

**The road to E-governance of Cambodia:
A Comprehensive analysis of E-government Project**

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Cambodia: the Road to e-Governance

Executive Summary

The regional grouping of the countries in Southeast Asia and the advance in Information Technology have made it possible for countries to adopt the needed changes for survival in the group and to succeed in the world community.

Upon joining ASEAN in April 1999, Cambodia has made its effort to use Information Technology as an enabler to fulfill its role in the group and embarked on a major administrative reform.

The formation of the National ICT Development Authority (NiDA) in August 2000, chaired personally by the Prime Minister is the evidence of the highest political will of the Royal Government of Cambodia in adopting the latest technology as an enabler in its administrative reform effort.

The Government Administrative Information System (GAIS) project with four practical core applications namely, the Electronic Approval System, the Real Estate Registration, the Resident Registration and the Vehicle Registration is the flagship project of the Royal Government of Cambodia. All the four core applications are to improve the administrative services and to generate revenue for the government to offset the revenue lost as a result of joining ASEAN. Three of the four applications have achieved its goals of revenue generation; while the Electronic Approval System has not achieved its goal of improving administrative process.

The GAIS project has achieved 90% of its goal; but at the same time it has introduced challenges as well. The challenges include, how to handle the legacy workforces, the vulnerable and the marginalized groups and how to improve the interface with the beneficiaries and community participations; particularly, the participation of the weakest groups. Capacity gaps and capacity development is another issue that this project as well as the government is concerned.

Based on the experiences of the GAIS project implementation, a set of recommendations, including but not limit to the followings, are proposed for future project of this magnitude and nature: political will, management within a complex and fragile environment, technical capability, maximum participation, decentralization of the administrative process and localization of necessary tools and language.

Cambodia: the Road to e-Governance

A. Background

In April 1999 Cambodia proudly acceded to all agreements of the Association of the Southeast Asian Nations (ASEAN). Upon joining ASEAN, Cambodia realized the benefit of accessing the 500 millions people market and the obligation to go along with such a benefit. Under the ASEAN Common Effective Preferential Treatment (CEPT) Scheme, Cambodia has to lower its import tariffs to 0-5% by 2010¹. The lowering of the import tariffs will definitely affect the government budget; because 16.31% of the government budget depends entirely on import taxes².

Concern for the losses of the revenue, the government was committed to find ways to supplement such losses. One such measure was through various taxations; including, but not limit to, income tax, real estate tax and road/vehicle tax. At the same time, government image and services must be drastically improved to ensure public confidence in the government.

With the revenue generation, better government image and services in mind, the government set out to explore all possibilities to achieve such objective. One of the solutions was to use information technology as an enabler to achieve the objective. This solution led to the adoption of the Government Administration Information System (GAIS) project with key core applications such as: Electronic Approval System (EAS), real estate registration, resident registration & vehicle registration and the presence of the government on the World Wide Web.

The GAIS project was not entirely new. The goal of the project was to computerize the government with four key applications. In the past, several unsuccessful attempts had been made to computerize the government; but the government failed to realize this goal. The causes for the failure included political will, technical capability, participation and leadership in this new task. Based on this failure, the government took a bold initiative to form the National Information Communications Technology Development Authority (NiDA) in August 2000, to undertake the enormous task of computerizing the government with four practical applications. The formation of NiDA chaired personally by the Prime Minister sent a clear message to the public that the government has the strongest ever political will to promote ICT development and particularly the implementation of the GAIS project.

The formation of NiDA chaired by the Prime Minister solved most of the problems previously faced by ministries as to who should take the lead and what standard/practice to accept.

a. Background of e-government policies in Cambodia

On September 11th-13th, 2001, NiDA in partnership with UNDP organized the first ever National ICT Awareness Seminar. The event was attended by representatives of donor countries, donor institutions, non-governmental organizations, policy makers, decision makers, university students and simultaneously broadcasted on the national radio and television networks to allow those who were not able to attend could get the most information about the seminar.

Over the course of three days, thirty five experts from around the world made their impressive presentations on the following topics related to IT development: 1) Global & Regional Perspectives; 2) National IT Policy; 3) IT in Education/Education in IT; 4) e-Government; 5) Standardization Process; 6) Cambodia's e-Readiness and 7) Internet for All.

¹ ASEAN Agreement

² 2002 Budget Law

The seminar, in addition to promoting awareness, laid the groundwork for further development. It also set a clear direction for IT development as well as the background for Cambodia e-government policies³.

b. Focus on vulnerable and marginalized groups

Since e-government is somewhat new to Cambodia, it would be counterproductive or inappropriate from the policy perspective to focus on any particular group at the early stage. However, the government welcomes participation from all groups of people and has been addressing problems as it arises respectively.

The government clearly understood that the benefit of e-government includes public services for anyone, anywhere, anytime, without traditional constraints, such as time and space. Thus, people with the right skill set could benefit enormously from this new service; while people without the proper skill will be left out or marginalized.

To prevent marginalization or economic gap from widening and creates further burden on the society, proper education for the vulnerable group such **women and children** shall be addressed while keeping in mind that education-for-all shall be the basis for poverty reduction as a whole. The vulnerable and the marginalized groups can integrate into the mainstream society with proper skill set only while Cambodia as a whole can integrate into the world community and participate in the global economy with the right knowledge and right skill sets.

NiDA has been working with other donor institutions such as UNDP, UNESCO, APDIP... in providing IT training to government officials with priority given to women.

c. Special concerns of vulnerable and marginalized groups

The literacy rate of Cambodia is among the lowest in the region. According to the 2005 United Nations Development Program (UNDP) Human Development Report (HDR)⁴ the literacy rate for Cambodians age 15 and over is 73.6%; within this figure, male and female account for 84.7% and 64.1% respectively. This literacy rate alone is a major concern for the government already.

Concerns of the vulnerable and marginalized groups include how to participate and benefit from the new government with public services to anyone, anywhere & anytime.

The legacy human resources left over by the Khmer Rouge regime, in general, is one with limited formal education and knowledge. Their mindset was to follow orders from their superior and not to think for themselves. This group of people is quite vulnerable to any changes. Women and children in rural areas constitute a subset of this vulnerable group and is most likely get marginalized without any assistance from the government.

Because of traditional roles women play in the Cambodian society, they deny or limit women to embrace new opportunities afforded by the new era. Traditionally, Cambodian women played key roles in the family ranging from income earner to head of household. These important key roles to sustain the family tied them down and limited them to traditional works such as farming or housewife and prevent them from learning new skills to participate in high return job in the new economy.

³ <http://www.nida.gov.kh>

⁴ <http://hdr.undp.org>

To be able to actively participate and benefit from government public services for anyone, at anywhere and anytime, women must learn new skills on how to access or to acquire such services. Those new skills include how to use the computer to access government services, good command of English language to access the abundant contents on the World Wide Web to improve their daily lives. Accessibility to such services is another concern; because not every part of Cambodia could afford such services. In summary, special concerns of the vulnerable and marginalized groups include good command of English language, which is not their native language, computer skill and accessibility to the Internet.

B. Government Administration Information System (GAIS) project formation

The formation of NiDA in August 2000 was the starting point for the GAIS project formation. With the clear tasks assigned for revenue generations and improved government image, NiDA set out to formulate the GAIS project.

The GAIS project was formed with practical applications to ensure revenue generations to offset the loss as a result of joining ASEAN and to promote Cambodia in the country and on the World Wide Web.

a. *Relevance to the theme of the project*

It was crystal clear from the beginning that government administrative system was the key issue. Most problems arise at the government offices, departments or ministries level were caused by complicated maze of administrative processes. Documents lost without knowing who was responsible and documents unreasonably delayed without reasonable cause were common problems. The only promising solution to these problems was to computerize the administrative processes. With this rational in mind the Government Administration Information System was the theme and the name for the project.

b. *The Expansion of GAIS Project*

In the planning stage, the Government Administration Information System (GAIS) project was envisioned as the central standard platform to launch other future applications. The first step was focused on the central government and some practical applications only. Upon successful implementation of this pilot phase, this project has been expanded to provincial government level and some districts. This phase, the project will be named Provincial Administration Information System (PAIS). The mechanism and experiences from implementing the GAIS project has been vital for the implementation of the PAIS project.

C. Description of the GAIS project

The GAIS project was to connect and computerize the government with four core practical applications, namely: the Electronic Approval System (EAS), the Real Estate Registration, the Resident Registration and the Vehicle Registration and the present of the government on the World Wide Web. The infrastructures for the four applications include the Local Area Network (LAN) and Wide Area Network (WAN) for 27 ministries, state secretariats and the Phnom Penh municipality.

The purpose of the EAS is to allow ministries exchange document both internally and externally. It incorporated all traditional manual functions to allow users to use the system with ease.

The goals of the EAS include:

- Improves the efficiency of government affairs through Paperless Office.
- Implements administrative affairs management system that is fast and easy to use.
- Apply proven Business Management Rules in short amount of time.
- Establish Government Administrative System using the proven, up-to-date technologies.
- Builds basic infrastructure for web-based National Integrated Information System.
- Provides the opportunities for Cambodian IT engineers to acquire cutting edge technologies

The functions of the EAS include:

- Approval – allow exchange of documents electronically between ministries.
- Mail – allow exchange of electronic mail between users.
- Bulletin Board – allow online posting of relevant information.
- User & Organization Chart – provides ministries and users information.
- Administration tool – provides administrative function.
- Document Management – allow storing and managing approved

The purpose of the Real Estate Registration system is to keep track of the real estate transactions including prices and taxes paid. The features allow in the Real Estate Registration system include:

- Management of the basic data about the property, such as address or location.
- Management of the change to the property, such as new building or subdivision.
- Management of Ownership Transfer.
- Management of the tax on the property.
- Management of the statistics of the property.

The purpose of the Resident Registration system is to keep track of the resident, their family composition and their job for the purpose enforcing compulsory education for school age children and for collecting income tax. The features allow in the Resident Registration system include:

- Management of basic data including address, family composition, children reaching school age.
- Management of change in the family situation, such as birth or death.
- Management of change in the family situation, such as marriage and divorce.
- Management of tax owed or paid.
- Management of the statistics of the resident.

The purpose of the Vehicle Registration system is to keep track of the vehicle ownership, tax paid and safety inspection. This system is subdivided into to subsystem. One is for automobile and the other is for motorcycle. The features allow in the Vehicle Registration system include:

- Management of basic data including ownership information, make, type, year of vehicle and vehicle identification number.
- Management of the registration.
- Management of the ownership transfer.
- Management of inspection information, such as when to have the vehicle sent for inspection.
- Management of taxes paid, include import tax and excise (road) taxes.
- Management of the statistics of the vehicles.

The government national homepage (www.cambodia.gov.kh) is to provide information about the government on the World Wide Web. The goal is to strengthen national publicity and sightseeing

resources to the outside world and to improve public information services reflecting public opinions for Cambodians.

The content of the national homepage include information about Cambodia, the King, the Prime Minister, the Senate, the National Assembly, the government organization, news, QA, FAQ, Opinion, Accepted opinion, sightseeing bulletin board and cyber survey.

In addition to the national homepage, the website of NiDA (www.nida.gov.kh) was also setup to provide public information about the GAIS project.

a. Origin

The formation of the Royal Government of Cambodia (RGC) in 1993 under the supervision of the United Nations Transitional Authority on Cambodia (UNTAC) the formation of subsequent government in 1998 and, again, in 2003 received substantial financial assistance from the International community. Over five billions US dollars had been spent on Cambodia⁵.

In return for the financial assistance for the formation and the functioning of the government, the International community also required the RGC to provide, among others, clear accountability of the funds, public administrative reform and combat corruption. Failure to meet the preset benchmark by the International community may result in the termination or suspension of all or part of the financial assistance.

The need to succeed in the regional community and to survive in the International community was one of the external factors to drive the government toward adopting the new technology. The demand for better public services by Cambodian voters was another internal factor. The GAIS project was born out of these necessities.

b. Objectives

Revenue generation, better government image and services were the objectives of the Royal Government of Cambodia. The GAIS project is to achieve these government objectives. Proper registrations of real estate, resident and vehicles will ensure that the government will be able to fairly and accurately collect real estate taxes, income taxes and vehicles taxes respectively.

Exchanging documents electronically between government departments and ministries will cut down unnecessary delays and results in better public services.

The presence of the government on the WWW will strengthen national publicity to the outside world and improve public information services for Cambodians; which will result in better government image and services.

c. Target beneficiaries and specific needs

The GAIS project was for the Phnom Penh capital only. The target beneficiaries include the resident in the Phnom Penh capital and outlying areas.

The registration of the real estate, resident and vehicle are common time consuming tasks that each individual living in the city has to go through every time there is a change to the current status. Computerized registration helps facilitate the registration process and make their lives easier. They

⁵ <http://www.fpif.org/fpiftxt/3079>

don't have to stand and wait in line wasting their precious city time which could turn into other profitable activities.

The government on the World Wide Web allows them to receive public information services at their convenient time without having to, again, waste their time to go to each individual government offices.

d. Implementing agencies

The GAIS project was designed and implemented with total participations from each individual ministry, the state secretariats and the Phnom Penh municipality through its representative/s in the working group with the NiDA Secretariat as the focal point⁶.

e. Stakeholders

The GAIS project was made possible through a concession loan from the government of the Republic of Korea with the counterpart fund from the Royal Government of Cambodia.

f. Duration

The project duration was two years for development, commenced in April 2002, and two years maintenance, commenced in April 2004.

g. Current status

As stated earlier, the GAIS project was to connect and computerize the government with four core practical applications, namely: the Electronic Approval System (EAS), the Real Estate Registration, the Resident Registration and the Vehicle Registration and the presence of the government on the World Wide Web. The infrastructures for the four applications include the Local Area Network (LAN) and Wide Area Network (WAN) for 27 ministries, state secretariats and the Phnom Penh municipality.

Currently the central government, including seven districts and seventy six communes, are fully connected. The connection allows all government offices to communicate electronically and to access to the Internet and email at their convenience.

The EAS function has been in operation but not widely used.

The Real Estate Registration has been in operation and is widely used because of its convenience. The Resident Registration has been in operation and is widely used in most part of the city that had their legacy data converted into digital format already. Sixteen out of seventy six communes, or about 20%, still have to have their legacy data converted into digital format and it is expected to be finished by June 2006.

The Vehicle Registration, which includes the registration of automobile and motorcycle, has been in operation and are widely used.

The Real Estate Registration, the Resident Registration and the Vehicle Registration are very useful for Cambodia now. First, it provides the peace of mind for the people that they are registered and

⁶ <http://www.nida.gov.kh>

ready to received public services when one is available; and their properties including real estates and vehicle are legally registered and protected. The systems also served as an effective tool for local authority to combat and deter crimes related to properties. Second, evidences have shown that proper registration of the real estate, the resident and the vehicle has increased in government revenue.

The presence of the government on the World Wide Web or the National Homepage (www.cambodia.gov.kh) has been in operation and is the only authoritative source of information about Cambodia.

D. Analysis of the GAIS project and related policies

The GAIS project has greatly contributed to the overall national development goals and strategy, particularly the rectangular strategy⁷ (see table 1 at the end) and the Cambodian Millennium Development Goals⁸; but surprisingly, it has been overlooked by donor countries and donor institutions. The project has achieved, among others, the clear objectives of revenue generation and better government image and services.

The three registrations, namely, real estate, resident and vehicle have provided authorities with the modern tool and precise information to fairly, transparently and accurately collect proper taxes, to reduce or prevent possible crime related to vehicle robberies or land grabbing; and to better serve the public. These three applications directly respond to the core of the rectangular strategy; which focuses on good governance. Furthermore, these applications directly respond to the first side of the rectangular strategy, which include anticorruption efforts, public administration and decentralization; the second side of the rectangular strategy, which include peace, stability and social order, partnership with stakeholders; the third side of the rectangular strategy, which include private sector growth and employment, rehabilitation and construction of physical infrastructure and capacity building and human resource development; the fourth side of the rectangular strategy, which include improved productivity, strengthen private sector and investments, promotion of Small and Medium Enterprises, creation of jobs and improved working conditions, information communication technology and greater gender equity.

The Electronic Approval System has provided government personnel the tool to work smarter, not harder, and to better serve the public. The EAS allowed documents to be sent, approved, stored and retrieved electronically. Again, the EAS directly respond to the core of the rectangular strategy; which focuses on good governance.

The government homepage has provided government information services to the public resulting in a better image and better government. Again, the government homepage and its content directly respond to the core of the rectangular strategy; which focused on good governance.

The Internet and email service have provided government personnel the necessary tool to conduct their research and to effectively communicate with their counterpart resulting in better public services. Again, the Internet and email service directly respond to the core of the rectangular strategy; which focused on good governance. Furthermore, the Internet and email service directly respond to the second side of the rectangular strategy, which include regional and international integration; the third side of the rectangular strategy, which include capacity building and human resource development; the fourth side of the rectangular strategy, which include improved productivity and

⁷ <http://www.adb.org>

⁸ <http://www.undp.org>

diversification, creation of jobs and improved working conditions, information communication technology, enhanced quality of education and greater gender equity.

The implementation of the GAIS project and the provision of the Internet and email usage is a giant step toward a major government reform. Donor countries and institutions have been conducting seminars after seminars about administrative reform in Cambodia for years but they have failed to notice the step taken by the government in this major reform effort.

The overall development, supply and training for the GAIS project have increased and developed government capacity and is the catalyst to create a new IT industry in line with the fourth side of the rectangular strategy, which include improved productivity and diversification, creation of jobs and improved working conditions. In addition, the GAIS project has led to the modification and adoption of the Khmer standard Unicode⁹ and update of the Khmer keyboard.

a. *Analysis of success in implementing objectives*

The GAIS project has achieved the initial objectives of revenue generation, better government image and services.

The three core applications, namely, the real estate registration, the resident registration and the vehicle registration have all generated revenue for the government through their respective services. On top of these three applications, the EAS and the government homepage contributed to better government image and services.

In addition to generating revenue for the government in the form of tax and fee, the new real estate registration system allows for storing, retrieving and printing of all real estate information, eliminating or reducing the potential for land grabbing in the Phnom Penh municipality.

The resident registration system also generates revenue for the government in the form of fees. This new system allows for storing, retrieving and printing of all resident information, identification card, certificates,... With proper registration, a person could go to the city hall and have his or her identification card replaced in no time. This service would have been impossible before the system was in place.

The vehicle registration, which includes automobile and motorcycle, also generates revenue for the government in the form of fee and road/excise tax. This new system allows for storing, retrieving and printing of all vehicle information for safety inspection, ownership information and taxes information. Before the system was in place, crimes related to vehicle were everywhere. Hit and run were common. Vehicle robberies (motorcycle or car jacking) were quite often. The police and local authorities were at the mercy of the criminal. After the system is in place, hit and run is the thing of the past; because authority could track down the owner right away. Vehicle robberies have been drastically reduced; because the vehicle could not be registered again. The new system has been providing authorities with effective tools to protect the innocence and to fight back crimes without hesitation.

Exchanging documents electronically between government departments and ministries cut down unnecessary delays and results in better public services. The EAS has been in operation but not widely used. Only technical documents or reports were sent using the EAS. Other administrative documents still prefer the traditional way of processing. This new system allows for preparing of

⁹ <http://www.unicode.org/Public/UNIDATA/Index.txt>

document, sending, storing, archiving, searching and printing of all documents in the system at the click of the keyboard. The status of the document sent is available to everyone in the network.

The presence of the government on the WWW strengthens national publicity to the outside world and improves public information services for Cambodians and researchers around the world. In the past, each ministry has to have at least one dedicated staff to answer inquiry to the ministry. Sometimes, answers were different, leading to further public confusion about the government. Currently the government website provides information about the government to the general public resulting in workload reduction for government personnel and accurate public information without confusion.

b. Emerging issues and challenges

The GAIS project has achieved the initial objectives of revenue generation, better government image and services. The project also generates issues and challenges as well. Initially, it was thought that once the system is installed and users properly trained then they could take over and run the system with minimal support. This wasn't true for the country with low literacy rate like Cambodia. Massive public education was required to ensure system safety and proper usage.

The GAIS project includes infrastructures to all ministries, state secretariats, and the Phnom Penh municipality; which consisted of seven districts and seventy six communes. These infrastructures were required for connection between the central servers and client computers; but sometimes, the resident turns it into electrical line or some other personal practical purposes instead. The investigation into the matter reveals their ignorance about the system.

Sometimes, the line is used for commercial purpose instead. This problem happens very often in the highly dense area; such as the central Phnom Penh area. Internet Cafes use this line for their establishment on the justification that it belongs to the government and it should be free for them. Because of the high traffic generated by the Internet Cafes, it caused the whole system to slow down drastically and put further pressure on the existing limited bandwidth. Efforts have been made to educate individual Internet Café on this matter.

Public educations on the use of the line have been conducted to address these problems.

c. Unfulfilled expectations

The GAIS project has achieved the initial objectives of revenue generation, better government image and services.

The three core applications, namely, the real estate registration, the resident registration and the vehicle registration have all generated revenue for the government through their respective services. On top of these three applications, the EAS and the government homepage contributed to better government image and services.

From the system development perspective, the project is successful; but from the project implementation perspective, the project is not completely successful. There is unfulfilled expectation.

The four core applications of the project included the computerization of the administrative process, which is called the EAS, the real estate, the resident and the vehicle registration. The latter registrations provide better services to the general public and justified for additional fees.

The EAS, unlike the real estate, the resident and the vehicle registration, doesn't generate any revenue for the government. It was meant to speed up government works. The speed up of document

processing; with accountability and transparency; works opposite to the current negative rewarding environment. This is the reason why the EAS is not widely used.

E. Impacts and implications of the GAIS project on vulnerable and marginalized groups

Before the implementation of the GAIS project, it was noted that the revenue from vehicle (automobile & motorcycle) registration, real estate registration were inconsistent and there was no way to control or verify the report; likewise, income tax collection was not possible. Documents sent from one place to another always late or lost. The economic lost for the government as well as the citizen was enormous. After the project is implemented, the government can have a verifiable revenue report, and the general public spent less time at the registration. The GAIS project provides immediate economic gains and economic opportunities for everyone. This project may appear to cost a lot; but the cost of not doing it is a lot higher, particularly on the vulnerable and the marginalized groups.

The GAIS project has achieved the initial objectives of revenue generation, better government image and services. The project has immediate impacts and implications on the Phnom Penh city resident and the resident in the outlying areas. It also has impacts and implications on the vulnerable and the marginalized groups.

a. *Economic impacts—livelihood and income*

All Phnom Penh city residents, including the vulnerable and the marginalized groups, have to go through the registration process at least once in their life time or as often as their family situation changes; including new birth, marriage, moving, move in, move out, death, acquire or purchase of new vehicle (motorcycle or automobile) or new property.

In the past, any one of the above services may cost ranging from R20,000.00 to R50,000.00 (about US\$5.00 to US\$12.50) in addition to the official fees imposed by the government. The unofficial fees will be higher and is in proportion to the perceived benefits. The extra cost of US\$5.00 to US\$12.50 doesn't appear to be that much for the general population; but for the vulnerable and the marginalized groups in the country with the per capita GDP of US\$315.00¹⁰ it amounted to about one week or one month income for them, depends on their family situations, every time they require any one of such services.

The old registration systems required the resident to update their information as often as the officials need the get the information; because the information registered manually usually get lost or not legible by the new officials. Thus, new registrations are required when there is a change in the situation of the resident and of the change of the officials, who most of the times cannot read the handwriting of their previous colleagues.

For a hypothetical family in Phnom Penh city, the following basic services are needed: registration for the resident book, registration for the family book, identification cards and certification of current address. These basic services may unofficially cost between US\$80.00 to US\$100.00 on top of the official fees; other services such as new birth, marriage, moving, move in, move out, death, acquire or purchase of new vehicle or new property are not included in this calculation. This amount is about 25%-31% of the per capita GDP. For the poor, the vulnerable and the marginalized groups, this amount means that the choice of getting the official documents is not that important but enough food for the family is. As a result, they are being left out of the main stream society, denial of public services and risked being further marginalized.

¹⁰ <http://hdr.undp.org/statistics/data/countries.cmf?c=KHM>

After the installation and implementation of the GAIS project, the registration processes have been changed for the best. The computerized registrations impacted everyone in Phnom Penh and the outlying areas. The most visible impacts are on the poor, the vulnerable and the marginalized groups. They don't have to frequent the registration offices to update their situation or because the officials cannot read the handwriting. Unofficial fees have been removed or drastically reduced as documents are readily available at the click of a button.

b. *Social impacts—health, education, social status*

Before the implementation of the GAIS project, ICT was not part of Cambodian vocabulary. The Royal Government of Cambodia was facing with an uphill battle of changing the mindset of the peoples. The government was literally asking the peoples, particularly, the majority of the decision makers, to give up guns and to carry computer/notebook instead. With the firm commitment of the Royal Government of Cambodia to adopt ICT, this project is the flagship project for the Cambodian society and the success of the government in changing the mindset of the peoples.

The GAIS project has effectively introduced information technology into the Cambodian society. The mushrooming of the Internet cafes in the city as the access point to government information services and to take advantage of the low cost Internet telephony, the frequent requests for foreign medical opinion to treat patients in remote areas via the Internet¹¹ and the high demand for quality education from abroad via e-learning are clear evidences of the social impacts by the GAIS project and the changing mindsets of Cambodians.

c. *Cultural impacts*

The GAIS project has introduced changes to the ways Cambodians work, communicate and view the outside world from their offices.

In the past, government officials would sit and wait for documents; some times the wait could be a week or even months depends on the distance; while the public or the services recipients tolerated and accepted it as standard services provided by the government. Their view to the outside world was through limited channel television and outdated newspaper.

Today, government officials have received the best tools to achieve their tasks in serving the public. They would go to the Internet or the email to communicate or research necessary documents; while the public will not keep silence for the slow unresponsive public services. Their view to the outside world is no longer limit.

In addition to better government services, the GAIS project also has negative cultural impact as well. The introduction of the Internet and email service through the GAIS project has also introduced pornography and related crimes to the Cambodian society.

F. Improvement of the interface with the beneficiaries and community participation—experience to date, ongoing measures, and future directions

The GAIS project provides connection for all ministries, the Phnom Penh municipality, all seven districts and seventy six communes, the two state secretariats and the city polices. Government

¹¹ http://www.camnet.com.kh/cambodiaschools/villageleap/telemedicine/feb_03.htm

officials at these offices, in turn, will provide services, based on the applications installed, to the resident in Phnom Penh and the outlying areas. Their ability to effectively provide public services using the system is one of the key successes of this project.

Continuous capacity development for government officials and public education are needed to better serve and received public services. Understanding their background and mindset is a key to success in improving the interface with the beneficiaries and community participation.

Both system users and service users are the product of the Cambodian society consists mainly of either the legacy of the Khmer Rouge society or a generation without proper education or ethic. Most or all of these people had gone through or are going through post traumatic stress disorder¹².

Furthermore, the system users or services providers received subsistent government salary; while some of the services users are from the vulnerable or the marginalized groups. Experiences to date showed that understanding these particular backgrounds is the key to success in the improvement of the interface with the beneficiaries and community participation.

Efforts have been made via seminars and public educations to assure them that the computer and the GAIS are simple tools to improve their productivity and to make their lives easier. It will not take away their job. Continuous capacity development for government officials and public educations are going on around the country to ensure that everyone receives the necessary training under the IT Education for All project. The training in the local language has been very popular and has removed the English language knowledge prerequisite barrier for most government officials; particularly women and the legacy officials from the districts and the communes.

a. ***Participation by all groups***

The training to improve the interface with the beneficiaries and community participation in the local language has been very popular and has removed the English language knowledge prerequisite barrier for all groups of people.

Based on the low literacy rate for women and the legacy officials the localization in training content provides them a unique opportunity to acquire new knowledge without the difficulty of learning a new language

b. ***Participation of weakest groups—women and marginal groups***

Continuous training is necessary for the improvement of the interface with the beneficiaries and community participation. With the low literacy rate for women and the legacy officials, the training curriculum has to be modified to suit the educational background of this group of peoples. One of the steps taken was to use female trainer to provide the training in the local language.

By having female trainers providing training to other female trainees, it breaks the traditional or preconceived notion that they are living in the male chauvinistic society. The training by female trainers sent a clear message that they, too, can play important roles in the Cambodian society.

By localizing the training content, it provides a unique opportunity to all Cambodians to acquire new knowledge without the difficulty of learning a new language. Localization is very important and necessary for women to be able to acquire new skills and to build their capacity.

¹² <http://www.nimh.nih.gov/publicat/nimhptsd.pdf>

c. *Domination by select stakeholders*

Even though the GAIS project was funded by a concession loan from the Republic of Korea, interfacing with the beneficiaries remains the key role of the NiDA Secretariat and the inter-ministerial working groups; which include all districts and all communes. These working groups are assigned to help those in need of the service most and to help build their capacity to better serve or interface with the beneficiaries. The NiDA secretariat remains coordinator for the entire project implementation period.

d. *Empowering the weakest*

The working groups which consist of technical staffs from the NiDA secretariat and the inter-ministerial working groups are to help the Phnom Penh municipality, the districts and the communes improve their interface with the beneficiaries and community participation. In addition, officials from the districts and communes, with priority given to women, are invited to NiDA for practical training. These women officials, when returned to their offices, will in turn provide training to their colleagues to better serve and improve the interface with the beneficiaries.

G. Conflict resolution and management among the stakeholders

The GAIS project was made possible through a concession loan from the government of the Republic of Korea with the counterpart fund from the Royal Government of Cambodia. It was designed and implemented with total participations from each individual ministry, the state secretariats and the Phnom Penh municipality through its representative/s in the working group with the NiDA Secretariat as the focal point¹³ In addition to these technical working groups, a high level steering committee was also created at the outset of the project to solve the political issues which may arise along the way.

Initial conflicts among stakeholders include design, platform, technology, role and participation. Most of these conflicts are resolved at the technical working group level. Some conflicts such as ministerial interests were resolved at the steering committee level.

Several workshops were conducted during the design and the implementation phases to resolved conflicts that had arose. Conflicts were put in the workshop for comment and to find the best possible resolution acceptable by all.

H. Capacity gaps & Capacity development

The GAIS project has introduced the latest technology to Cambodia. The implementation of the GAIS project has shown that there existed capacity gaps between the NiDA Secretariat, all ministries and the Phnom Penh municipality. The NiDA Secretariat has been recruiting its technical staffs from a pool of university graduate, preferably Bachelor of Science in computer science major or related. The ministries and the Phnom Penh municipality, on the other hand, continue to retain its legacy workforce with minimal replenishment; while the Phnom Penh municipality recruited it districts and communal staffs from the local resident with minimal education.

NiDA has been providing training to government officials from all ministries and the Phnom Penh municipality to better serve the public. The trainings focused on basic office applications and the use of the GAIS applications. The basic office application is for their general knowledge and the GAIS

¹³ <http://www.nida.gov.kh>

applications are for the performance of their daily tasks. Experiences have shown that government officials with some English background excelled very well; while the ones without English background appear to lose interest in the training and sometime dropped out entirely.

Based on the extensive training experiences and inputs from trainees, NiDA is conducting training for basic office application and the GAIS applications in Khmer language. The training in the local language has been very popular and has removed the English language knowledge prerequisite barrier for most government officials; particularly women and the legacy officials from the districts and the communes.

Localization of the contents has seen reduction in training times needed to develop capacity of both the services provider and the services recipients; because trainees did not need to go through the English language training as previously required. Further localization of all contents will improve the interface with the beneficiaries and community participation.

a. ***Individual capacities (of personnel)***

Because of the needs of highly qualified personnel to ensure a successful outcome of the project, only individuals in the inter-ministerial working groups received the most relevant training in the development phase.

At the implementation phase, system users received relevant training to ensure system functionality.

Individual capacities in both the development and the implementation phases are highly developed. While others in their respective agencies are left behind.

a. ***Institutional/organizational capacity***

Institutional or organizational capacities are based on their human resources and their leaderships. As stated earlier, the NiDA Secretariat has been recruiting its technical staffs from a pool of university graduate, with Bachelor or Master of Science in computer science major or related. The ministries and the Phnom Penh municipality, on the other hand, continue to retain its legacy workforce with minimal replenishment; while the Phnom Penh municipality recruited its districts and communal staffs from the local resident with minimal education.

From the current practice, it is clear that in the foreseeable future the NiDA Secretariat will possess highly qualified officials surpassing other institutions.

c. ***Strengths and shortcomings of ongoing capacity building activities***

Ongoing capacity building activities include overseas training and local training. Both trainings have strengths and shortcomings.

The overseas training usually targets officials with English background and the number of trainees allowed has been very low. The strength for the overseas training includes high level in-depth knowledge of the subject. The shortcoming includes low number of participants. Based on the current needs of Cambodia and the enormous development tasks ahead, overseas training cannot supply the massive needs of human resources.

The local trainings have strengths and shortcomings. The local trainings target individuals or institutions that require the trainings. This mode of training is favorable; because it allows large

number of participants and addresses the current needs of Cambodia. Participants appeared to learn more from trainers who speak their own language. This is the major strength for local trainings. The shortcomings for the local trainings include lack of in-depth knowledge of the subject.

By adopting the train-the-trainer program, Cambodia has made the best use of both the overseas and local training strength. Under this program Cambodian trainees were sent for training overseas with the understanding/agreement that they will retrain their colleagues when they returned to Cambodia.

I. Conclusions and recommendations

The GAIS project has achieved the initial objectives of revenue generation, better government image and services. It consists of core applications, namely, the EAS, the real estate registration, the resident registration, the vehicle registration, the National homepage and the NiDA website to keep the public informed about the status of the project.

From the system development perspective, the project is 100% successful; but from the project implementation perspective, the project is only 90% successful. The remaining 10% of the project is the usage of the EAS. It is being used for technical document exchange only and not widely used for administrative document processing; because the EAS is working opposite to the current negative rewarding environment.

Based on the extensive experiences in implementing the GAIS project, the followings are practical recommendations for the improvement of future implementation of a project with such magnitude or a project of this nature.

Political will:

Highest political will must exist in order to start the project. The formation of NiDA with the Prime Minister as the chairman addresses most of the problems; but continuity, compatibility and interoperability remain the problem. Appointment of Chief Information Officers (CIO) to advise and work with head of each institution and ministry is needed to address these problems. The candidate for this position should be highly educated, with technical background, a respectable person in the ministry with the rank of Secretary General or Director General.

Management within a complex and fragile environment:

The existence of the highest political will may not guarantee the successful implementation of a project within a complex and fragile environment of Cambodia, understanding of the Cambodian environment such as the background of all stakeholders and diverse educational and economic background of all participants is another component to success.

Technical capability:

At both the development and the implementation stages, technical capability is required to ensure successful outcome and credibility of the system.

Maximum participation:

Participation of all interest peoples, service providers and service recipients, from the head of the institutions to the head of household will help improve the system and the process.

Decentralization:

Allow for decision making at the level closer to the service recipients will give credibility to the system and speed up services as originally intended.

Localization:

The use of the local language to build the content with respect to local culture is necessary for maximum participation.

a. Summary of key points related to success factors, challenges, and areas of potential, and capacity gaps

Keys points related to success factors:

Political will:

-Involvement of the Prime Minister from the beginning during the project kick-off and the system inauguration.

Management within a complex and fragile environment:

-Decisions must take into consideration the background of all stakeholders and diverse educational and economic background of all participants.

Technical capability:

-Understanding what and how the system will do.
-Appropriate tasks assignment.

Maximum Participation:

-Participation of all interest peoples, stakeholders, service providers and service recipients.
-Involvement of all relevant institutions.

Localization:

-Employment of Cambodian software engineers or programmers.
-Usage of the Khmer keyboard and the Khmer language.

Keys points related to challenges:

-Decentralization.
-Diverse educational and economic backgrounds.
-Post traumatic stress disorder as the legacy of the Khmer Rouge regime.
-Continuous education on the usage of public property.

Key points related to areas of potential:

-The success of the GAIS has the potential to expand to all provinces.
-The acceptance of the EAS is the major government administrative reform.

Key points related to capacity gaps:

-The current practice of district and communal official recruitment will only lead to further capacity gaps.

-The continued employment or the retaining of the legacy workforces will only generate further capacity gap.

b. Recommendations on improved targeting of the weakest groups, increasing participation of beneficiaries, improving the interface with the community, and building capacity

The followings are recommendations on:

Improved targeting of the weakest groups:

- Process of identifying the weakest groups (by income, education, social status, or wealth)
- Identification of the common needs of the weakest groups.
- Build application specific for the needs of the weakest groups.
- Representatives of the weakest group must be included in all working groups from the outset of any project.

Increasing participation of beneficiaries:

- Awareness and publicity.
- Identification of long term benefits versus short term cost to participate.
- Government subsidization of the short term cost.

Improving the interface with the community:

- Changing mindset (to serve rather than to be served)
- Decentralization (solving problems on the spot)
- Decisiveness.

Building capacity:

- Overseas training on in-depth subject specific.
- Local training under the train-the-trainer program.
- Continuous training for all government officials.
- Continuous training for communities.

Box 1: Cambodia Rectangular Strategy, 2004–2008

The Rectangular Strategy, 2004–2008, aims to enhance economic growth, employment, equity, and social justice by implementing the SEDP II and the NPRS. The strategy is visualized as a structure of interlocking rectangles.

First, the core of the strategy is good governance, focusing on four areas:

- i. anticorruption efforts
- ii. law and the judiciary
- iii. public administration and decentralization
- iv. armed forces demobilization

Second, the environment for the implementation of the strategy consists of four elements:

- i. peace, stability and social order
- ii. partnership with stakeholders, including the private sector, development partners, and civil society
- iii. a favorable macroeconomic environment
- iv. regional and international integration

Third, the four strategic “growth rectangles” are:

- _ agricultural productivity, diversification, and competitiveness
- _ private sector growth and employment
- _ rehabilitation and construction of physical infrastructure
- _ capacity building and human resource development

Fourth, each strategic “growth rectangle” has four sides.

- Growth rectangle 1: (i) improved productivity and diversification, (ii) land reform and mines clearance, (iii) fisheries reform, and (iv) forestry reform
- Growth rectangle 2: (i) strengthened private sector and investments, (ii) promotion of SMEs, (iii) creation of jobs and improved working conditions, and (iv) establishment of social safety nets for workers
- Growth rectangle 3: (i) transport infrastructure, (ii) water resources management and irrigation, (iii) energy and power grids, and (iv) information and communication technology
- Growth rectangle 4: (i) enhanced quality of education, (ii) improved health services, (iii) greater gender equity, and (iv) a rational population policy

