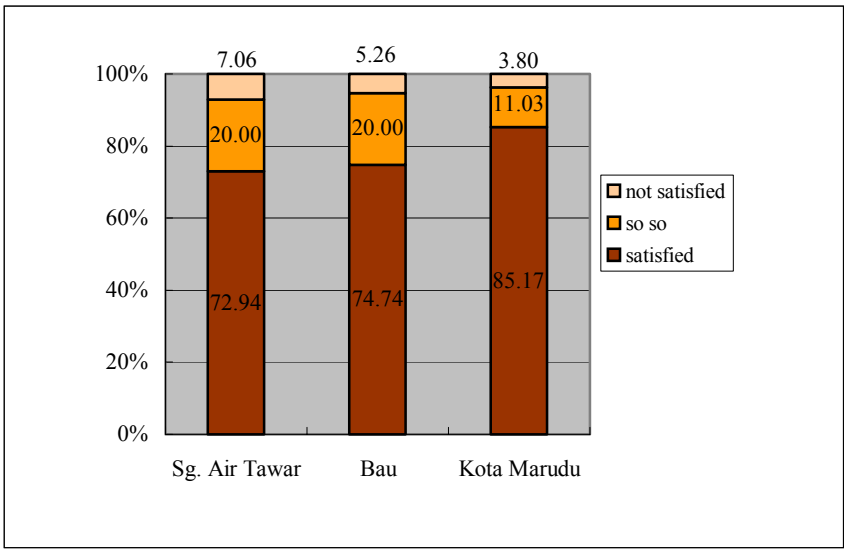


Reasons to Come to RICs

The biggest reason for using RICs was that they were "free of charge", accounting for from 35 % to more than half of the total. Second is the "convenient location" and "good Internet access" with about the same ratio. The ratio of "free of charge" responses is the biggest in Kota Marudu with more than half of the total which may be attributable to the fact that the average household income is the lowest among the 3 model sites. In terms of affordability, "free of charge" is considered to be an essential condition of RIC/RIP to be implemented as a Government undertaking.

(4) Satisfaction with Internet Access Speed

Satisfaction with the Internet access speed of the RIC facility is given below.



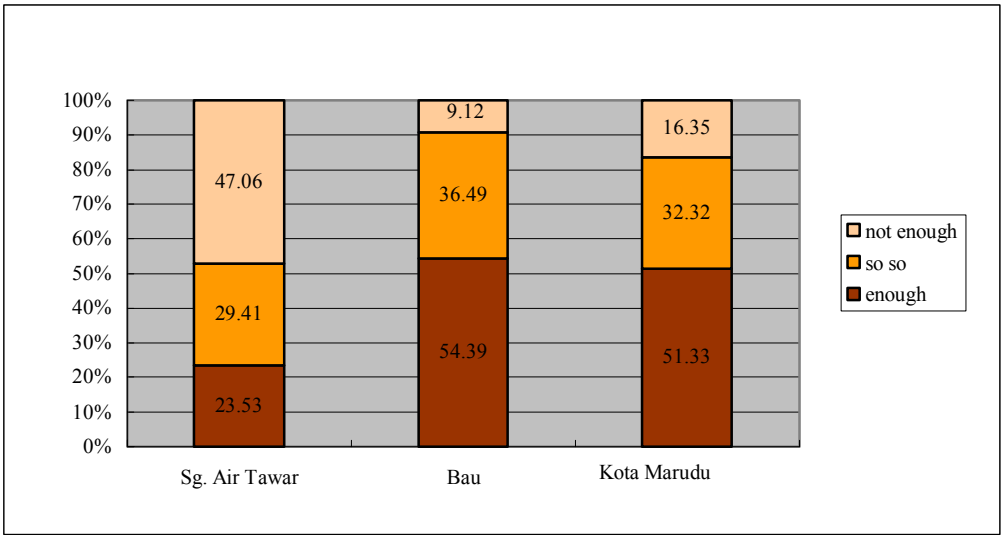
Satisfaction with Internet Access Speed

As shown in the figure, most of the users were satisfied with the access speed. Satisfaction level is the highest in Kota Marudu where the high-speed system comprising the leased line and wireless router network was established.

(5) Satisfaction with the Number of PC and RIC Space

Satisfaction with the number of PC was much stronger for the Bau and Kota Marudu models where 5 PCs were in service than for Sg. Air Tawar where 3 PCs were in service as given below.

Satisfaction for RIC space is similar to that for the number of PCs, as given below.

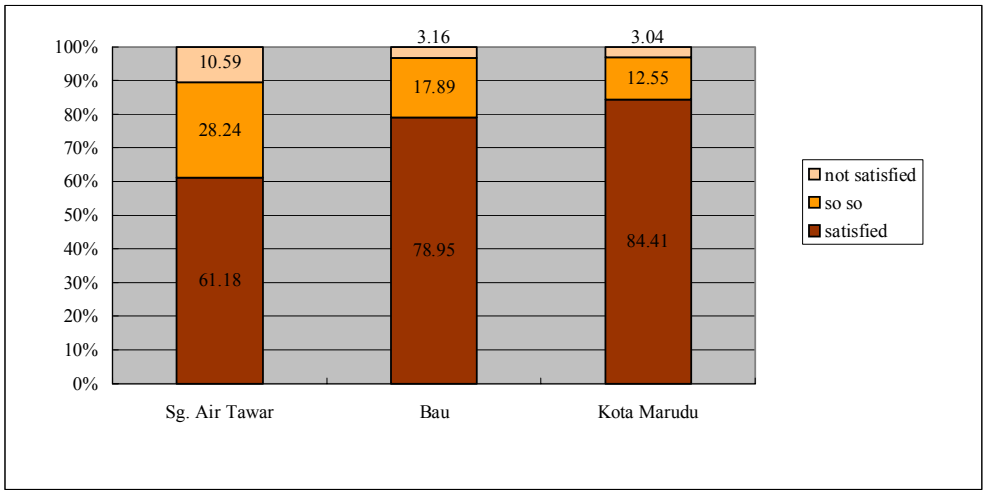


Satisfaction with RIC Space

In the case of the Bau and Kota Marudu models where RIC space was about 30 to 60 m^2, the large majority of users were satisfied. Only one fourth of the users were satisfied for the Sg. Air Tawar model where only a corner of the post office was available for RIC. Including "so so", satisfied users barely exceeded half of the total.

(6) Satisfaction with Web Contents

Satisfaction with Web contents is given below.

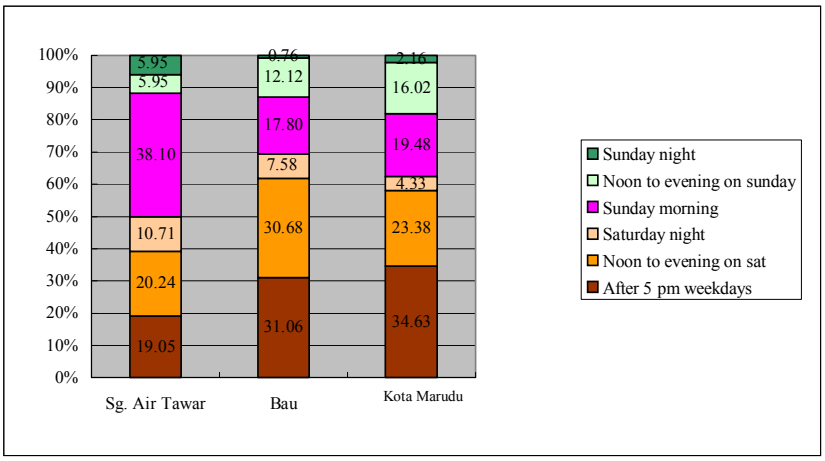


Satisfaction with Web Contents

Though some difference was observed according to the model RIC, the large majority of the users were satisfied with the Web contents, in particular the local homepage.

(7) Satisfaction for Business Hours

Strong demand was identified for opening the RICs during the evening on weekdays and Sundays so that working people can use RICs after their working hours and during their days off.



Request for Extension of RIC Operation Time

10.3 Financial Requirement

Cost estimations for the 3 model projects are shown in the following table. The cost is classified into initial cost and running cost.

Model Project Initial Cost (1,000 RM)

Item	Kota Marudu	Bau	Sg. Air Tawar	Total
1. System Hardware	41	35	23	99
2. Network Equipment	104	1	1	106
3. Software	16	16	13	46
4. Web Hosting/IP Address	2	2	2	6
5. Web Content Development	56	56	56	169
6. Furniture	6	6	4	16
7. Installation, Testing & Commissioning	7	6	6	18
8. Site Preparation	94	5	5	105
9. Maintenance	21	11	7	39
Total	**348**	**139**	**116**	**603**

Running Cost during Model Project (1,000 RM)

Item	Kota Marudu	Bau	Sg. Air Tawar	Total
Total	**117**	**75**	**57**	**250**

Both initial and running costs in Kota Marudu were the most expensive among the 3 sites because the high-speed wireless LAN and leased lines were installed there followed by Bau with

5 PCs and 5 Internet access lines. The cost in Sg. Air Tawar was the cheapest with 3 PCs and 3 lines.

10.4 Evaluation and Feedback

Judging from the observations and the monitored data analyses as well as the answers of the RIC users to the questionnaire survey, all of the 3 model RICs were evaluated as successes. Major feedback is summarized as follows.

- The Sg. Air Tawar model should be referred to and experience should be applied to the other pilot RICs for revitalization.
- The Bau model was considered as a successful model providing adequate space for the RIC and having the possibility of opening in the evening weekdays and Sundays. However, strong publicizing activities should be carried out to raise public awareness.
- With high speed for Internet access with relatively high capital and running costs, the Kota Marudu model should be applied for the communities with relatively high level Internet requirements.
- The Kota Marudu model should also be the prototype for the advanced type of RICs to prepare for rapid progress of the IT environment in the coming years.
- The scope and services provided in the model projects are verified as appropriate except that the publicizing activities should be strengthened.
- As stated above, the best model should be the combination of the Sg. Air Tawar and Bau models having their strong points. The best model should meet the following requirements.
    - Having an adequate space for housing about 5 PCs.
    - Providing a separate room with friendly atmosphere to the users, in particular the target age group above 17 years of age.
    - Being a location frequently visited by the rural people and community people having a sense of affinity for it.
    - Being able to operate weekday evenings and Sundays.

Accordingly, the best model should be a post office with an annex for the exclusive use of RIC, which meets all of the above requirements.

PART IV ACTION PLAN FOR THE REVITALIZATION AND EXPANSION OF THE RURAL INTERNET PROGRAM

1. TARGET YEAR AND COMPOSITION OF THE ACTION PLAN

1.1 Target Year for the Action Plan

The Action Plan will be formulated for the effective implementation of RIP. Target year of the Action Plan should be the ending year of RIP, i.e., 2008.

1.2 Composition of the Action Plan and Phasing Strategy for RIP

(1) Composition of the Action Plan

Composition of the Action Plan should be as follows:

- Determination of the scale of RIP (Number of RICs)
- Selection of the sites and buildings for RIC
- Planning for the telecommunication infrastructure and equipment to be installed in RICs and operation and maintenance thereof
- Development and updating of Web contents
- IT training program and publicizing plan
- Operation and management plan for RIP/RICs
- Promotion measures for RIC activities and social consideration
- Monitoring program for the use of RICs
- Implementation schedule for RIP
- Cost estimation and cost bearing for RIP
- Assessment of the contribution of RIP to bridging the digital divide

(2) Two Phase Strategy

In order to adapt to the rapid change of the external environment surrounding RIP including the progress of the IT technology, economic growth and introduction of IT infrastructure equipment into the rural communities, a two phase strategy is recommended. Namely:

- Phase 1: 2003-2005
- Phase 2: 2006-2008

Year 2005 corresponds to the mid-term review year for the current 8th Malaysia Plan while 2008 corresponds to that for the 9th Plan. In 2006, a review should be carried out to assess the achievements during Phase 1 and determine the necessity and work out the appropriate RIP program for Phase 2. The review should be made considering the following aspects.

- Achievement of the objective of bridging the digital divide during Phase 1
- Degree of satisfaction of the local communities for the functions and services provided by RICs
- Progress in the implementation of other relevant projects under other ministries/organizations and their impacts on RIP implementation
- Progress of the development of communication technology and communication infrastructure in the rural area
- Socio-economic change and progress of Internet access by the households in the rural area

The above review should be made by MECM in consultation with the community, in particular RIC Committees, and with other stakeholders including other ministries, aid organizations and private entities. Final scope and program of Phase 2 should be determined accordingly.

2. SCALE OF RIP/NUMBER OF RICS

Scale of RIP or the number of RICs should be determined so that the objective of digital divide bridging of RIP should be met. Scale was determined based on the following basic conditions.

- Setting the index for measuring the alleviation of the digital divide

  Index should be the number of the rural residents who are willing to get the opportunities and are given the opportunities for getting Internet access and for acquiring the necessary skills for using Internet. If all these residents are given the opportunities, the digital divide is considered to be bridged. For RIP, this index was measured by the first time users above 17 years of age.

- The above-mentioned opportunities are given through either RIP, other projects to serve for digital divide alleviation and Internet subscription by the rural residents.

The process for the determination of the number of RICs is given hereunder.

(1) Rural Population in 2008

It is estimated that the rural population in 2008 will be about 10 million by extrapolating the 2.2% growth rate of population from 2000 to 2001.

(2) Internet Subscribers in Rural Areas

It is estimated that the number of Internet subscribers in rural areas in 2008 will be 1.5 million assuming that it will equal the highest recorded rate among all the states, which was in Selangor State, in 2001.

(3) Contribution of Related Projects other than RIP

The following assumptions should be made to estimate the contribution of other projects.

- Enrollment ratio for primary and secondary education should reach 100% by 2008. The Computer Laboratory project by the Ministry of Education should cover all the primary and secondary schools by 2008. Consequently, the age group of 7 to 17 years will be able to afford Internet access through the project by 2008. Since the age group below 10 years old is excluded from the target group of RIP, the age group below 18, is not needed to be accommodated by RIP for digital divide bridging.
- The 214 thousand rural people will be covered by the Info-Desa project by the Ministry of Rural Development, and 203 thousand rural people will be covered by the Universal Service Provision project of MECM. All of those people will bridge the digital divide.

(4) Rural Population to be served by RIP（Beneficiaries）

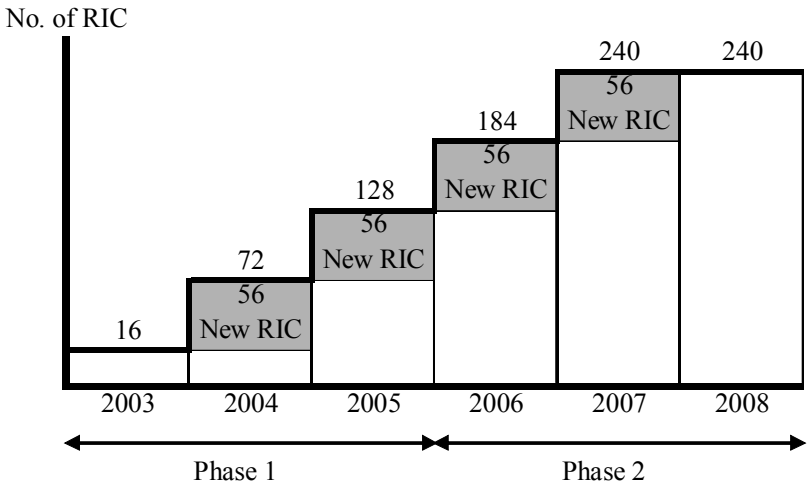
Deducting the population who can afford the Internet access opportunities through either Internet subscription or by other projects from the total rural population, the remaining rural population is estimated at about 4 million. Of this remaining rural population, about 40.9% are the people who have no experience using the Internet but are willing to use the Internet based on the demand survey in the Study covering 16 rural communities. Namely, about 1.7 million people remain to be served by RIP. These people are the target group for bridging the digital dived (beneficiaries).

(5) Number of RICs

For the estimation of the number of RIC to cover the beneficiaries above, the following assumptions were made, and the user data obtained by the Model Project implementation were applied.

- Number of RICs to be established in one year should be the same during the implementation period.
- For all RICs, a two year period of operation should be secured as the minimum, specifically, establishment should be started at 2003 and completed in 2006.
- Five PCs will be installed in each RIC, which will be open for five days of operation each week and 1.1 person/day/PC for first time users above 17 years of age and will offer two days of IT training.

Accordingly, 240 RIC should be established in total including the existing 16 RICs for covering a population of 1.7 million, assuming that 56 new RICs will be established in each year during the next four years.



(6) RIC Allocation for States

RIC allocation for the states is made so that one RIC is in each Federal territory, namely three RICs are in the three places since there is low-income housing area there, and the remaining 237 RICs are allocated according to the rural population ratio. The number of RICs to be established in the states and the federal territories is listed below.

RIC Allocation for States

State	Population 2000			No. of RIC		
	Urban	Rural	Total	Total	Existing	To be Established
Johor	1,638,772	926,929	2,565,701	26	1	25
Kedah	608,696	963,411	1,572,107	27	2	25
Kelantan	431,861	857,338	1,289,199	24	1	23
Melaka	405,917	196,950	602,867	6	1	5
Negeri Sembilan	456,535	373,545	830,080	10	1	9
Pahang	518,176	713,000	1,231,176	20	1	19
Perak	1,207,948	822,434	2,030,382	23	1	22
Perlis	67,080	131,255	198,335	4	1	3
Pulau Pinang	974,779	250,722	1,225,501	7	1	6
Selangor	3,483,765	463,762	3,947,527	13	1	12
Terengganu	434,270	445,421	879,691	12	1	11
Sabah	1,182,890	1,266,499	2,449,389	35	2	33
Sarawak	963,232	1,049,384	2,012,616	29	2	27
(Federal Territory)						
Kuala Lumpur	1,297,526	0	1,297,526	1		1
Putrajaya				1		1
Labuan	54,162	16,355	70,517	1		1
Total	13,725,609	8,477,005	22,202,614	240	16	224

3. SELECTION OF SITES AND ESTABLISHMENT OF RICS

3.1 Selection of RIC Sites

The 240 RICs should be established including 224 new RICs and 16 existing RICs for bridging the digital divide. Sites should meet the following conditions, taking into account the experience of the model project implementation.

i) Selection Criteria 1: Sites should be located in rural but not remote rural areas.

ii) Selection Criteria 2: MECM's criteria, which were determined before the establishment of the pilot RICs should be applied. Namely:

- Population density should be less than 57 persons per km^2.
- Average monthly household income should be less than RM1,500.
- Telecommunication facility is available.

iii) Selection Criteria 3: Transport access to the site should not be difficult. Namely, the site should be able to be accessed by public transport including bus and taxi services.

iv) Selection Criteria 4: Willingness and capability of the Local Authority/community for the establishment and operation of RICs should be assured.

v) Selection Criteria 5: In order to enhance the info-communications access evenly, other relevant projects with similar objectives and functions, should not be in operation in its vicinity, considering the policy of EPU.

3.2 Establishment of RICs

Based on the experience of the model project implementation and the requirements and requests of the community people for RICs, the most appropriate type of building/facility for establishing RICs is an expanded post office with separate annex because:

i) Post offices have already been sited at good locations that have easy transport access by the community.

ii) People frequently visit the post offices, on an average of once a month, and can easily find RICs. Therefore, smaller publicizing activity is required than would be for other facilities.

iii) Community people have a sense of affinity to the Post Office. Grown-up people, or the target group, feel free to enter the space without hesitation.

iv) MECM is the supervising ministry of the Pos Malaysia and has a good relationship with Pos Malaysia which is the owner and administrator of the post offices.

v) All the 14 on-going pilot RICs were set up at the post offices and Pos Malaysia has experience with the management of RICs.

vi) If an annex is constructed for the RICs, it may be opened after the business hours of the post office and on Saturdays and Sundays by means of an agreement among MECM, Pos Malaysia, RIC Committee and District Office.

vii) The annex should have adequate space to house about 5 PCs/Internet connections and accommodate IT training activities as well.

viii) There are 224 post offices in rural areas that can accommodate RICs.

Therefore, an expanded post office type RICs should be established wherever the expansion is possible.

In case that post office expansion is not possible, the RIC site should be selected among the following options. Final selection and formulation of RICs depends on the site condition and cooperation with the concerned parties.

(1) Original Post Office Option

Though there exist some limitations, RICs set up occupying a corner of the post office can be one option in case post office can not be expanded. As proven in the Sg. Air Tawar model project, with the activation of the RIC Committee and upgraded RIC services including IT training and local homepage, an original post office type can play a certain role for info-communications access enhancement.

(2) District Office Option

In the Kota Marudu model project, a sub-station was set up in the District Office. The number of users per PC/Internet was second after the post office among the 3 stations. As is the case for the post office, district offices are established in locations with good transport access. Community people, in particular grown-up people, frequently visit the district office and come to know of the existence and services of the RICs. If enough space is found, a district office can be an option for RICs.

(3) Civic Center/Community Hall Option

If enough space is found, a civic center can be another site option for an RIC as proven by the Bau model. It is noted, however, that relative to the post office and district office, visits are not frequent and the civic center is not as familiar to the community people as the post office or district office is. Therefore intensive publicizing activities are required to get RIC users. Though there are many community halls in the rural areas in the country, normally one hall per one village, it should be carefully reviewed to determine if the community hall can attract an adequate number of users, including these living outside of the village where the RICs are located.

(4) Library Option

Considering the achievements of the library sub-station in the Kota Marudu model project, libraries can also be an option for an RIC site. However, the following aspects should be taken into account when this option is considered.

- Not as familiar a place for the grown-up people, who are the primary target group for RICs, compared with the post office.
- Users are required to keep quiet and do not feel free to talk with friends while using PC/Internet and hesitate to ask for instructions from a supervisor.

(5) LAN/Multi-station Option

This option should be adopted for the sites with the following conditions.

- Adequate space can not be obtained in a single building/facility.
- Instead, a number of public buildings, which are located close each other, are available and they together can provide adequate space for the RIC.
- Installation of additional telephone lines is not possible or takes a long time.

Under the above site condition, a wireless router system should be constructed to connect the RIC stations as was successfully implemented in the Kota Marudu model. Considering the high communication speed and relatively high cost of the system, a high-speed telecommunication facility for Internet access should be adopted, including leased line and broadband in the future.

This option should be adapted in the community with the following conditions.

- Community people have relatively high IT literacy and relatively high level requirement for Internet use.
- Users of each station have a need to share information/data in the LAN.

This option can also be a model to adapt to the advanced IT environment expected in the future. For example, a laptop PC equipped with a mobile LAN card can get Internet access through the wireless router system.

(6) Other Options

Though not yet verified through the model projects, schools could be another option for RIC sites. But similar to the library option, the following aspects should be taken into account if this option is considered.

- Schools may not be an easy place for the grown-up people to enter.
- Users must lower their voice during school hours.
- MOE already has large-scale Computer Laboratory and Smart School projects for info-communications access enhancement for the target group of the students of the primary and secondary schools. Coordination between MECM and MOE would be necessary.

4. DEVELOPMENT PLAN OF TELECOMMUNICATION INFRASTRUCTURE / FACILITY AND O&M PLAN

4.1 Development of Telecommunication Infrastructure / Facility

(1) Telecommunication Infrastructure

The fixed telephone line can meet the demand for most of the RIC users including Web browsing, sending and receiving e-mail with ordinary load sizes. Taking also into account the cost requirement for installation and communication, fixed telephone lines are considered as the most appropriate infrastructure and should be adopted for RICs.

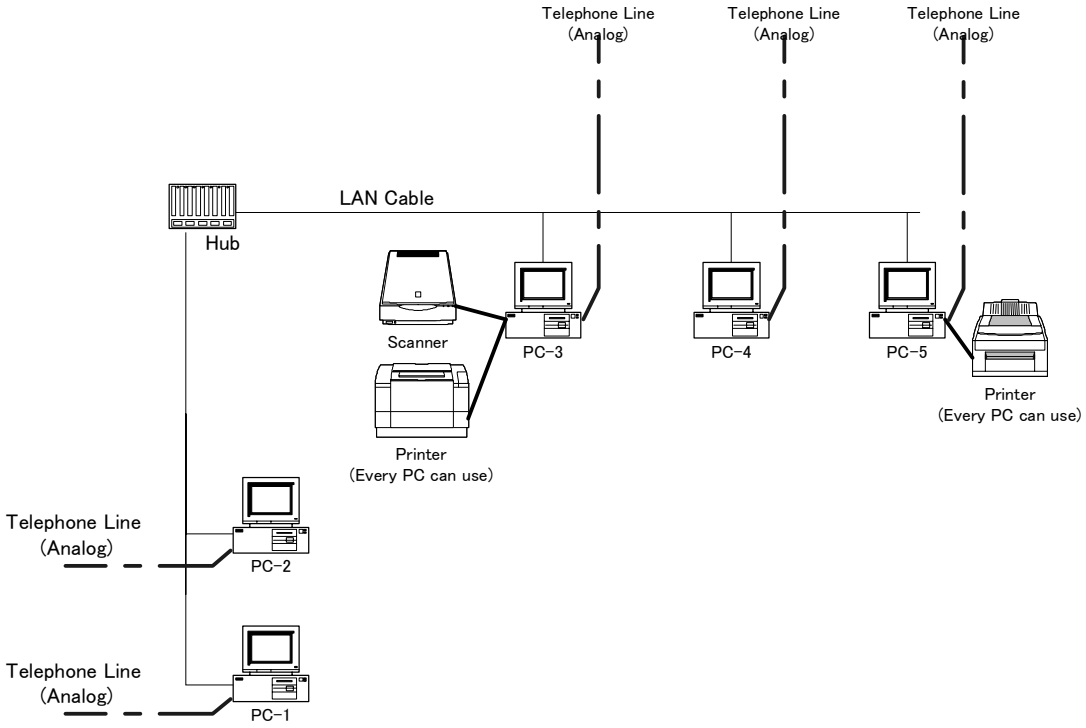
In order to avoid the lightning damage, it is recommended that protection equipment should be installed at RICs including lightning rod and UPS (Uninterrupted power supply).

(2) System Configuration

Devices to be installed in RICs will include PCs and computer peripheral equipment. Use of a scanner and a digital camera is effective to produce the regional visual information and is recommended to be among the devices. Two PCs are installed in the existing pilot RICs and three to five in the Model Projects. According to the user survey by interview and questionnaire, two PCs are not enough and five PCs are enough.

It seems effective for improvement of Internet access to establish more RICs with fewer PCs. A comparative cost estimation was done for the case of three PCs and five PCs in a RIC with a prerequisite of ensuring the same number of users. The cost with the case of three PCs is 1.5 times as much as with the case of five PCs because there is greater manpower cost in the case of more RICs with more supervisors. Consequently it is recommended that five PCs should be installed in RIC considering user's opinion, cost comparison and utilization ratio. RIC facility and devices can be illustrated as given below.

RIC Layout



Recommended RIC Facility and Devices

(3) Computer Specification and Equipment

PCs to be placed in RICs should meet the following specifications to be able to update a homepage.

Main Computer Specification

Hardware	Software
CPU : Pentium4 1.8GHz	WindowsXP
RAM : 256MB	OfficeXP
HD : 40GB	Norton Antivirus
CD-R/RW (1 for each site)	Self Tutorial
FD	
LAN card	
Modem card	
USB port × 4	

Other PC Peripherals

Name	Quantity	Memo
Printer	2	
Scanner	1	
Digital camera	1	
UPS	5	Each PC
Hub	1	

(4) Other possible types

Wireless network connection to connect several stations is illustrated below.

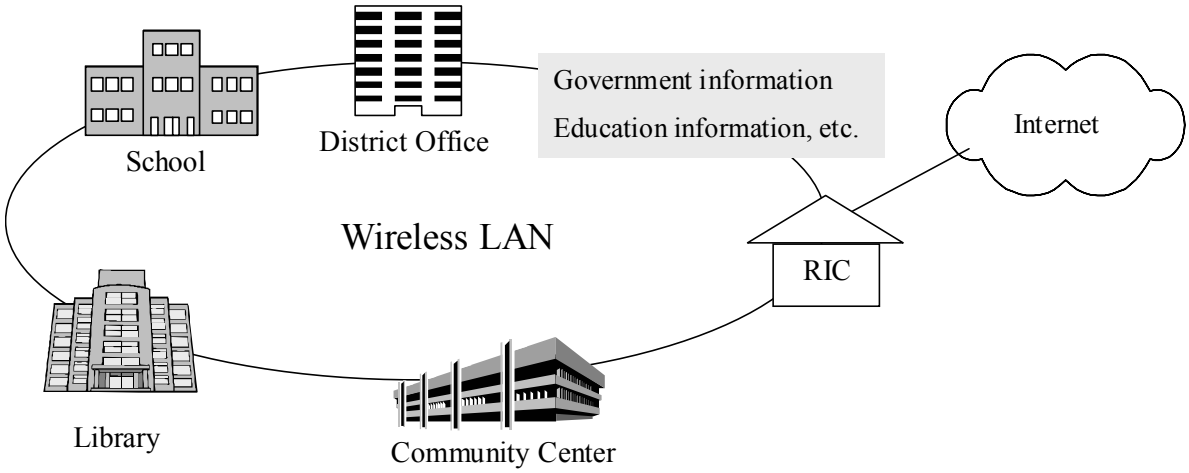


Illustration for Wireless LAN

4.2 O&M Plan for Telecommunication Infrastructure and Facility

The RIC facility and equipment should be well monitored to assure the provision of smooth services with minimal interruption. The O&M shall be carried out by the RIC Committee member, Supervisor and Taskforce member. It was reported that there were damages by a strike of lightning and flood. Therefore it is recommended that the equipment should be insured against natural disaster together with theft.

- Insurance for equipment
  Required cost for recovery or compensation for the remainder of depreciation
- Compensation for data or information
  Compensation for recovery of damaged data

RIC committee member should administrate the passwords.

The quantity of consumables used and stored should always be monitored and recorded in an inventory book.

The activities of the supervisor are shown as follows.

(1) Operation and Maintenance of the Computer System

(a) Monitoring of the computer system

The supervisor records the daily system operation in the operation time log. Whenever the supervisor detects a failure, he/she should inform the contracted maintenance service company and MECM of the failure, and record it in the failure log.

(b) System failure management

The supervisor must record the date when the service company was informed and the time spent in the repair log. It is necessary to keep repair reports for about two years so that they will be useful for later repair work.

(2) Computer Resource Management

Available hard disk space shall be monitored and managed. It is necessary to delete useless data in files regularly.

(3) Operation and Maintenance of Network Infrastructure

Whenever failure is detected, the contracted maintenance service company and MECM should be informed for repair and the failure should be recorded. The supervisor must record the date when the service company was informed and the time spent in repair in the repair log.

(4) Maintenance of the Application Software

The application software shall be updated from time to time to expand and change software functions.

(5) Storage Management

Storage management for the CDs and manuals related to off-the-shelf software, and related to PC and Windows shall be done.

5. DEVELOPMENT AND OPERATION OF WEB CONTENTS

A local homepage should be developed to provide community-specific information to the community people. Development should be done by a Malaysian consultant due to the high skill requirement for development. However, updating should be done by the RIC Committee/Task Force with community involvement, who know the best what is the most interesting information for the community people. Updating skill should be acquired through IT training to be provided by a Malaysian company. Updating activities including information gathering attract attention of the people to the RICs and are considered to be useful also for the promotion of community involvement.

Software applications for E-greeting card, E-public comments and E-reservation can be useful instruments for promoting the use of the RICs. The developed software for the model projects can be utilized for the other RICs. In the case of E-public comments and E-reservation, administrators to handle the reservations and answer the comments should be clearly determined and announced to the users.

Links with relevant sites should be further expanded from the model project stage.

6. IT TRAINING AND PUBLICIZING PLAN

6.1 IT Training Plan

Demand for IT training is very strong and should be provided intensively. The IT training program carried out in the model project should basically be followed. The training materials developed and used also should be utilized. The following adjustments should be made to the program.

- Time length for the IT training should be longer for all the courses.
- Capacity for the training should be bigger to allow more trainees.

For the PC Beginner's Course, the following specification should be adopted.

Course-1 Specifications

Course Name	Course-1 "PC Beginner's Course"
Target Skills and Knowledge	− Keyboard and Mouse Usage − Basic functions of Windows − To start software from Start menu − To double click an icon to start a program − To switch on and operate Windows OS − To operate among some Windows − To use icons − To open and close a Window − To edit a brief document − To turn off a computer
Number of Sessions	104 sessions / year/RIC (2 times/week/RIC)
Venue	Rural Internet Centers
Session Duration	4 hours per session
Participation Fee	Free of charge (Financed by MECM)
Capacity	5 persons per session (maximum)
Training Staff	One instructor employed by MECM
Target Participant	New to PCs
Requirements for participation	To send in an application for the course
Training Material	Textbook (1): *Kursus Jangka Pendek Teknologi Maklumat (IT) 1 Nota Kursus* Textbook (2) *Latihan Menggunakan Notepad* MTM (Mouse Training Module) in Self Tutorial CD TTM (Typing Training Module) in Self Tutorial CD

For Internet Beginner's Course, the following specifications should be adopted.

Course-2 Specifications

Course Name	Course-2 "Internet Beginners Course"
Target Skills and Knowledge	− Use of Services on the Internet − How to connect a computer to the Internet − Basics of Browsers (MS Internet Explorer) − To start a browser from the Start menu − To display homepages − To change a URL address − To use icons − To click items on the homepage that are linked to another page − Basics of Search Engines − To enter the URL of a Search Engine − To think of keywords to search − To enter keywords to be used on a Search Engine − To select useful/available homepages − Basics of E-mail − To get an E-mail address using a free e-mail service − To login to an E-mail server − To compose and send E-mail − To reply to and to receive E-mail − To attach files to an E-mail − To manage E-mail folders − Log off from an E-mail service
Number of Sessions	104 sessions/year/RIC (2times/week/RIC)
Venue	Rural Internet Center
Duration of a Session	4 hours
Participation Fee	Free of charge
Capacity	5 persons per session (maximum)
Training staff	One instructor employed by MECM
Target Participant	New to the Internet
Requirements for participation	To send in an application for the course
Training Material	Textbook : *Kursus Jangka Pendek Teknologi Maklumat (IT) 2 Nota Kursus*

People who cannot attend the training courses for certain reasons are invited to learn PC and Internet usage themselves with training material prepared at the RICs. The contents of the self-learning course are the same as those of Course-1 and Course-2.

MECM should employ and assign persons who can act as instructors in Course-1 and Course-2. It will be convenient for the RIC Committees to select and to recommend to MECM the instructors from their communities. Possible candidates are as follows.

Possible Candidates for the IT Instructors in Course-1 and Course-2

Primary or secondary school IT-related teachers
Staff working for cyber cafes
Office clerks who use PCs or the Internet in their ordinary jobs
RIC Committee members
Persons who have finished both short courses
A person without a regular occupation who has experience using PCs or the Internet

The following training material is available in Course-1 and Course-2, which were developed in the Study.

Available Training Material

Course-1	Textbook(1): Course-1 Textbook
	Textbook(2): Using Notepad
	Mouse Training Module(MTM) and Typing Training Module(TTM)
Course-2	Textbook: Course-2 Textbook "
Self-Learning	Textbooks for Course-1 and Course-2
	Self-Tutorial CD including MTM and TTM

MECM should arrange for the revision and updating of these training materials. It will also be necessary to translate the contents from "Bahasa Malaysia" into other ethnic languages.

Another IT training course should be provided for developing the web experts for each RIC Committee.

Course-3 Specifications

Course Name	Course-3 "Web Expert Course"
Target Skills and Knowledge	Basic knowledge and skills to develop an RIC website
Number of Training days	7 days in the first year
Venue	Rural Internet Center
Session Duration	2 to 7 hours including lunch and short breaks
Participation Fee	Free of charge
Capacity	3 to 5 RIC Committee members:
Target Participant	1st Day Training: All RIC Committee members 2nd to 7th Days Training: Members selected from the RIC Committee as web administrators
Training Material	Textbooks : (Prepared by JICA Study Team) 1) RIC Web Editing Manual 2) e-Reservation Manual 3) e-Public Comments Manual 4) e-Greeting Card Manual Software: 1) Microsoft FrontPage 2002 2) Adobe PhotoShop 7.0 3) Leech FTP (Windows OS Freeware)

Training programs should be carried out every year as follows.

Course-1

The number of times is 104 and the full quota of participants is 520.

Course-2

The number of times is 104 and the full quota of participants is 520.

Course-3

The number of times is 7 and the total number of participants is around 30.

6.2 Publicizing Plan

Pamphlets and signboards introducing RIC activities are effective tools and should be used. Introducing RIC activities and asking the cooperation of the community organizations including schools, Women's Unions, Youth Unions as well as the village chiefs is effective and should be used. A common local homepage introducing the scope of RIP and services to be provided by RICs is effective and the one developed for the model projects should be kept for use. Frequent upgrading should be made incorporating new information about RIP/RIC activities. A photo contest was carried out once for each model project. Special events should be organized and carried out with community involvement including events to collect the information/data for local homepage contents.

7. OPERATION AND MANAGEMENT OF RIP/RIC

7.1 Organizational Framework of RIP

(1) Responsibility of MECM and Establishment of RIC Division

In order to carry out the responsibilities of MECM for RIP implementation, a Division responsible for RIP should be established within MECM. Assuming at least one site visit for every RIC in a year, 4 full-time staff are considered to be needed.

- One chief of the Division
- One telecommunications and IT expert
- One Web contents expert
- One accounting clerk

The Division should have the following responsibilities.

i) Overall planning of RIP

ii) Budget preparation and fund provision for RIP

iii) To supervise the maintenance of the 2 hosting servers to be installed in MECM for the operation of RICs

iv) To employ and mange IT consultants/companies

v) To assign one supervisor each for a RIC for the full-time supervision of its operation

vi) Periodic monitoring of the performance of RICs

(2) Establishment of Supporting Committees

A Supporting Committee should be set up aiming at providing assistance to RIP and at coordinating with other relevant projects to achieve the common and ultimate goal of digital divide bridging, as given below.

i) Chairperson should be Secretary General of MECM with Deputy Secretary General as Deputy Chairman.

ii) Members should include the representatives of EPU, MORD, MOE, INTAN, State Governments and Telekom Malaysia and Pos Malaysia besides MECM.

iii) Concerned aid organizations, e.g. JICA and UNDP, etc., may be invited as observers.

iv) Meetings will be held annually around the end of the year and when needs arise.

7.2 Management of RICs

Direct supervision of RIC operation should be made by the supervisor employed by MECM. It is recommended that rules should be made for the proper and efficient use of RICs in line with the objective of RIP, including prohibition on the improper use, maximum hour for use and a priority order among the users. Rules should be decided through the discussion and agreement between MECM and RIC Committees. Enforcement should be done by the full-time supervisors.

The duties of the supervisors are as follows.

- Start up and shut down of .equipment
- Checking of OS and applications, etc.
- Supervision of RICs use including illegal use
- Informing the maintenance company in case of troubles with equipment or communications lines
- Instruction for proper use of RICs and priority use for the target group
- Instruction on PC and Internet use for beginners
- Monitoring of RIC usage and report to MECM and RIC Committee

Major tasks for the RIC Committee/Task Force should comprise:

- Organizing various events for promoting RIC use and community participation including workshops, Web browsing contests, photo contests, etc.
- Collection of relevant information/data and updating the local homepage

- Publicizing the RIC and its activities
- Discussing the solutions for the problems occurring in association with the operation of the RIC and measures to strengthening the activities of the RIC
- Taking on board the needs of the community and formulation of the draft annual plan for RIC services for the subsequent year and submission thereof to MECM

To fulfill these tasks, it is necessary that the RIC Committees should assume the distinctive functions at the same time. Namely:

- Official and authorization function with regard to the operation of RICs representing or on behalf of the local authority
- Voluntary task force function to carry out RIC activities

To carry out the dual functions, the RIC Committee should include representatives of the Local Authority, community-based organizations and people interested in RIC activities. The Task Force should comprise people eagerly interested in RIC activities .The younger generation and the people with relatively high IT literacy should be included in both the RIC Committee and the Task Force. More specifically, the following members should be included:

- District Officer or his/her deputies
- Representatives of the Departments of the District Office including those for agriculture, health, education, industry and commerce
- Representatives of the primary and secondary schools
- Post office master
- School teachers
- PTA
- Representatives of the community-based associations including Youth Unions, Women's Unions and agricultural associations
- Owners/Managers of the local industries

The RICs Committees should have the following posts:

- Chairman
- Deputy Chairman
- Secretary
- Accountant

Selection/appointment of the RIC Committee members should be as follows.

- At the time of the establishment of a new RIC, either MECM or the District Office calls a meeting for establishing an RIC Committee, inviting the concerned people.
- In this meeting, RIC Committee members should be agreed upon including the Chairman.
- A members list should be sent to MECM and District Office/State Government for consent.
- At the beginning of the fiscal year, an RIC Committee meeting should be held to confirm the membership. A new member list, regardless of whether or not there is any change, should be sent to MECM and District Office/State Government for consent.
- In case there arises the need to change or add new members to the RIC Committee, the Chairman can make a decision and report it to MECM and the District Office/State Government.

7.3 Manpower Development for RIC Management

Aiming at the sustainable operation of RICs, manpower for RIC management should be developed in the community.

Manpower development should be through on-the-job training and with the facilitation of a Malaysian IT company. Homepage updating training courses should be provided to develop the necessary skills for updating the local homepage.

Developed manpower should be able to:

- Organize various activities to support and promote RIC operation.
- Promote community involvement for the promotion of RIC activities.
- Recognize the needs for the info-communications access in the community and give feedback to the implementing body of MECM.
- Update the local homepage.

8. INSTITUTIONAL MEASURES FOR RIP/RIC PROMOTION AND SOCIAL CONSIDERATION

The following institutional measures are recommended for increasing motivation for RIC users and to operate RICs effectively.

i) An examination system to assess the skill level of the RIC users should be established by an appropriate Government institution with the arrangement of MECM.

ii) A certification system for RIC Instructors should be established by an appropriate Government institution with the arrangement of MECM.

It is necessary for the target group to promote the RIC use for the information poor. The promotion for women should be emphasized more because many women are information poor. A women's day should be held once a month to promote priority use for women. A female trainer should be assigned for women's course because it is comfortable for women if a trainer is female. In addition, an elderly day, in which priority use is given to elderly people, should also be held for elderly people who tend to be information poor. A training course for elderly people should also be organized.

9. MONITORING OF THE PERFORMANCE AND USE

In order to get feedback to the improvement of operation and management, data for the performance and use of RIC should be obtained through observation as well as the questionnaire survey for the RIC users and participants of IT training. Supervisors should assume the role of a monitoring staff and report to MECM. Monitoring data should include:

- Number of RIC users and their attributes
- Frequency of browsing the local homepages
- Frequency of using software applications
- Internet access speed by kind of telecommunication infrastructure
- Occurrence of mechanical troubles and repair for PCs and other equipment and facilities
- Number of participants for the IT beginner courses and degree of acquiring skills
- Number of participants for the IT training course for homepage updating and number of people who have acquired the skills

- Activity level of RIC Committees/Task Force, publicizing of RIC and community involvement
- Satisfaction of the users and IT training participants with regard to:
  - RIC space, number of PCs
  - Internet access speed
  - Business hours of the RICs
  - Contents of the local homepage
  - Level, frequency, duration and materials used in IT training

10. IMPLEMENTATION SCHEDULE OF RIP

RIP will consist of 240 RICs to be established by 2006 and a management organisation in MECM. 240 RICs are divided into three types.

- Existing pilot RIC: 13 sites
- Model RIC: 3 sites
- New RIC: 224 sites

RIP should be implemented according to the following courses, and then the schedule is planned based on that.

- Existing pilot RICs should be revitalised and new RICs should be established on the example of the three model RICs, which have been completed successfully and are continuously managed with collaboration from MECM and RIC Committees.
- Year 2003, as a first year of full-scale implementation of RIP, should focus on revitalising of the existing pilot RICs, and new RICs should not be established.
- An operation to establish new RICs will start from 2004, and a selection of sites and facilities, and tender preparation should be done within 2003.
- The same number (56) of new RICs should be established every year during four years from 2003 to 2006 considering the capacity of RIP Division newly established in MECM and ensuring at least two years operation of each RIC.

The implementation schedule is shown below.

Implementation Schedule of RIP

	Work Items	2002	2003	2004	2005	2006	2007	2008
1	13 Pilot projects							
1.1	Repairing of the existing facility/equipment							
1.2	Installation of new equipment							
1.3	Assigning a full-time supervisor							
1.4	Strengthening of RIC Committee activities							
1.5	Development/updating of local homepages							
1.6	Provision of IT training (Beginners course and intermediate course)							
1.7	Provision of services							
1.8	Management and maintenance							
2	3 Model projects							
2.1	Strengthening of management by RIC							
2.2	Provision of IT training and service							
2.3	Management and maintenance							
3	Establishment and Operation of 56 New							
3.1	Selection and formulation of RIC							
3.2	Establishment of RIC Committee							
3.3	Procurement of facility/equipment							
3.4	Development/updating of local homepages							
3.5	Construction and installation of facility/equipment							
3.6	Provision of IT training (Beginners course and intermediate course)							
3.7	Provision of services							
3.8	Management and maintenance							

11. COST OF RIP AND COST BEARING

11.1 Cost of RIP

The total cost of RIP is RM 134.1 million, consisting of RM 30.1 million for capital cost including Web contents development cost and RM 104.0 million for running cost including IT training cost. The budget required in the existing Five Year Plan (8th Malaysian Plan) is RM 42.0 million equivalent to 31.3 % of the total cost while RM 92.0 million equivalent to 68.7 % of the total is required in the next Five Year Plan (9th Malaysian Plan). It is recommended that allocated budget of RM10 million should be increased to meet the above requirement through the mid-term review of the current Five Year Plan in 2003 considering the substantial contribution of RIP to the digital divide bridging.

The following table shows year on year cost of RIP.

Cost of RIP

(1,000RM)

	Item	2003	2004	2005	2006	2007	2008	Total
1	3 model projects							
1.1	Running Cost							
	Sg.Air Tawar	51	51	51	51	51	51	306
	Bau	56	56	56	56	56	56	336
	Kota Marudu	73	73	73	73	73	73	438
1.2	IT training	168	168	168	168	168	168	168
1.3	Facilitation Consultant	31	16					1,008
1.4	Renewal Cost of 3 site systems			350			350	700
	Subtotal	**379**	**364**	**698**	**348**	**348**	**698**	**2,835**
2	Restructuring Cost of 13 existing RIC							
2.1	Initial Cost and Renewal Cost of RIC	1,240			1,240			2,480
2.2	Running Cost	780	780	780	780	780	780	4,680
2.3	IT training	728	728	728	728	728	728	4,368
2.4	Facilitation Consultant	135	67					202
2.5	Construction Cost of RIC Web Contents	26						26
	Subtotal	**2,909**	**1,575**	**1,508**	**2,748**	**1,508**	**1,508**	**11,756**
3	New RIC(2004)							
3.1	Initial Cost and Renewal Cost of RIC	4,368			4,368			8,736
3.2	Running Cost		3,136	3,136	3,136	3,136	3,136	15,680
3.3	IT training		3,136	3,136	3,136	3,136	3,136	15,680
3.4	Facilitation Consultant		581	291				872
3.5	Construction Cost of RIC Web Contents	112						112
	Subtotal	**4,480**	**6,853**	**6,563**	**10,640**	**6,272**	**6,272**	**41,080**
4	New RIC(2005)							
4.1	Initial Cost and Renewal Cost of RIC		4,368			4,368		8,736
4.2	Running Cost			3,136	3,136	3,136	3,136	12,544
4.3	IT training			3,136	3,136	3,136	3,136	12,544
4.4	Facilitation Consultant			581	291			872
4.5	Construction Cost of RIC Web Contents		112					112
	Sub Total		**4,480**	**6,853**	**6,563**	**10,640**	**6,272**	**34,808**
5	New RIC (2006)							
5.1	Initial Cost and Renewal Cost of RIC			4,368				4,368
5.2	Running Cost				3,136	3,136	3,136	9,408
5.3	IT training				3,136	3,136	3,136	9,408
5.4	Facilitation Consultant				581	291		872
5.5	Construction Cost of RIC Web Contents			112				112
	Sub Total			**4,480**	**6,853**	**6,563**	**6,272**	**24,168**
6	New RIC(2007)							
6.1	Initial Cost and Renewal Cost of RIC				4,368			4,368
6.2	Running Cost					3,136	3,136	6,272
6.3	IT training					3,136	3,136	6,272
6.4	Facilitation Consultant					581	291	872

6.5	Construction Cost of RIC Web Contents				112	0	0	112
	Subtotal				**4,480**	**6,853**	**6,563**	**17,896**
7	Server							
7.1	Server for RIC Web Contents	30						30
7.2	Server for RIC Systems Monitoring and User Registration	30						30
7.3	Software Development Cost	200						200
7.4	Running Cost	6	6	6	6	6	6	36
	Sub Total	**266**	**6**	**6**	**6**	**6**	**6**	**296**
8	MECM Staff							
8.1	Chief	60	60	60	60	60	60	360
8.2	Senior	144	144	144	144	144	144	864
8.3	Transport Expense	2	2	2	2	2	2	12
	Subtotal	**206**	**206**	**206**	**206**	**206**	**206**	**1,236**
9	**Total**	**8,240**	**13,484**	**20,314**	**31,844**	**32,396**	**27,797**	**134,075**
9.1	**Total of RIC Construction Cost**	6,006	4,480	4,830	10,088	4,368	350	30,122
9.2	**Total of IT Training Cost**	896	4,032	7,168	10,304	13,440	13,440	49,280
9.3	**Total of IT Running Cost**	966	4,102	7,238	10,374	13,510	13,510	49,700
9.4	**Total of Other Cost**	372	870	1,078	1,078	1,078	497	4,973

11.2 Cost Bearing

Considering the objective of RIP, RIP should be implemented as a public undertaking. All the capital and running costs required for the implementation of the Action Plan should, therefore, be borne by MECM in principle. However, Pos Malaysia being a privatized company, the Government can not directly finance the post office expansion cost to build an annex for RIC due to the Government rule. Hence it is recommended that Pos Malaysia bear the expansion cost then lease it to MECM. With regard to O&M costs, it is also recommended that the following costs should be borne by organizations other than MECM which can serve for the desirous collaboration among MECM, State Government, the users and other organizations concerned.

i) Aiming at effective management of RICs and as well as promoting desirous collaboration among the concerned parties, maintenance cost for the building where RICs are placed should be borne by the organization that owns and manages the building.

ii) RIC users should bear the cost of printing paper through the RIC Committee.

12. CONTRIBUTION OF RIP TO BRIDGING THE DIGITAL DIVIDE BETWEEN RURAL AND URBAN AREAS

12.1 Contribution to Bridging the Digital Divide

Even though there are many indicators for measuring the digital divide, there is no international standard. Indicators for the Internet that are used in Japan (Ministry of Public Management, Home Affairs, Posts and Telecommunications) are listed below.

- Opportunity for Internet access
- Opportunity for receiving technical training

RIP provides an opportunity for Internet access and also provides technical training by direct advice by supervisors, self tutorial, and IT training for beginners, so the above mentioned indicators are appropriate as indicators for enhancement of info-communications access through RIP.

In specific, the number of first-time RIC users above 17 years old and number of IT trainees were estimated as indicators of Internet access and IT skill acquisition respectively for digital divide bridging by RIP. These indicators allow us to access the decree of contribution of RIP to bridging the digital divide.

(1) Number of RIC Users

The total number of users who will be served at the 240 RICs which will be established and operated during the 6 years of the project period until 2008 were estimated. The estimated numbers include the total number of RIC users and new users above 17 years old as people who have the first opportunity to access to the Internet.

(a) Total Number of Users

The total number of RIC users was estimated to reach 2.25 million people applying 5.99 person/PC/day, which is the average number of users of Sg. Air Tawar post office RIC and Kota Marudu post office RIC as a post office RIC model, and subject to the condition of 5 PCs at one RIC and 5 days operation a week.

Total Number of RIC Users (persons)

	2,003	2,004	2,005	2,006	2,007	2,008	Sub-Total
3 RIC	23,000	23,000	23,000	23,000	23,000	23,000	138,000
13 RIC	102,000	102,000	102,000	102,000	102,000	102,000	612,000
56 RIC		437,000	437,000	437,000	437,000	437,000	2,185,000
56 RIC			437,000	437,000	437,000	437,000	1,748,000
56 RIC				437,000	437,000	437,000	1,311,000
56 RIC					437,000	437,000	874,000
Sub-Total	127,003	564,004	1,001,005	1,438,006	1,875,007	1,875,008	6,868,000

(b) Number of New RIC Users above 17 years old

The total number of first-time RIC users above 17 years old, i.e., not counting repeat users, was estimated at about 1.26 million people applying 1.1 person/PC/day assuming 5 PCs at one RIC and 5 days of operation a week. The figure of 1.1 was obtained by subtracting the number of users below 18 years old (43.8%) from 1.96 person/PC/day, which is the average number of new users of Sg. Air Tawar post office RIC and Kota Marudu post office RIC.

Number of New RIC Users above 17 years old (persons)

	2,003	2,004	2,005	2,006	2,007	2,008	Sub-Total
3 RIC	4,000	4,000	4,000	4,000	4,000	4,000	24,000
13 RIC	19,000	19,000	19,000	19,000	19,000	19,000	114,000
56 RIC		80,000	80,000	80,000	80,000	80,000	400,000
56 RIC			80,000	80,000	80,000	80,000	320,000
56 RIC				80,000	80,000	80,000	240,000
56 RIC					80,000	80,000	160,000
Sub-Total	23,000	103,000	183,000	263,000	343,000	343,000	1,258,000

(2) Number of IT Trainees

The number of beginner IT trainees that will attend courses at the 240 RICs which will be established and operated during 6 years of the project period until 2008 assuming for two days course in every Saturday and Sunday with 5 PCs was estimated. It was estimated that about 460,000 people can acquire Internet access skills.

Number of IT Trainees (persons)

	2,003	2,004	2,005	2,006	2,007	2,008	Sub-Total
3 RIC	2,000	2,000	2,000	2,000	2,000	2,000	12,000
13 RIC	7,000	7,000	7,000	7,000	7,000	7,000	42,000
56 RIC		29,000	29,000	29,000	29,000	29,000	145,000
56 RIC			29,000	29,000	29,000	29,000	116,000
56 RIC				29,000	29,000	29,000	87,000
56 RIC					29,000	29,000	58,000
Sub-Total	9,000	38,000	67,000	96,000	125,000	125,000	460,000

12.2 Impact of RIC Use

Impact of Internet access through RIC is expected as follows.

(1) Improvement of living condition by increasing available information

Information sources in the rural area are limited to television, newspapers, and other publications. Use of the Internet can expand the amount of information, which is expected to contribute to improved access to education, to improved job opportunities, and to improved living conditions. Types of information are listed below.

- Improve access to education: access to information regarding educational institutes, school information including applications, entering virtual universities, etc.,
- Improve job opportunities: job offers, skill improvement by taking courses offered by virtual universities,
- Improvement of living conditions: information on public health, medical information and other knowledge for living, and
- Activation of community activities by organizing events, community activities, activation of communication.

(2) Communication cost reduction impact

- Using e-mail can reduce the communication cost, particularly long distance phone calls. According to the needs survey, there are many requests to use e-mail to communicate with relatives or friends in urban areas outside the community.
- Information collection through e-mail can save time and transport cost (Time and cost saving for moving from rural area to urban area. Cost of education and cost of job search.).

12.3 Impact of IT Training

As a part of RIC services, RICs provide IT training for RIC users including beginners. Through IT training, people with no computer knowledge can acquire computer knowledge by using computers at RICs. This will improve IT literacy and eventually add to their labor value. Increasing labor value will increase job opportunities, promotions, and income.

13. SELECTION OF PRIORITY PROJECT AND EVALUATION OF THE CONTRIBUTION

Considering that large number of on-going pilot RICs are not functioning and the necessity of augmenting the experience of RIC management by MECM new Division as well as the lead time required for securing the additional budget for the new RICs, it is recommended that the revitalization of the 13 pilot RICs should be selected as priority project.

In implementing the project, it is recommended that the counter-measures against the prevailing problems of the pilot RICs should be firstly worked out and the experience of the model projects, in particular Sg. Air Tawar RIC should be referred to.

Beneficial effects of the priority project will be sizable. Namely, 612 thousand rural residents will get Internet access through the project implementation, of which 114 thousand will be the first time users above 17 years of age. Number of IT training participants will be 42 thousand.

14. ACTIONS TOWARD THE COMPLETION OF RIP

It is recommended that after-completion plan should be worked out in the final year of the project period, including the treatment and disposal of the equipment and facility.

The plan should be worked out considering the progress of telecommunication infrastructure development in the rural area, introduction of IT devices into rural households and progress of digital divide bridging. Options may be to transfer RIC facility to the local communities or to other ministries/State Governments.

PART V ACHIEVEMENTS OF TECHNOLOGY TRANSFER

1. OBJECTIVES AND METHODOLOGIES FOR TECHNOLOGY TRANSFER

1.1 Objectives of Technology Transfer

The objectives of the technology transfer were to:

- Transfer skills for planning and implementing RICs and working out an action plan for the development of the full-scale Rural Internet Program with the target group of the counterpart personnel.
- Transfer skills for the management of the rural Internet centers and for updating the local homepages to the RIC Committee members and Task Force members, and
- Provide IT skills to the community people for using PCs and the Internet.

1.2 Methodologies of Technology Transfer

Technology transfer was carried out both in Malaysia and in Japan. Methodologies adopted for technology transfer comprised:

i) On-the-job Training (OJT)

ii) Workshops

iii) Technology Transfer Seminar

iv) IT training courses

v) Site visits and lectures in Japan

The items that were subjects of the technology transfer and the target groups as well as the adopted methodologies are given below.

Targets and Methods of Technology Transfer by Technology Transfer Items

Technology Transfer Items	Target Group	Method
1) Methods of Project Formulation		
Methods to draw up the Model Project	MECM	OJT, daily discussions/meetings
Methods to draw up the Action Plan	MECM	OJT, daily discussions/meetings
Methods for analysis of existing projects	MECM	OJT, daily discussions/meetings
2) Info-communications infrastructure Development		
Planning of optimal communication network for RIC	MECM	OJT
Planning and construction supervision of Wireless LAN	MECM	OJT
Planning of Hardware(PC, peripheral equipment and Wireless LAN)	MECM/ each Model RIC Committee	OJT
3) Web Contents Development		
Web Server Management	MECM	OJT
Management of RIC Main Page	Each RIC Committee	OJT
4) IT Training		
Basic PC Usage	Ordinary people/ RIC Committee members	IT-short courses
Basic Internet Usage	Ordinary people/ RIC Committee members	IT-short courses
Management of each RIC Website	RIC Committee members	IT-short courses
Management of Special Web-Modules for RIC - e-Reservation - e-Public Comments - e-Greeting Card	RIC Committee members	IT-short courses
5) Capacity Building and Management		
Management know-how for RIC projects	MECM/ RIC Committees	OJT/Workshops
Know-how for operation and maintenance	MECM/ RIC Committees	OJT/Workshops
Participatory approach for community involvement	MECM/ RIC Committees	OJT/Workshops
Management of the training or short courses in the Model Sites	MECM/ RIC Committees	OJT/Workshops

An RIC Management Book was prepared as feedback through the daily operation of the RICs in the Model Projects.

For RIC Management

Documents and Contents	Language
• RIC Management Book	
− Contact List	English
− Password List	English
− "How to Turn On/Off PC"	English
− "Recovery from Power Failure"	English
− "Auto-Logon Settings on Windows XP" (for Security Protection)	English
− "How to install Microsoft Office XP"	English
− "How to get free E-mail address on Yahoo! USA" (for new E-mail users)	English, Malay
− "How to activate MS Office XP products"	English
− "Inventory List of Software and Hardware of RIC"	English
• RIC Management Forms and Templates	
− RIC Visitor Log	English
− Weekly Report Form	English
− RIC Operation Log	English
− Failure and Repair Log	English

For IT training, the following textbooks and training modules were prepared.

For IT Training

Documents/Modules	Language
Textbooks for IT-Short Course	
• IT-Short Course 1 Textbook	Malay
• IT-Short Course 1 Sub-textbook ("Using Notepad")	Malay
• IT-Short Course 2 Textbook	Malay
Training Modules	
Training Kit Installation Guide	Malay
• Mouse Training Module	Malay
• Typing Training Module	Malay
• Main Tutorial (Module)	Malay
• Examination Module	Malay

For RIC Website Development and Maintenance

Documents	Language
• Web Editing Manual (for RIC website)	English, Malay
• e-Greeting Card Manual (for users and administrators)	English, Malay
• e-Public Comments Manual (for users)	English, Malay
• e-Reservation Manual (for users and administrators)	English, Malay
• RIC Common Website Guide	English
• RIC Sg. Air Tawar Website Guide	English
• RIC Bau Website Guide	English
• RIC Kota Marudu Website Guide	English

2. ACHEVEMENTS OF TECHNOLOGY TRANSFER

In total, seven counterparts worked together with the Study Team and received technology transfer for the model project planning and implementation as well as action plan formulation through on-the-job training. Two of the seven, the Chief and Deputy counterparts visited Japan and made site visits including the regional information center projects and participated in lectures about the policies and Japanese experience with info-communications access, advanced info-communications infrastructure technology, community Web site development, community activation by IT and community-based computer training clubs.

Workshops were held at the model project sites during the model project period; prior workshops, post workshops and photo contest workshops. The RIC Committee/Task Force took the initiative for organizing and carrying out the workshops with the facilitation of the Study Team.

During the Technology Transfer Seminar, methodologies for planning and implementation of RICs and for working out the action plan were presented to the counterparts, the RIC Committee/Task Force members of the 3 model projects, representatives of the concerned Ministries and organizations, aid organizations, NGOs and others.

IT training courses were held with the participation of the RIC Committee/Task Force members and 11 members acquired the skills for homepage updating. In total, 179 community people attended the PC beginner's course and 158 for the Internet beginner's course and all acquired the skills.

Figures

Fiscal Year	Fiscal Year 1			Fiscal Year 2													
Year	2002													2003			
Month	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March		
Work Process		IC/R					P/R	IT/R WS-1			WS-2	DF/R Seminar			F/R		
	Preparatory Work (Japan)	First Work in Malaysia			Preparatory Work for Second Year in Japan	Second Work in Malaysia	First Work in Japan	Third- Fifth Works in Malaysia				Second Work in Japan	Sixth Work in Malaysia		Third Work in Japan		

Work Items

- (1) Review of the Available Reports, Data and Information
- (2) Preparation for the Needs Survey
- (3) Collection and Analysis of the Examples in Advanced Countries
- (4) Preparatory Work for the Draft Plan for the Model Projects
- (5) Preparation of the Inception Report

- (1) Presentation of Inception Report
- (2) Data Collection and Review
- (3) Site Reconnaissance
- (4) Implementation of Needs Survey
- (5) Analysis of the Policy for the Info-communications Access Improvement in the Rural Areas and Current Conditions of the Existing RICs (1)
- (6) Preparation of a Simple Report Summarizing the Study Progress in Malaysia

- (1) Analysis of Needs Survey Results in Japan

- (1) Supplementary Interview for Needs Survey
- (2) Additional Analysis of the Needs Survey Results
- (3) Analysis of the Policy for the Info-communications Access Improvement in the Rural Areas and Current Conditions of the Existing RICs (2)
- (4) Preparation of the Draft Plan for the Model Projects
- (5) Presentation of the Progress Report

- (1) Preparation of Draft Action Plan

- (1) Presentation of Interim Report
- (1) Planning for Model Projects
- (2) Holding Workshop-1 (Prior Workshop)
- (3) Support for Model Projects
- (4) Interim Evaluation of Model Projects
- (5) Narrowing Down of Action Plan Measures
- (6) Holding Workshop-2 (Post Workshop)
- (7) Preparation of a Simple Report Summarizing the Study Progress in Malaysia

- (1) Evaluation of Model Projects
- (2) Preparation of Draft Final Report

- (3) Presentation of Draft Final Report
- (4) Holding Seminar

- (1) Preparation of Final Report

Phase

Phase Ⅰ | Phase Ⅱ | Phase Ⅲ | PhaseⅣ

Advisory Committee Meeting

Month	January	February	March	April	May	June	July	August	September	October	November	December	January	February	March
Year	2002												2003		
Fiscal Year	Fiscal Year 1			Fiscal Year 2											

Figure I.1 Work Flow