

A. 6 WORKING PAPER: INFORMATION AND COMMUNICATIONS TECHNOLOGY TO SUPPORT CAPACITY BUILDING FOR LOCAL GOVERNMENT

1 Introduction

The capacity building activities within the loan program will be supported by a specifically earmarked ICT budget of US\$2 to 3 million. ICT investment will provide the essential management and coordination infrastructure for the loan program and, once in place, will be maintained to support institutional performance in participating local governments.

As has been noted often before, Indonesia is a vast and widely dispersed nation of diverse and physically isolated communities, where travel is difficult and communications in all forms is expensive. Therefore, web-based technology is now making significant inroads to serve even the most remote regions of the archipelago.

Perhaps more than anywhere in the World, web-based systems present an opportunity to deliver and maintain the full range of integrated capacity building initiatives required to support efficient decentralized local governance.

In this SCBD project, ICT will be a prominent component. Hardware, software, training etc. will be provided to support CB action plan of particularly Local Governments.

The strategic approach for ICT should be well prepared and managed to achieve the development agenda. It will support local governments in systematically developing and integrating ICT components in development projects and activities to increase their reach, efficiency, and impact.

Therefore, it is very crucial and essential to foster the development of human resources capable of responding to the demands of the information society. Education and lifelong learning are important components for improving knowledge and skills, especially at the staff level, to address the rising demand for better performance for personnel in the public sector.

ICT supports distance learning and knowledge sharing, as does the globalization of specialized communication and information networks. ICT has particular potential for enriching and improving the quality and the relevance of training/ education provided to all levels in away which is gender¹ neutral. An awareness-building program, as well as vocational training, through an information, education, and communication component should be incorporated in the program of capacity building.

¹ Any local government staff or officer can avail of these e-training modules, this will help to bring balance to the pool of trained personnel

2 Management of the Loan Program

It is envisaged that the loan program will be managed with the aid of web-based systems. The main purpose is to utilize the benefits of the web such as real time, wide application, and client oriented.

- Real time: Web-based database and application can provide the current standing, exact and objective information on the loan program. All data and information will be treated in a computerized procedure and mechanism called Electronic Data Gathering, Analysis, and Retrieval (EDGAR). Transparency of the loan program is guaranteed since there is little human involvement in the system. The system is also capable to handle any form of data pivoting and synthesizing in real time. With this kind of function and feature it is very convenient to develop any data- and information-rich or sensitive application and evaluation.
- Wide Application: The web is ubiquitous. In a simplified model, it requires only a computer and communications line to tap the Internet and have all benefits the web provides. There is no need to deploy heavy infrastructure in every area. The native architecture of the web makes it possible to employ any available telecommunications facilities to connect with any other nodes of the system. Once it connects to the system, any form of web-based data & information, knowledge, and application can be accessed, and exchanged.
- Client oriented: The meaning of client oriented in communication and information systems is that it will do what the client want it to. Any application developed will be structurally established to support different user policies and management needs.

The development concept of the web-based system is fundamentally based on the national capacity building framework as a whole. The model will be based on three-levels, these being 'system', 'institutional', and 'individual' levels, and include all key elements of the strategy in the capacity building program. It is important to ensure the sustainability of the system.

This web-based system centrally manages and coordinates many activities related to the loan program. It is a self-contained website to the loan program. For the initial stage of development and deployment some information will be featured in the website.

- a) The potential scope of the capacity building program
- b) The range of benefits available through technical support packages and training opportunities
- c) The criteria for qualification and participation in the proposed loan-funded program
- d) Detailed application procedures
- e) Contractual obligations of participating institutions and necessary financial commitments
- f) Details of the evolving capacity building support program timetable and news.

The website also support the function of initial assessment for the loan program. It will be uniquely design to support the proposed system of competitive application to pre-qualify for the first phase funding through a Capacity Building Action Plan.

Through the web-based system local governments could pre-qualify for priority assistance under the loan through their current ‘state of readiness’ and ability to utilize available funding for ‘priority capacity building investment packages’ efficiently.

Local governments could also qualify for support through ‘backstopping’ assistance packages’ to prepare them for capacity building investment.

The system will help in focusing on institutional capacity building in areas of institutional strengthening, training and education, and improved service delivery performance.

The website would post the format for Loan Application by holding the standard formats, guidance manuals and providing interactive technical assistance to prepare the plan and make the formal application.

Any component of application will be downloadable from the website. It is also expected that the website will be doing some basic tasks in the initial phase of the process and will gradually enhance it’s usefulness.

The website will be a means for collaboration of the parties involved in the loan program in the form of assessment, implementation, reporting, monitoring, and evaluation activities. With appropriate features it help to ensure the sustainability of the system in supporting capacity building programs.

Summary of ICT Investments and role in the Loan

- Web-based support for the proposed system of competitive application to pre-qualify for first phase funding through a Capacity Building Action Plan. The site would post the format for Loan/grant Application. The site would also hold the standard formats, guidance manuals and provide interactive technical assistance to prepare the plan and make the formal application.
- A web-based framework to coordinate and support national networking of a regionally managed system database on training and education providers, their, capacity, credentials and training courses available.
- A web-based system to coordinate and support national networking of regionally managed accreditation and certification for short courses and vocational training.
- Mandatory web-based support and post training service for training programs specified under, contracted by, and delivered through the capacity building program.
- Specifically developed web-based e-learning packages to serve specific distance learning where this mode is required to support the various capacity building training objectives. This category might include a sub-project concerning HRM.

3 ICT Investment in Institutional Performance

The loan will also support the introduction of Information and Communications Technology in support of more general competencies required for decentralized local governance. Capacity building in the basic skills and techniques of ICT application will be included in the core training modules for regional governments. Specific objectives are:

- Achieve **improved institutional performance** – quicker, cheaper, more comprehensive, more efficient systems with greater accessibility and public accountability.
- Achieve **institutional development** – through cumulative learning gains to develop and maintain institutional memory.
- Achieve **institutional performance measurement and monitoring** – through database maintenance and networking.
- Achieve **professional multi-tasking** – through improved productivity from what are the most valuable and expensive human resources assets, through access to information, analytical tools and increased capacity to manage routine duties and to present and disseminate ideas.
- Achieve **professional development** – through a continuous process of both incidental and event-based on-the-job interactive learning.

3.1 Investment Action Program

Develop an ICT pilot program in approximately 40 Kota / Kabupaten and Provincial/Central Government of Indonesia.

The program will consist of the following activities:

- a) Create an enabling environment by strengthening of the ICT facilities and related infrastructure and networks of the central executing agency and the 40 participating Kota / Kabupaten and Provincial/Central Governments.
- b) Develop ICT applications and information bases and networks of all relevant local government entities that are developing distance learning module and providing services for the public or which need to interact for the purpose of planning, decision making or regular operations as an pilot project.
- c) Develop human resources, improve their knowledge and skills through ICT specific training, and promote ICT literacy and life-long learning of personnel using e-learning and awareness programs.²

3.2 Approach and Justification

Information and communication technology (ICT) has become a powerful tool in the context of Capacity Building, providing developing countries with an unprecedented opportunity to meet vital development goals, such as economic development urban services poverty reduction, basic health care, and education, far more effectively than before.

Society is embracing new development challenges and opportunities that the recent rapid evolution in ICT has brought about. This phenomenon has enhanced human capacity in the

² a) *EDP and Web Mastering Training Module*: Specific features of web-based applications and development (Linux installation training, PHP4, database setup, e-mail and file system management, workgroup and collaboration, Internet and Intranet, user policy and management, security, network maintenance, usage monitoring).
b) *Web Admin & Networking Training Module*: Network Instalation, network admin fundamental, web authoring and admin fundamental, Internet and Intranet
c) *EDP, Web Admin, dan operator/ user*: (req: office applications) web-based applications (Data entry, Data query, info browsing, e-mail, file, internet, workgroup, collaboration).

context of decentralization and municipal empowerment acquiring and sharing information and knowledge.

Indonesia is now entering the new era of decentralization. Local governments have more degree of freedom in terms of initiatives and public participation. ICT has a very important role in this development to support capacity building for local governments.

It is expected that through basic ICT programs, government operations and delivery of public services will be more convenient, customer-oriented, and cost-effective way.

The building blocks of government e-readiness are information communication technology, management innovation, and government reinvention.

Information Communication Technology	<ul style="list-style-type: none"> ▪ PCs/ LAN/ WAN ▪ Browsers/ Intranets/ Internet/ Extranet ▪ EC/ EDI ▪ Security/ Public Key Infrastructure 								
Management Innovation	<ul style="list-style-type: none"> ▪ Change Management ▪ Business Process Reengineering ▪ Knowledge Management ▪ Customer Relationship Management 								
Reinventing Government	<table border="0" style="width: 100%;"> <tr> <td>▪ Mission Focused</td> <td>▪ Enterprising</td> </tr> <tr> <td>▪ Results Oriented</td> <td>▪ Competitive</td> </tr> <tr> <td>▪ Customer centric driven</td> <td>▪ Decentralized</td> </tr> <tr> <td>▪ Community Owned</td> <td>▪ Collaboration</td> </tr> </table>	▪ Mission Focused	▪ Enterprising	▪ Results Oriented	▪ Competitive	▪ Customer centric driven	▪ Decentralized	▪ Community Owned	▪ Collaboration
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▪ Community Owned	▪ Collaboration								

To successfully adopt ICT in government, a facilitation strategy or model by which local government plays a balancing act between driving and setting the ground rules for implementation is needed.

There are 3 major approaches to Local Government facilitate the ICT adoption:

- 1) Guidance and Coordination: Government guides and coordinates the ICT adoption through a dedicated organization at highest level (ad hoc), however, implementations is typically left to middle level and supporting units.
- 2) Government Involvement: Government enables ICT adoption through building appropriate resources (e.g. Software, Hardware, HR, regulations, etc.). Government monitors progress and interferes where necessary
- 3) Government Innovation: Service level improvements are clearly regarded as very important. At the same time, e-government is viewed as an opportunity to broadly and comprehensively improve the government's performance

4 Education and Training for Capacity Building

One of the main features of the website is a managed database system on training and education providers. The database systematically maintains all data and information related to the capacity and credentials of the providers and can be periodically updated retraining courses available to support the capacity building program.

The system will also fully support capacity building for the provider institutions. There is more awareness that decentralization in effect has widened the needs of capacity building for a range of service institutions. The three main groups are 1) government institutions, 2) universities and technical colleges, 3) private sector, 4) yayasan or NGO's.

There is also the provision of a web-based support and post training service for training programs specified under, contracted by, and delivered through the capacity building program. The facility is to ensure the sustainability of the system and full applications of new skill and knowledge.

The system will continuously develop the best practices in delivering and supporting any activities related to the training and education program. The system is flexible so it can support education and training providers in the regions.

4.1 Distance Learning through ICT for Sustainable Local Government Capacity Building for Decentralization

One objective of capacity building for local government proposed as the loan program is the development of appropriate institutional systems and human resources in core competencies to meet the management and implementation needs of performance oriented local government.

The aspect of human resources should be highlighted because of its significant role to the sustainability of the program. The most important thing is education and training at individual and unit level to establish adequate staff capacity to meet the demands of decentralized government.

Learning, in whatever professional task, is a constant demand. Closely related to the success of the capacity building approach is the constant learning on the part of every officer and staff. Life-long learning implies that one's skills may be obsolete over the time he/she is employed. Therefore employers are expected to assume the mantel of responsibility for education and skills upgrading.

In today's high performance organizations, workers must be prepared for continuous on-the-job growth and development. Given the increased demands, variety of experiences, and diverse lifestyles and cultures of the working population, it is understandable that adult education practices must move beyond the traditional model of teachers as purveyors of knowledge and learners as passive recipients.

Methods and techniques that draw upon workers' previous experiences, link concepts and practices, and encourage reflection and the transfer of knowledge from one situation to another is vital to the learning process. Such a shift from full-time training to base on-the-job and day-release training are exercise just in time or action learning.

Action learning is a systematic process through which individuals learn by doing. It is based on the premise that learning requires action and action requires learning. It engages individuals in just in time learning by providing opportunities for them to develop knowledge and understanding at the appropriate time based on immediate felt needs.

Learning itself is not the desired outcome of action learning, but problem solving. It is the learning that occurs in the process of finding solutions to problems that constitutes action learning. It is a type of learning that helps individuals responds more effectively to change.

As proposed, the SCBD program accommodates an initial effort specifically aimed at developing a distance-learning program for capacity building. It is an essential component to support the various capacity building training objectives.

Distance learning will be facilitated by the advance of Information and Communications Technology (ICT). The initial effort should be a combination of lecture-based – computer-based – web-based training mode of distance learning. This hybrid approach, which utilizes the strengths of all, is emerging to accommodate the limitations of each mode.

Some issues related to ICT and distance learning are described below.

4.1.1 Sustainability

The ICT as a system is basically self-sustaining tool. But, it needs to become a part of a larger system to guarantee the sustainability of the learning system as a whole.

To ensure its effectiveness and sustainability, the system or program should be built on a strong foundation and platform comprised of a few critical aspects: political will and support, integration into mainstream training/education, cost of the delivery, funding regime, independence and flexibility of the curriculum, access to hardware/software, quality of the learner support system, and collaboration with other local government and non government organizations.

4.1.2 Efficiency

Ultimate distance learning provided through ICT is egalitarian so anyone can participate in a capacity building program. It helps to ensure lifelong learning and learning by doing. It also creates an environment of education and training on demand, which is very suitable to capacity building and maintaining the sustainability of SCBD programs.

Moreover, ICT gives greater opportunity for collaboration and sharing. It increases opportunities for collaborative work and sharing of information, ideas, and courses among institutions.

ICT also enables greater access to courses that can be taken any time, any place. Courses can be delivered to a learner at a campus, at the office, or at home, and at a time that is at the discretion of the learners.

ICT offers greater access to research and reference services. Many indexes of current journals, full text of articles, electronic references, and extensive full text search facilities with millions of documents are available for the asking.

This provision by ICT will lower cost to deliver courses and training materials to learners and staff. Organization can reduce the time and cost associated with travel time and per diems for training.

4.1.3 Gender Equity

ICT is gender and ethnic neutral. However, women are sometimes underrepresented in technology-related careers. Lack of access, level of math and science achievement, and social attitudes about computer operators may be some of the factors that cause women to avoid careers related to technology.

Because employment in today's government workplace requires increasingly sophisticated technological skills, the capacity building program must find ways to recruit and retain all types of staff. Organizations have a vested interest in wanting to help staff develop the technological skills required for work in the new century. They need workers who can complete complex tasks by using these skills as well as problem solving and critical thinking.

A common reason people become attracted to a career field is that the career appeals to their intellect and human needs: they are intellectually aware of the benefits of the work and physiologically committed to the work because of its personal relevance to their lives.

ICT connects technology to their interests by integrating it into a variety of subject areas through the use of the Internet. It can be a stimulus for learning. Not only can it expand staff knowledge of technology concepts, but it can also engage staff in the learning process by including opportunities for problem solving and creative thinking.

Hands-on applications and reality-based assignments are activities that can be highly motivational as they enable students to learn in the context of its real-world application.

Designing curriculum that is attentive and responsive to diverse cultural orientations can also be a motivator when introducing technology. For technology to be appealing to people of all cultures, the program must be able to connect careers to cultural values.

Gaming can be used to stimulate staff interest in technology when the games are free of gender bias and designed to appeal to both sexes. Because games are viewed as play, they can engage staff in problem solving in a relaxed atmosphere, thus helping staff to develop skills without fear of risk taking. Low-threat, high-challenge play and cognitive activities have proven to be motivational influences for learning.

Collaborative and cooperative learning environments are effective teaching strategies for technology-based learning because they promote learning through social interaction with others. They reflect the constructivist learning theory, which contends that true learning occurs as individuals share their knowledge and interact with each other in the social environment of its application.

The purpose for learning must extend beyond the classroom and link to everyday life for the acquired knowledge to have real meaning to the learner. Collaborative learning practices encourage interdependence and a sense of shared responsibility, as opposed to individual learning, which rewards leadership through dominance.

Other things must be considered in an integrated ICT-based distance-learning program that demonstrates commitment and facilitates gender equity and leadership by employing the following policies:

- Selecting or developing software free of gender and ethnic bias.
- Ensuring that facilities are accessible to each gender or ethnic group as well as staff with disabilities.
- Encouraging the incorporation of technology strategies within all sectors of the core curriculum.
- Providing staff training in technology.
- Periodically reviewing and revising equity policies as necessary.

These strategies provide structured norms that emphasize equity in technology usage and foster relationships that help staff achieve their career goals.

4.1.4 Quality Control

Today's high performance organizations foster continuous learning for continuous improvement, a practice congruent with total quality management. Driven by a rapidly changing work environment, government organizations are seeking new ways to think, organize, communicate, and work.

The relationship between workers and managers is shifting. Workers are required to take more responsibility for their work and to have skills in critical thinking and problem solving. Managers need to learn the role of facilitator and change their old patterns of directing.

New ways of learning that involve experiential activity offer promise to organizations striving to achieve high performance. As mentioned earlier, the concepts and practices of action learning also have potential for the professional and self-development of workers who will work in these organizations.

Action learning or on-the-job training engages learners in experiential learning. The gap between the learner and expert disappears as all individuals are considered to be expert in some aspect in the work community.

Additionally, ICT has a collective dimension. In the workplace, learning often takes place in teams, enhanced by communication and collaboration among the individual members and groups and shared across the organization. Decisions are often taken and implemented by groups and are affected by explicitly or implicitly shared social norms, social history, social values and beliefs.

Because the workplace context is social and requires interpersonal interaction, the individual's interpretation of a situation and his/her subsequent actions are subject to a great number of influences. Learning in the local context provides the opportunity for workers to clarify their understanding of a situation within their social context and to reduce the incidence of misinterpretation.

Conditions that enhance learning facilitated by ICT are as follows:

- Proactive, in which the learner takes charge of and directs his/her learning. It is similar to the conditions of autonomy and empowerment.

- Critical reflection, in which learners identify and make explicit norms, values, and assumptions that are hidden from conscious awareness and challenge the way things are done in the workplace.
- Creativity, which enables people to think beyond their own points of view, and to see situations from a variety of different perspectives.

4.1.5 Career Development

Arrays of forces are having a profound effect on the way education and training is delivered in Indonesia, including career management and technical education. Distance learning is increasingly seen as a powerful vehicle, especially when provided through ICT.

Fast-paced and pervasive changes are occurring in the economic, social, and technological foundations of training and educational delivery. Short product cycles, a fast-expanding knowledge base, and the rapid obsolescence of existing knowledge all put tremendous pressure on managers to upgrade staff skills in a timely, effective, economical manner.

Key staff are often reluctant to interrupt their careers for full-time study in traditional educational settings; lifelong learners want greater flexibility to accommodate diverse personal circumstances.

Changes in the infrastructure, capacity, functionality, and cost of ICT have increased access to ICT, the use of ICT for educational purposes, and the suitability of ICT as a medium for learning in line with an evolving pedagogy of learning that is, interactive, collaborative, learner centered, and just in time.

The most common IT used for distance learning has been two-way interactive video and one-way prerecorded video, which has recently been edged out by Internet courses with asynchronous computer-based instruction. Many distance-learning programs available are targeting professionals seeking re-certification and workers seeking skill updating or retraining.

The World Wide Web (WWW) has burgeoned with sites devoted to career development. Many groups, including government, have turned to the Internet for delivery of career-related training. It has become apparent that the old didactic occupational information based courses need to be transformed into electronically enhanced career and skill-based courses.

4.1.6 Performance on the Job

Action learning in the form of on-the-job training has been adopted in the government workplace as a viable approach to experiential management education and an important element of a training and development strategy. It involves the members of an organization in both individual and group situations with the goal of helping each group member learn through the process of finding solutions to their own problems.

Through this process, learners increase their self-awareness and develop new knowledge, attitudes, behaviors, and skills for making changes and redefining their roles within a new context. The properties of action learning will clarify its relevance to workplace learning:

Learning is based on the solution of real problems.

- Learning occurs with and from others who are also engaged in managing real problems.
- Members of the group are responsible for solving their own problems, unlike those on a project team or task force.
- Members of the group are concerned with implementing actions, moving beyond the stages of analysis and recommendations.

4.1.7 The ICT System Strategic Approach

The strategic approach for ICT should be well prepared and managed to achieve the development agenda. ICT facilitates distance learning to foster the development and capacity building of human resources capable of responding to the demands of the information society.

Education and lifelong learning are important factors for improving knowledge and skills, especially at individual level, to address the rising demand for better performance of personnel in the public sector.

The loan/grant program accommodates an initial effort specifically aimed in developing a distance-learning program for capacity building. It is essential and required to support the various capacity building training objectives.

First of all the system will be support a training-of-trainers program. It could be a combination of a lecturer (classroom)-based – computer-based – web-based training mode of both classroom and distance learning.

The initial course would be likely a lecture-based training (LBT) with the support of computer-based training (CBT) in the form on interactive CD-ROM. Could evolve to a combination of CBT and web-based training (WBT), in which the content of the CD-ROM is interactively hyper-linked with the web.

The Web might be an acceptable alternative to the costly current methodology for CBT. The advantage of WBT is that changes to curricula, whether large or small, need only be made in one place, a central server. However, although video and audio broadcasting technologies are available they cannot yet compete with a CD-ROM, which can deliver out standing sound and television quality video.

To accommodate this limitation of the Web and to address the high cost of distribution a hybrid approach is emerging, which combines the strengths of both mediums. The Web is used to store time sensitive information and the CD-ROM is used to provide access to multimedia training. The courseware on the CD has built-in Internet access and calls upon the centralized server for necessary information. Organizations can update time-sensitive information once on the central server. This is about to become a popular alternative to full web-based training until bandwidth constraints have been resolved.

This ultimate form of distance leaning is egalitarian so anyone can participate in capacity building program. It helps to disseminate lifelong learning and learning by doing (‘on-the-job training’). It creates an environment of ‘education and training on demand’, which is very suitable in capacity building and maintaining the sustainability if the program.

The benefits in the use of the Web in training/educational process, are highlighted as follows:

1. Lower cost to deliver courses and training materials to learners and staff. Courses that would otherwise be difficult to offer because of limited enrollment are now possible. Local Governments can reduce the time and cost associated with travel time for training
2. Greater opportunity for collaboration and sharing. The Web increases opportunities for collaborative work and sharing of information, ideas and courses among institutions
3. Greater access to courses that can be taken any time, any place. Anywhere courses can be delivered to a learner at a campus, at the office or at home, and the time may be anytime. Distance learning can be supported in both synchronous (same time) and asynchronous (different times) modes.
4. Greater access to research and reference services. The Web offers access to indexes of current journals, full text of articles, electronic references and extensive full text search facilities with millions of documents available for the asking.

4.2 Advantages of WBT over Conventional LBT

1. Students can view course materials at any time and rate since the Web is always available
2. Students can view the materials in familiar surroundings, their normal workplace or home
3. There is no need to schedule classes, instructors, or classrooms
4. The instructor spends less time lecturing. For many on-the-job training courses, the instructor is a fellow worker or a supervisor so less lecture time reduces time the instructor/supervisor is taken away from normal duties

4.3 Advantages of WBT over CBT including the following:

1. A large and growing number of people are already familiar and comfortable with the Web browser so they are already familiar with the user interface
2. Course materials become reference materials with updates immediately available to everyone
3. With the Web it is easy for the course author to include links to other materials
4. The language of the Web, html, is very easy to learn so course authors need little training before producing course material.

4.4 Drawbacks of Web-based Education and Training

1. Less human, face-to-face interaction
2. Information validity and authenticity can be difficult to determine. There is a need for a library function to catalog, identify and verify information
3. Rapid commercialization on the Web is resulting in a majority of vendor advertising, infomercials and skewed information on the Web
4. Distraction, one can become sidetracked because of the wealth of material on the net
5. Turf, distributed, virtual campuses extend and overlap across traditional boundaries
6. Intellectual property rights can be unclear
7. Hardware and network connections for users may be unavailable

8. The hypertext environment limits ability to control the entry point for instructional purposes
9. The Internet methods of communication may be intimidating or awkward to use for some students
10. There is a lack of incentives for instructors to learn and use technology
11. Bandwidth limitations can make some interactive applications too slow for effective learning
12. Reliable computer equipment and technical support for that equipment can be costly
13. Existing browser and protocols have limited usefulness in the administration of tests
14. Difficulties in controlling payment, registration, and authentication of students

4.5 The Sustainability of ICT in Capacity Building

The most important element of ICT in capacity building is its sustainability of developing and maintaining. The system is basically sustainable in term of itself as a tool (computerized system context). But, it needs to definitely develop a system to guarantee the sustainability for the content as a whole and for new technology as an up-date component.

For ICT components, there are key areas that are important, are: networking, coordination, support, appraisal, linkage, quality control and assistance, up dating, maintaining, and monitoring system.

5 Participation and Packages

As noted in the Introduction, each local government qualifying for the loan program will also be entitled to an ICT support package. This includes both these institutions pre-qualifying through the ‘Capacity Building Action Plan’ and those weaker institutions eligible for ‘Backstopping’.

The ICT support packages will provide a range of perhaps three alternative entry-level systems according to the scale of the target local governments, their financial resources and the complexity of their capacity building program. Three standard ‘ICT package options’ should be able to cover the range of support necessary to deliver the program to the regions. These are: ‘Package A’, for wealth ness Local Government, ‘Package B’ for middle level Local Government, ‘Package C’ for weaker Local Government.

In total is envisaged that perhaps 40 local governments will qualify for capacity building and thus ICT support under the loan. The grant funding available is limited. Thus, it is proposed that initially 90% is funded under the loan and this will reduce to zero following completion of the program as follows:

Category of ICT Package	Year Two		Year Three		Year Four		Year Five		Year Six	
	Grant	APBD	Grant	APBD	Grant	APBD	Grant	APBD	Grant	APBD
A Full	70%	30%	50%	50%	30%	70%	10%	90%	0%	100%
B Economy	80%	20%	60%	40%	40%	60%	20%	80%	0%	100%
C Base	90%	10%	70%	30%	50%	50%	30%	70%	10%	90%

The assumption is that local governments ability to take over funding is broadly linked to the complexity of their need for the three categories proposed and thus the necessary expenditure. This type of tapered subsidy is considered essential to promote sustainable systems.

The packages will be fully operational LANs linked to national web-site(s), but they not be complete systems in terms of being 'finished'. The packages provided under the loan will form core frameworks to which local governments may add nodes and sub-nodes as their financial capacity and ability to utilize technology increases. ICT is a performance-enhancing tool for all professional technical and administrative staff and thus developing accessibility to broaden use is vital

6 Costs and Budgeting

It must be recognized at the outset that a sustainable program of ICT expenditure requires that we consider all investment as recurrent costs and not separate equipment purchase, for example as capital cost. ICT systems comprise essentially: a) hardware costs; b) software purchase and applications development and license costs; c) database acquisition and management costs; and d) human resources – salaries and training costs; e) technical support and consultancy costs; and f) utilities and other miscellaneous overhead costs.

- a. Hardware costs: Today machine life is 3 or at most 4 years; there may be exceptions, but on average this is an absolute criteria when planning renewal and replacement cycles. Applications technology is developed in step with the increasing capability of new hardware where processing power doubles every few years. Thus even if the electronics still function perfectly, after 4 or 5 years the machine is effectively useless. So the conclusion is that if we add repair and maintenance to replacement, annual budgets (for machine operation only) can be as high as 40 to 50% of purchase price. In this situation only leasing makes sense.
- b. Software purchase and applications development and license costs: Software is in a constant state of development. Current trends are towards licensing use and effectively leasing software rather than purchase. In the light of a) above, this makes sense.
- c. Database acquisition and management costs: The quality of data determines the utility of the system. Local data management procedures are a target area for capacity building to inculcate the primacy of meta-data. This is the *raison d'être* for using ICT in the first place. It is clearly a recurrent cost.
- d. Human resources salaries and training costs: Training to meet new skills requirements is linked to the pace of applications development. These are also recurrent costs due to staff turnover through reassignment and promotion. However, all ICT strategies are based on developing accessibility. This requires training in ICT skills as a core skill module. Training cycles should be annual.
- e. Technical support and consultancy costs: The types of ICT systems proposed require specialist technical consultancy to establish and maintain. These on-going consultancy overhead costs are estimated annually at 15 to 25 % of initial start up consultancy.

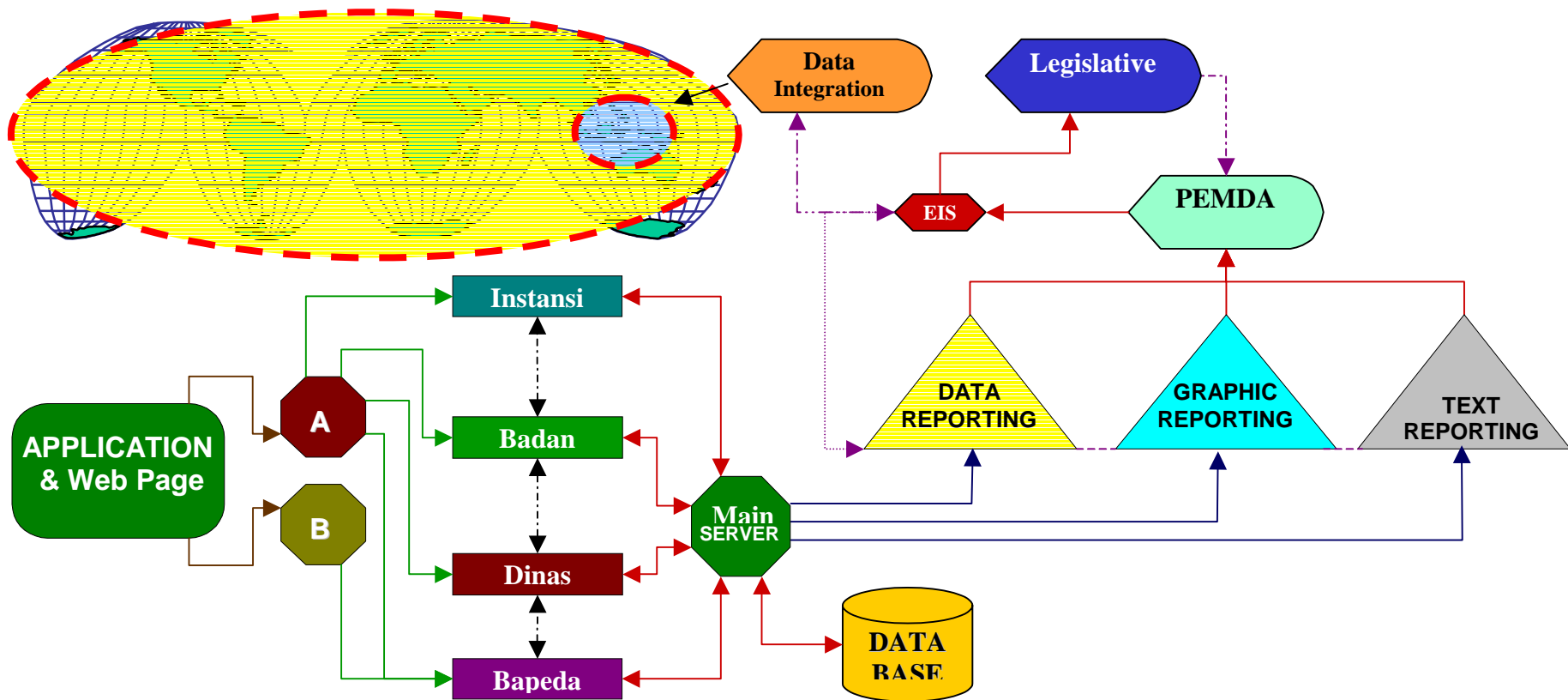
- f. Utilities and other miscellaneous overhead costs: Machines may be more energy efficient today and the costs of leasing broad band internet access may be coming down, but the total cost of these items (which also includes *inter alia*: air conditioned space, telecommunications and furniture) should not be underestimated.

6.1 Costs

The provisional estimate for the system described above is US\$3 million, which assumes an increasing contribution by participating agencies over the loan period. This very provisional figure is based on a system cost of \$72,000 per 'Package' as set out below.

No	Descriptions	Unit Price	US\$
1	Hardware leasing		
	1. PC Server & Data Storage 2 units	4,200.00	8,400.00
	2. UPS Back-up 2 units	490.00	980.00
	3. Personal Computer Clients 10 units	980.00	9,800.00
	4. LAN/ Hub or switching Network and installation	3,500.00	3,500.00
	5. Laser Printer (Sharing) 1 unit	1,050.00	1,050.00
	6. RAS Server 1 unit	10,500.00	10,500.00
2	Software		30,000.00
	1. Office Tools		
	a) MS Office XP	697	
	b) MS Front Page 2002	196	
	c) Adobe Acrobat 5.0	249	
	d) Adobe Photoshop 7.0	609	
	e) Corel Draw 10	549	
	f) Norton Anti Virus 2002	70	
	2. Red Hat Linux Advanced Server V2.1 - Premium Edition	2,499	
	3. E-Mail Server	Free (Red Hat)	
	4. SME Server V5/ Service Link (Security)	1,885	
	5. Web Page Portal	9,246	
	6. Intranet Back Office Application for Public Service and Reporting System and Maintenance 24 months	14,000	
3	Training		6,000.00
	1. EDP Training & Web Mastering		
	2. Web-Administration & Networking		
	3. Operation Training & Basic Computer Knowledge		
4	Installation leased line Internet access and Telecom line		1,800.00
	1. 1 leased line Internet Access 128 Kbps		
	2. 10 Telecommunication line		
Estimated Total Budget for each pilot project			US\$72,030.00

**Proposed Model/ Prototype of
ICT in Supporting Capacity Building for Local and Provincial/Central Governments**



Local Area Network, Intranet & Internet Infrastructure

