



Royal Government of Cambodia

Office of the Council of Ministers

National Information Communications Technology Development Authority

**A Proposal for  
The Action Plan for Developing ICT in Cambodia 2010**

Draft 1.0

December 2009  
Phnom Penh Cambodia

JICA Expert Team  
Capacity Development on ICT Management at NiDA  
JICA Technical Cooperation

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Capacity Development on ICT Management at NiDA - A Comprehensive, Perspective and Sustainable Approach to Enhancing Functionality of NiDA to Provide Effective and Secure ICT Services in Cambodia

## Acknowledgment

On behalf of the JICA experts worked for the Project, “Capacity Development on ICT Management at NiDA”, I would like to express our sincere gratitude to Dr. PHU Leewood, Secretary General of NiDA. Also, I have to express our deep appreciation and many thanks to the colleagues of NiDA. Mr. CHEA Manit, Deputy Secretary (Information Security), Mr. CHUN Vat, Deputy Secretary General (Enterprise Development), Mr. NOY Shoung, Deputy Secretary General (HRD), Mr. VAN Khema, Deputy Director in charge of Network, and MEAS Kosal, Deputy Director in Charge of Administration, were always working with the JICA experts and helped us.

It is also my duty to express our gratefulness to all the young colleagues of NiDA worked together besides the senior officials of NiDA. Mr. OU Phannarith worked to establish CamCERT. Ms. SENG Bory, together with her female colleagues, contributed to elaborating e-Government Service Deployment Planning. Also, Mr. OUK Vandy worked for the follow-up on e-Government Service Deployment Planning and e-Learning buildup.

I am very pleased, if this document could show the outcomes of the project activities and indicate the helpful directions toward further development of NiDA, as a result of the co-work done by NiDA personnel and JICA experts. I would like to list up the JICA experts, including myself, who fulfilled their duties in implementing the Project:

Dr. KURODA Tomoyuki	Expert for ICT Policy
Mr. YUKINO Kunio	Expert for Network Infrastructure Planning
Mr. ARAKI Hitoshi	Expert for Information Security (Basic Technology)
Ms. MIYATA Mayumi	Expert for e-Government Service Deployment Planning
Mr. HOYA Hideo	the same as above (the follow-up work)
Mr. TANAKA Yusuke	Expert for FOSS Development and ICT Standard (GISMS)
Mr. ARAKAKI Kenichiro	Expert for FOSS Development (e-Learning System)
Mr. HIRATSUKA Ryoza	Expert for IT Engineers Exam (ITEE) Support
Mr. KAMATA Keisuke	Expert for Information Security (CSIRT)
Ms. SATOU Shiori	the same as above
Mr. Jack YS Lin	the same as above
Mr. KURACHI Yoshinori	Expert for Information Security (G-CIO)
Ms. KIMURA (ITO) Misaki	Project Coordinator
Mr. FUSE Makoto	Chief Advisor/ICT Planning

Needless to mention, it is clear that the work cannot be completed and that this handbook itself cannot become available without successful co-work done by the NiDA counterparts and JICA experts and also without the backups of many people, institutions and organizations in both Cambodia and Japan sides. I hereby would like to partly note those names with many thanks, i.e. MIC, METI, CICC Tokyo, CICC Singapore, JTEC, JETRO Bangkok and FAMD.

December 25, 2009

On behalf of JICA Experts,

FUSE Makoto

Chief Advisor/ICT Planning

Contact: Dr. PHU Leewood, Secretary General

## Notes on the Proposal

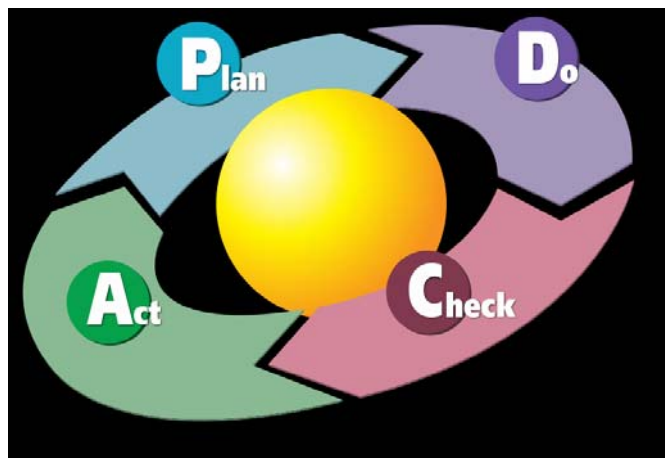
### Notes on the Proposal

This proposal for the Action Plan will aim at guiding NiDA toward performing a “Comprehensive, Perspective and Sustainable Approach to Enhancing Functionality of NiDA to Provide Effective and Secure ICT Services in Cambodia”.

The proposal for the Action Plan has been prepared by the JICA Expert Team based on the outputs of “Capacity Development on ICT Management at NiDA ” supported by JICA, Japan, for which they thoroughly worked together with the counterparts of NiDA.

Since the proposal is a compilation of the outputs of the Project as mentioned above, the advice, suggestions and recommendations urged by the experts are indicated herein as the necessary actions to be taken; those actions are considered imperative, essential and necessary with a certain priority. Thus, the Action Plan naturally aims to be a proposal to NiDA for what NiDA has to do so as to accomplish its roles and missions from now. Each action to be taken will be tangible, constructive and feasible by NiDA.

Here, intentionally, milestones (deadlines) and cost estimates have been eliminated from each action; most of the actions can be done within a year without extra budget, whereas the project type action, “Establishment of NISC”, is obliged to be dependent on the donor’s schedule.



Source: Wikipedia

The word of “entity” means “ministry or agency of RGC” herein. The plural is the same.

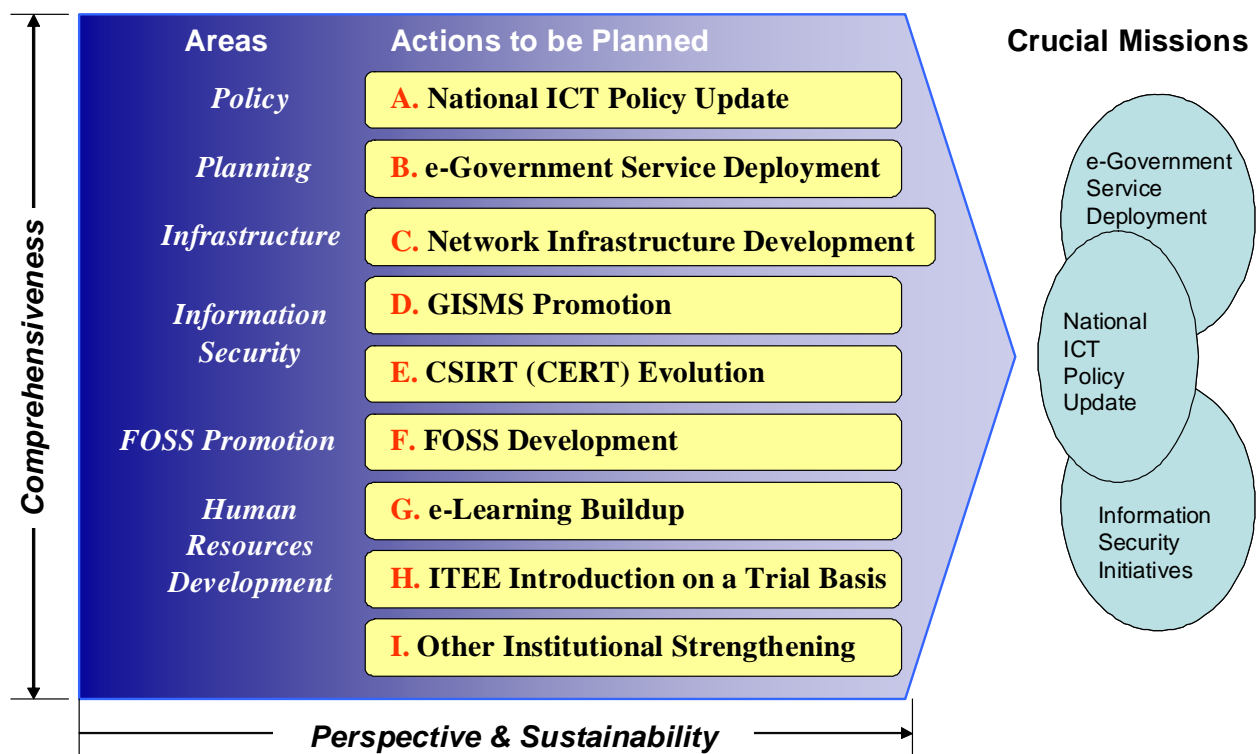
The Action Plan should normally be reviewed and revised on the basis of “PDCA cycle” every year. Also, it will be a must for NiDA personnel to run “PDCA cycle” even in their daily routine practice.

## **The Action Plan for Developing ICT in Cambodia**

## Coverage of Actions Considering Comprehensiveness, Perspective and Sustainability

As a result of the outcomes of the Capacity Development Project, the following coverage of actions can be proposed toward accomplishment the three crucial missions of NiDA. In implementing these actions, it is desirable that staff of NiDA always ruminate over the keywords, i.e. comprehensiveness, perspective and sustainability.

### Coverage of Actions to be Considered



## List of Actions to be Taken

Action No.	Category	Action to be Taken	Remarks
A-1	ICT Policy	Sub-decree issuance on National ICT Policy	
A-2	ICT Policy	Preparation of Internal ICT Policy of NiDA consisting of ICT Policy for e-Administration and ICT Policy for Information Security	
B-1	e-Government Service Deployment	Preparation of Portal Enhancement Plan	Subject to PAIS Expansion
B-2	e-Government Service Deployment	Nationwide e-Government Service Deployment Plan Based on Cloud Computing	Subject to PAIS Expansion
D-1	GISMS Promotion	Establishment of GISMC (Government Information Security Management Committee)	
D-2	GISMS Promotion	GISMS Dissemination to Government Offices	GISMS1.0 Rev.1 will be used
D-3	GISMS Promotion	Preparation of GISMS2.0/3.0	
D-4	GISMS Promotion	Continuous PKI Study	
D-5	GISMS Promotion	Establishment of NISC	Subject to Phases 2 and 3 of JICA CD Project
E-1	CSIRT (CERT) Evolution	CSIRT Capacity Development	CamCERT and Kh-GCERT
G-1	e-Learning Buildup	e-Learning System Development	
G-2	e-Learning Buildup	Khmer e-Learning Contents Development	
H-1	IT Engineers Exam	IT Engineers Exam on a Trial Basis	Subject to Establishment of CITEC
I-1	Other Institutional Strengthening	Forming 6 Taskforce Teams	

## Importance, Priority and Relevance of Each Action

Action No.	Action to be Taken	Remarks		
		Importance	Priority	Relevance
A-1	Sub-decree issuance on National ICT Policy	★★★★	★★	★★★★
A-2	Preparation of Internal ICT Policy of NiDA consisting of ICT Policy for e-Administration and ICT Policy for Information Security	★★	★	★
B-1	Preparation of Portal Enhancement Plan	★★	★★★★	★★★★
B-2	Nationwide e-Government Service Deployment Plan Based on Cloud Computing	★★	★	★★
D-1	Establishment of GISMC (Government Information Security Management Committee)	★★★★	★★★★	★★★★
D-2	GISMS Dissemination to Government Offices	★★★★	★★★★	★★★★
D-3	Preparation of GISMS2.0/3.0	★	★★	★
D-4	Continuous PKI Study	★	★	★★
D-5	Establishment of NISC (National Information Security Center)	★★★★	★★★★	★★★★
E-1	CSIRT Capacity Development	★★	★★★★	★★★★
G-1	e-Learning System Development	★	★	★
G-2	Khmer e-Learning Contents Development	★★	★	★
H-1	IT Engineers Exam on a Trial Basis	★★	★★★★	★★★★
I-1	Forming 6 Taskforce Teams	★	★★★★	★

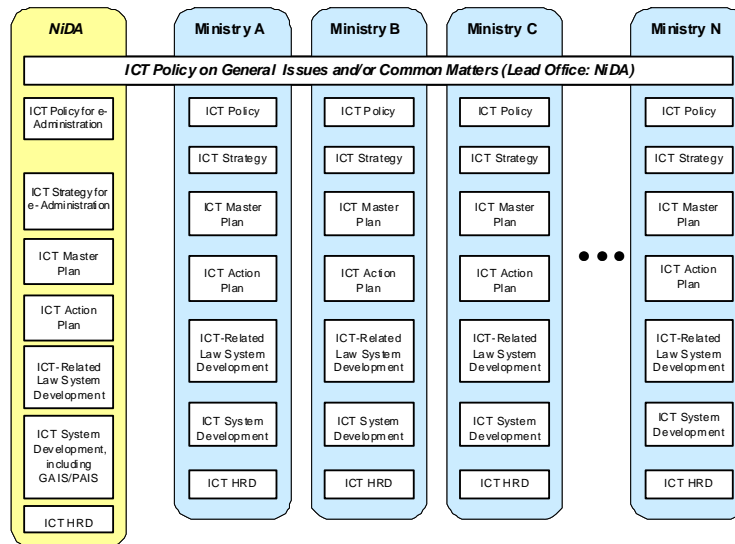
### Key

- Importance: ★★★★★ Imperative    ★★★★★ Essential    ★ Necessary
- Priority: ★★★★★ Immediate    ★★★★★ Urgent    ★ ASAP
- Relevance: judged from the social aspect.



Action No.	A-1	Sub-decree issuance on National ICT Policy
Category		ICT Policy
Importance		<p>★★★</p> <p>It is necessary to establish the National ICT Policy as a general principle of ICT development in Cambodia.</p> <p>The National ICT Policy should be set up, taking into account ease of handling of such a Policy by NiDA as well as all the entities.</p>
Priority		<p>★★</p> <p>Action to be taken urgently, not to repeat the same experience again in preparing the existing draft Policy between 2004 and 2007.</p>
Relevance		<p>★★★</p> <p>It should be considered now that Cambodia is only the country among ASEAN nations, which has no national ICT Policy.</p>
Benefits		Cambodia can declare the establishment of the National ICT policy to international society, which can prove its stability of business environment. The draft National ICT Policy covers global warming issue and WID (Women In Developing).
Expected Difficulties		Need to convince other entities of its necessity
Sustainability		N/A
Related Ministry and/or organization		OCM and all the entities
Consideration		It is an urgent matter to establish a National ICT Policy which govern and handle common issues and general matters of ICT development in Cambodia; the National ICT Policy will not cover any specific ICT policy relating to each entity of RGC except for common issues and general matters of ICT development.
Reference		National ICT Policy – Policy Proposal for the Royal Government of Cambodia

## Structural Aspects of e-Government Development at Each Ministry



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## Ten To-Do List for Drafting National ICT Policy to Deal with General Issues and Handle Common Matters of Government on ICT

### **ICT Frameworks**

1. **[ICT Development Framework]**  
Develop a national ICT framework to ensure optimal national economic and social stimuli
2. **[e-ASEAN Framework Agreement]**  
Take measures towards achievement of the e-ASEAN Framework Agreement, and make efforts to keep up with ICT at ASEAN level by promoting and innovating ICT in Cambodia
3. **[ICT for Government Services]**  
Enhance government services through further utilization of ICT applications
4. **[ICT for Private Sector Development and Reform]**  
Promote utilization of ICT for private sector development and reform as well as for growth of e-Commerce environment
5. **[ICT Literacy]**  
Enhance the level of ICT literacy of the population

### **ICT Services**

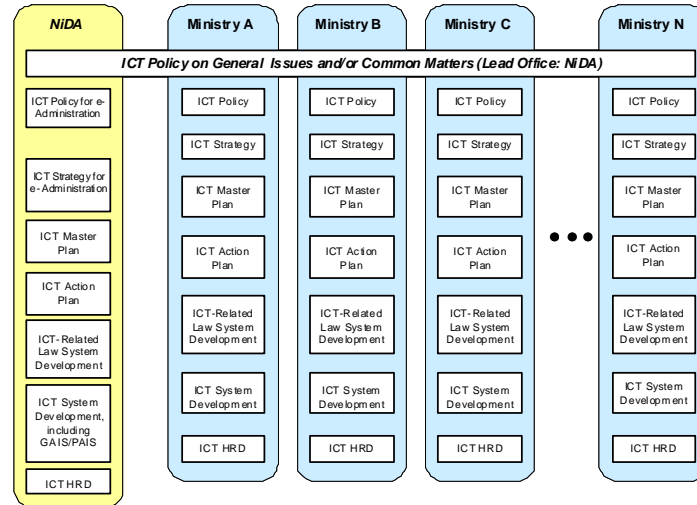
### **ICT infrastructure**

6. **[ICT Infrastructure]**  
Develop a safe and reliable national ICT infrastructure nationwide
7. **[ICT Industry Development]**  
Promote growth of national ICT industry and establish its links in the ASEAN region
8. **[ICT Human Resources Development]**  
Develop competitive and skilled ICT experts and savvy ICT human resources
9. **[WID]** **ICT Development**  
Consider WID (Women In Development) In ICT Sector
10. **[Global Warming Issue]**  
Endorse awareness of ICT as a means to combat against Global Warming (Global Climate Change)

### **Commitment to Global Issues**

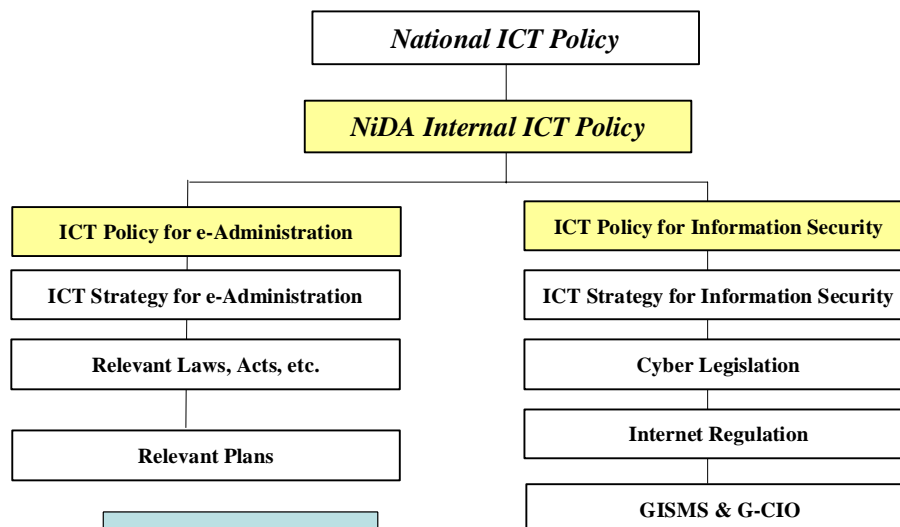
<b>Action No.</b>	<b>A-2</b>	<b>Preparation of Internal ICT Policy of NiDA consisting of ICT Policy for e-Administration and ICT Policy for Information Security</b>
Category	ICT Policy	
Importance	★★	It is necessary to establish an internal ICT Policy of NiDA for guiding principle of ICT development relating to NiDA, which will mainly cover areas of e- Administration (e-Government) and information security.
Priority	★	Action to be taken as soon as possible, considering that creation of such an internal ICT Policy will lead NiDA to sole ICT control and management authority in RGC.
Relevance	★	The internal ICT Policy of NiDA will be able to be a good sample of ICT Policy for other entities.
Benefits	<p>As a result of establishing the internal ICT Policy, NiDA can choose a right way for preparing ICT Strategy and Plan and developing ICT related laws.</p> <p>NiDA can declare the establishment of the internal ICT Policy to other entities, which will lead them to what internal ICT policy should cover at entity level.</p>	
Expected Difficulties	Nothing in particular	
Sustainability	N/A	
Related Ministry and/or organization	OCM	
Consideration	It is an essential matter to establish an internal ICT Policy which consists of ICT Policy for e-Administration (e-Government of NiDA) and Information Security. ICT strategy, plan, related laws will be constructed under this internal ICT Policy as well as the National ICT Policy.	
Reference	National ICT Policy – Policy Proposal for the Royal Government of Cambodia	

## Structural Aspects of e-Government Development at Each Ministry



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## Internal ICT Policies and Strategies of NiDA

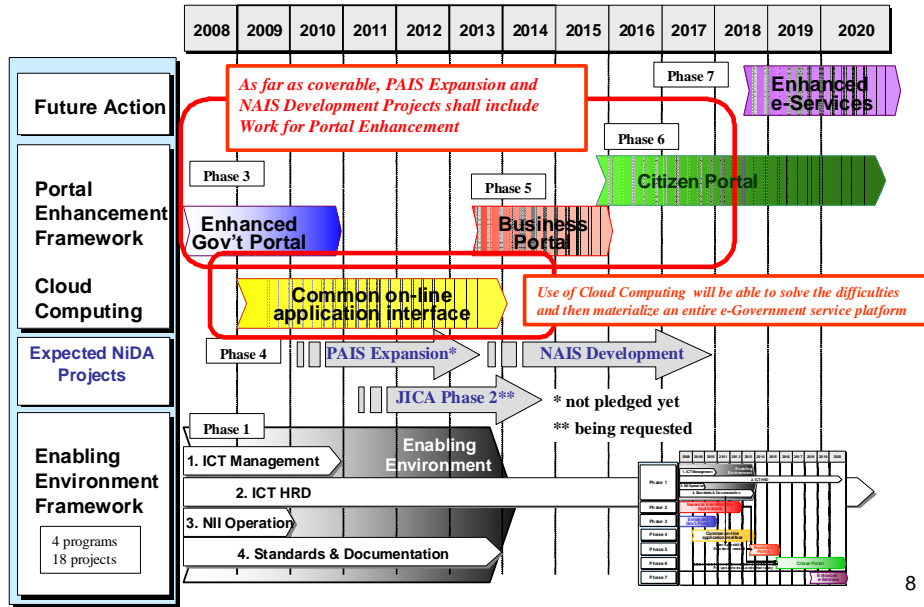


e-Government is only related to NiDA handling portion like GAIS/PAIS. It can be defined e-Administration

Action No.	B-1	Preparation of Portal Enhancement Plan (Feasibility Study)
Category	e-Government Service Deployment	
Importance	<p>★★</p> <p>In case of government administration service, the ideal solution is to prepare One Stop Service for the public, including business people. During the transition period, e-Government service will be offered by each government entity, applying its own way, which will cause complicated e-Government service in total as a result. However, there is a strong demand on a unified e-Government service for the public.</p> <p>If people can access necessary e-Government service through a gateway portal, where main three stems, Government, Business and Citizen, are shown, their access will become easy and simple as One Stop Service. So, as easy as and as simple as possible, e-Government Gateway Portal should be created together with those stem portals – that is the reason why Portal Enhancement Framework is needed.</p>	
Priority	<p>★★★</p> <p>This planning work (feasibility study) shall be performed by NiDA immediately so that scope of the work will be envisioned and basic requirements can be specified.</p> <p>It is recommendable that the Portal Enhancement should be implemented, integrated with PAIS Expansion Project, etc.</p>	
Relevance	<p>★★★</p> <p>It should be considered that public information disclosure, good governance, industry development and growth of FDI (Foreign Direct Investment) can be accelerated by arranging the Government, Business, Citizen portals with the gateway.</p>	
Benefits	<p>One Stop Service of e-Government will enormously contribute to the public and society, because an easy and simple procedure for e-Government access is essential in utilizing e-Government service.</p> <p>As a result of opening a unified gateway portal, information security can be maintained tightly.</p>	
Expected Difficulties	<p>Preparation of requirements for materializing a project will be tough work, if carelessly handled in getting consents from other entities.</p>	

Action No.	B-1	Preparation of Portal Enhancement Plan (Feasibility Study)
Sustainability		For upkeep of the portals, continuous improvement and daily updating work are required. Step-by-step development shall be considered from the beginning.
Related Ministry and/or organization		OCM and each entity
Consideration		<p>There is a keen and urgent need of preparation of Portal Enhancement Plan so that the following portal sites can be firmly developed as recommended by “e-Government Service Deployment Plan”.</p> <ul style="list-style-type: none"> <li>- Government Portal Enhancement</li> <li>- Open of Business Portal</li> <li>- Open of Citizen Portal</li> </ul> <p>The above portal sites are both in Khmer and English so that the sites can be used by not only Cambodian society but also by international society.</p> <p>The portal website of Singaporean Government is one of the recommendable websites as reference. So, the following is an example in case of RGC website URLs:</p> <p><a href="http://www.cambodia.gov.kh">www.cambodia.gov.kh</a> (being used at existing website)</p> <p>Government: <a href="http://www.cambodia.gov.kh/">http://www.cambodia.gov.kh/</a></p> <p>Business: <a href="http://www.cambodia.gov.kh/business/">http://www.cambodia.gov.kh/business/</a></p> <p>Citizens &amp; Residents: <a href="http://www.cambodia.gov.kh/citizen/">http://www.cambodia.gov.kh/citizen/</a></p> <p>Non-residents: <a href="http://www.cambodia.gov.kh/citizen/non-resdint/">http://www.cambodia.gov.kh/citizen/non-resdint/</a></p>
Reference		<p>e-Government Service Deployment Plan, NiDA 2008 and its supplementary report (The Follow-up Study Report on e-Government Deployment Plan 2009) <a href="http://www.gov.sg">http://www.gov.sg</a></p>

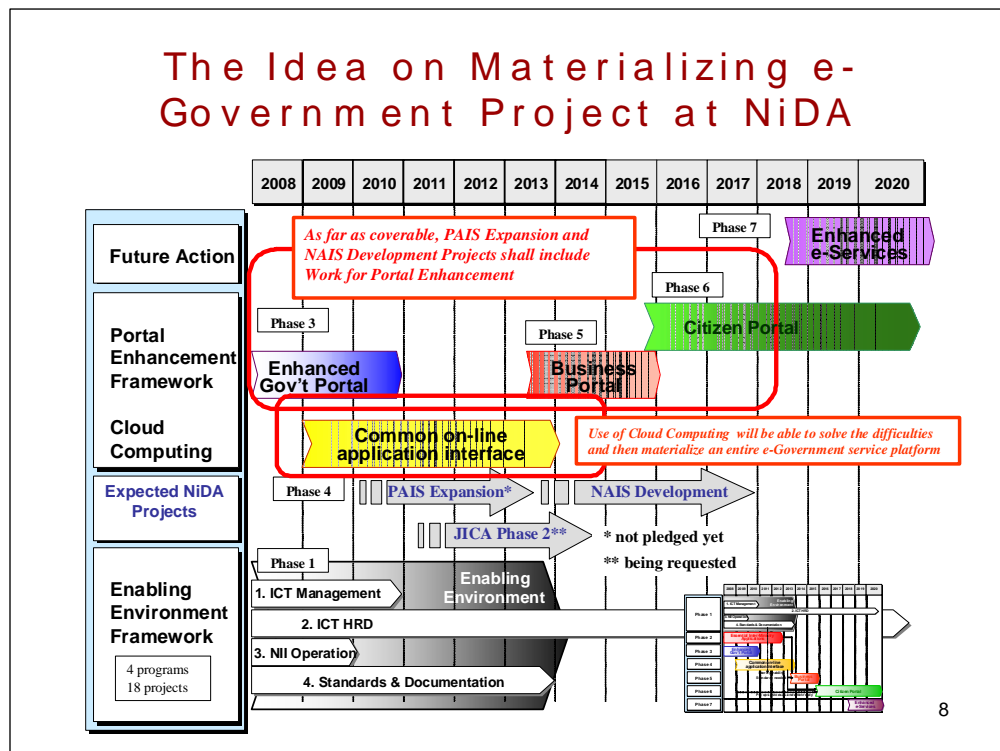
## The Idea on Materializing e-Government Project at NiDA



Action No.	B-2 Nationwide e-Government Service Deployment Plan Based on Cloud Computing (Feasibility Study)
Category	e-Government Service Deployment
Importance	<p>★★★</p> <p>Employment of cloud computing for e-Government service will be important from the viewpoints of:</p> <ul style="list-style-type: none"> <li>Acceleration of ICT development at the entities that are delaying use of ICT, including arrangement of e-Government service deployment.</li> <li>Rapid equalization of uneven ICT development among the entities</li> </ul> <p>Cloud computing can realize economical, safe and secured computing systems compared with conventional computing, releasing responsibility for ICT development of the entities to significant extent.</p>
Priority	<p>★</p> <p>It is recommendable to start studying how to configure e-Government services nationwide as soon as possible, employing the concept of cloud computing. The idea will be able to be realized by PAIS Expansion Project, etc.</p>
Relevance	<p>★★★</p> <p>Advantages of cloud computing, which is economical, safe and rapid computing systems construction, can self-explanatorily show its relevance as explained mentioned in the item of importance above.</p>
Benefits	<ul style="list-style-type: none"> <li>Rapid system construction</li> <li>Economical, safe and secure computing</li> <li>Acceleration of ICT development since responsibility for ICT development at each entity can be lightened.</li> <li>Equalization of uneven ICT development among the entities</li> <li>Minimization of duplication of software application development among the entities</li> </ul>
Expected Difficulties	<p>Preparation of requirements for materializing a project will be tough work, if carelessly handled in getting consents from other entities.</p>
Sustainability	<p>For upkeep of the cloud computing system, continuous improvement and O&amp;M work are required. Step-by-step development shall be considered from the beginning.</p>

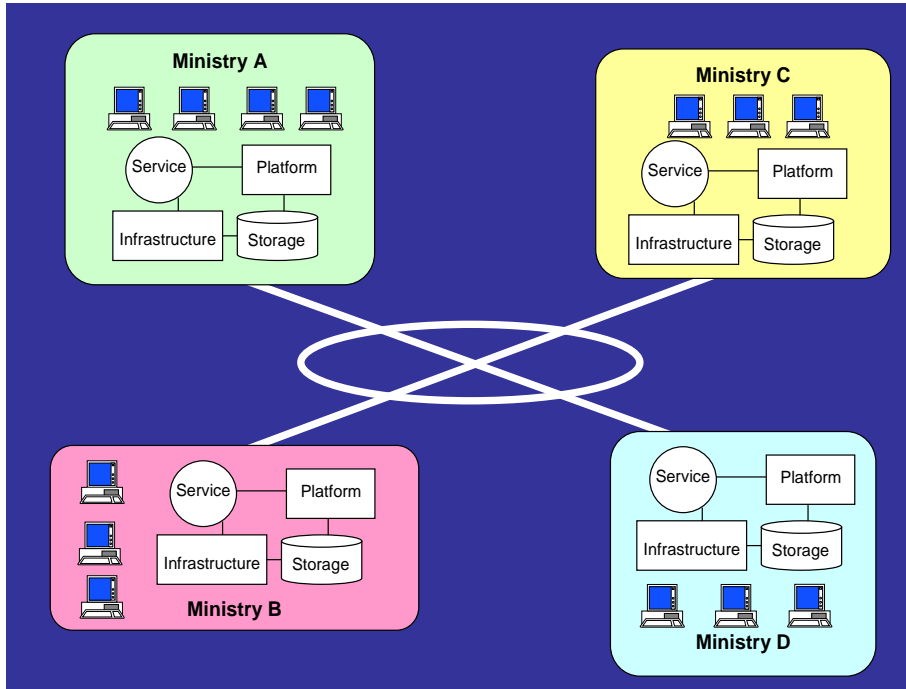


<b>Action No. B-2</b>	<b>Nationwide e-Government Service Deployment Plan Based on Cloud Computing (Feasibility Study)</b>
<b>Related Ministry and/or organization</b>	OCM and potential entities
<b>Consideration</b>	<p>If acceleration of nationwide e-Government service deployment is considered necessary, use of cloud computing is one of the realistic solutions; each entity can commonly share services, platforms and infrastructure of cloud computing with others. So, duplicated application development can be minimized among the entities.</p>
	<p>The advantages of cloud computing will be remarkable, though this computing can be realizable subject to availability of high speed broadband transmission network at low cost.</p> <p>Since NiDA will have a chance to study on employment of cloud computing over PAIS Expansion Project, etc., it is recommendable to take into consideration a trend of technology toward cloud computing.</p>
<b>Reference</b>	e-Government Service Deployment Plan, NiDA 2008 and its supplementary report (The Follow-up Study Report on e-Government Deployment Plan 2009)

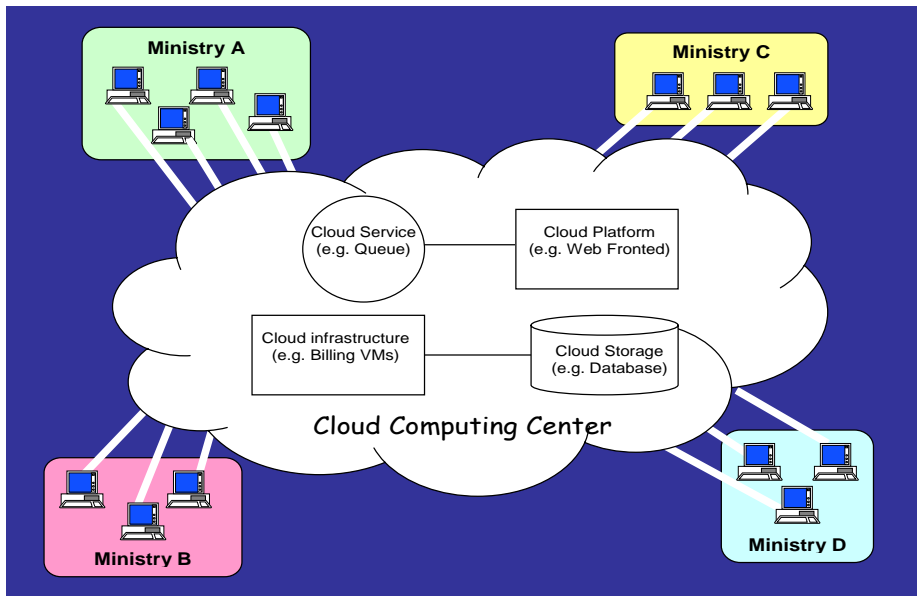


## e-Government Service Concept by Cloud Computing

### Current Concept



### Proposed Concept



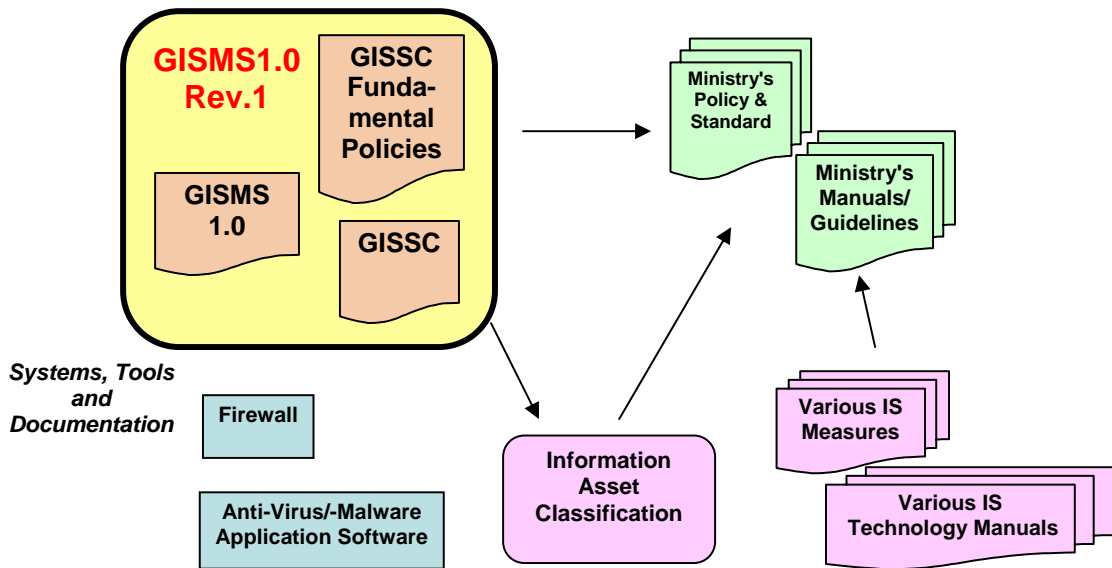
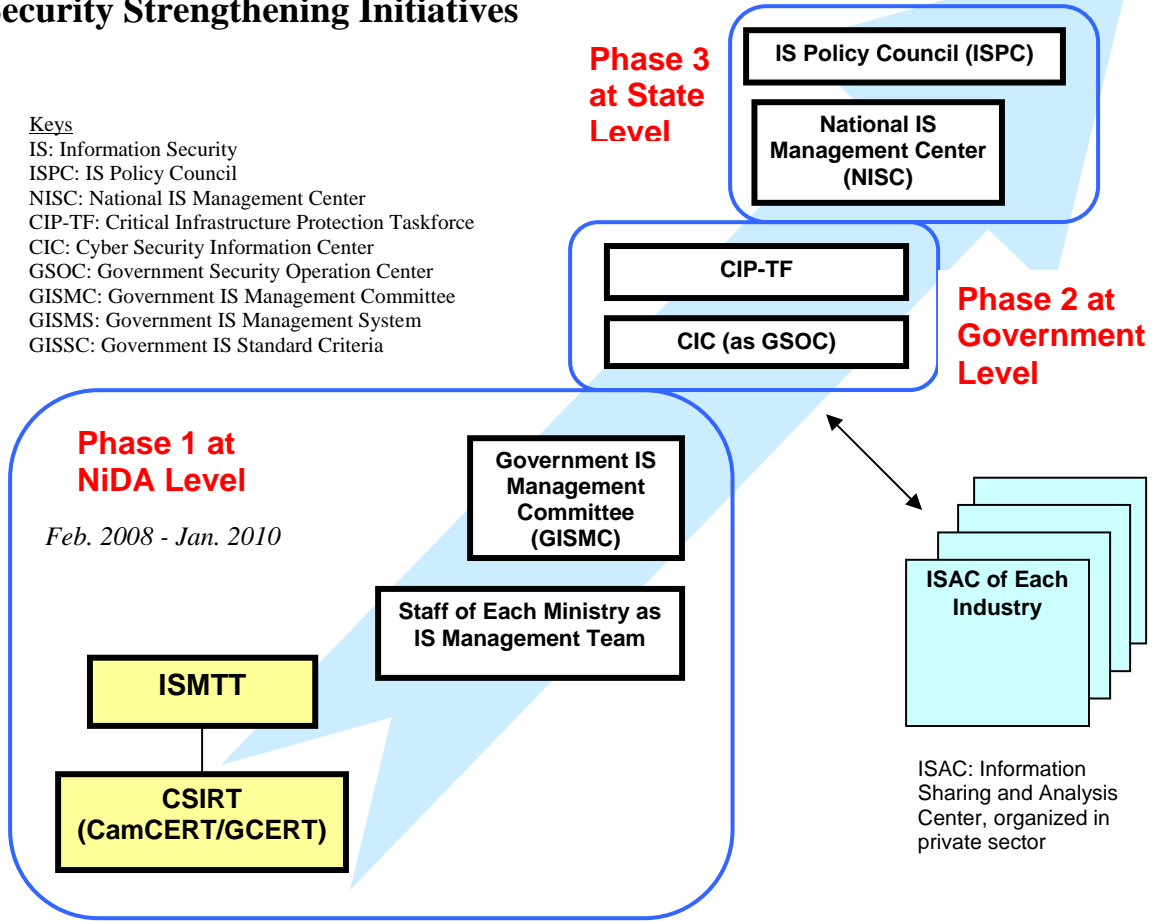
<b>Action No.</b>	<b>D-1</b>	<b>Establishment of GISMC (Government Information Security Management Committee)</b>
Category	GISMS Promotion	
Importance	<p>★★★</p> <p>In performing information security initiatives at RGC level, establishment of GISMC (Government Information Security Management Committee), regarded as a subset of Government CIO Committee for information security, is the most important and indispensable. It is difficult to accomplish information security strengthening at RGC level without setting up GISMC, because no information sharing among the entities can be achieved. Keeping information security of the entities at almost all the same level is the primary target of the Committee.</p>	
Priority	<p>★★★</p> <p>Action to be taken immediately so that there will be no weak place in RGC in terms of information security.</p>	
Relevance	<p>★★★</p> <p>Strong information security can be considered one of assurances of or guarantees on the Government for the public, business people, foreign firms, foreign government, international society, etc.</p>	
Benefits	<p>Information security of each entity can gradually be strengthened as a result of activities of GISMC.</p> <p>Information sharing on information security, etc. at RGC level will contribute to not only strengthening information security of each entity but also boost awareness of necessity of ICT development in RGC.</p> <p>Smooth coordination between NiDA and other entities can be expected through strengthening information security.</p>	
Expected Difficulties	Need to convince other entities of its necessity	
Sustainability	N/A	
Related Ministry and/or organization	OCM and other entities	

Action No.	D-1	<b>Establishment of GISMC (Government Information Security Management Committee)</b>
Consideration		<p>The scenario toward establishing GISMC will be:</p> <ul style="list-style-type: none"> <li>– Establishment of ISMTT at NiDA (Completed)</li> <li>– Assignment of at least three IT staff for information security management at each entity</li> <li>– Each entity will form ISMC (Information Security Management Committee) at ministry level, which will coordinate with NiDA's ISMTT.</li> <li>– Each entity and NiDA will form GISMC, subject to availability of the secretariat function to be undertaken by ISMTT of NiDA</li> <li>– GISC meeting: the secretariat, ISMTT of NIDA, will invite all the entities to GISC meeting for information sharing and talks on information security issues at certain intervals.</li> </ul> <p>It is obvious that this kind of activities will increase awareness of information security in RGC and NiDA can fulfill one of its duties, and also that all the entities should have a unified idea on constructing a strong informalities security platform at RGC level. GISMC will surely contribute to constructing such a platform.</p>
Reference		GISMS1.0 Rev.1

# Proposed Government Information Security Strengthening Initiatives

**Keys**

- IS: Information Security
- ISPC: IS Policy Council
- NISC: National IS Management Center
- CIP-TF: Critical Infrastructure Protection Taskforce
- CIC: Cyber Security Information Center
- GSOC: Government Security Operation Center
- GISMC: Government IS Management Committee
- GISMS: Government IS Management System
- GISSC: Government IS Standard Criteria



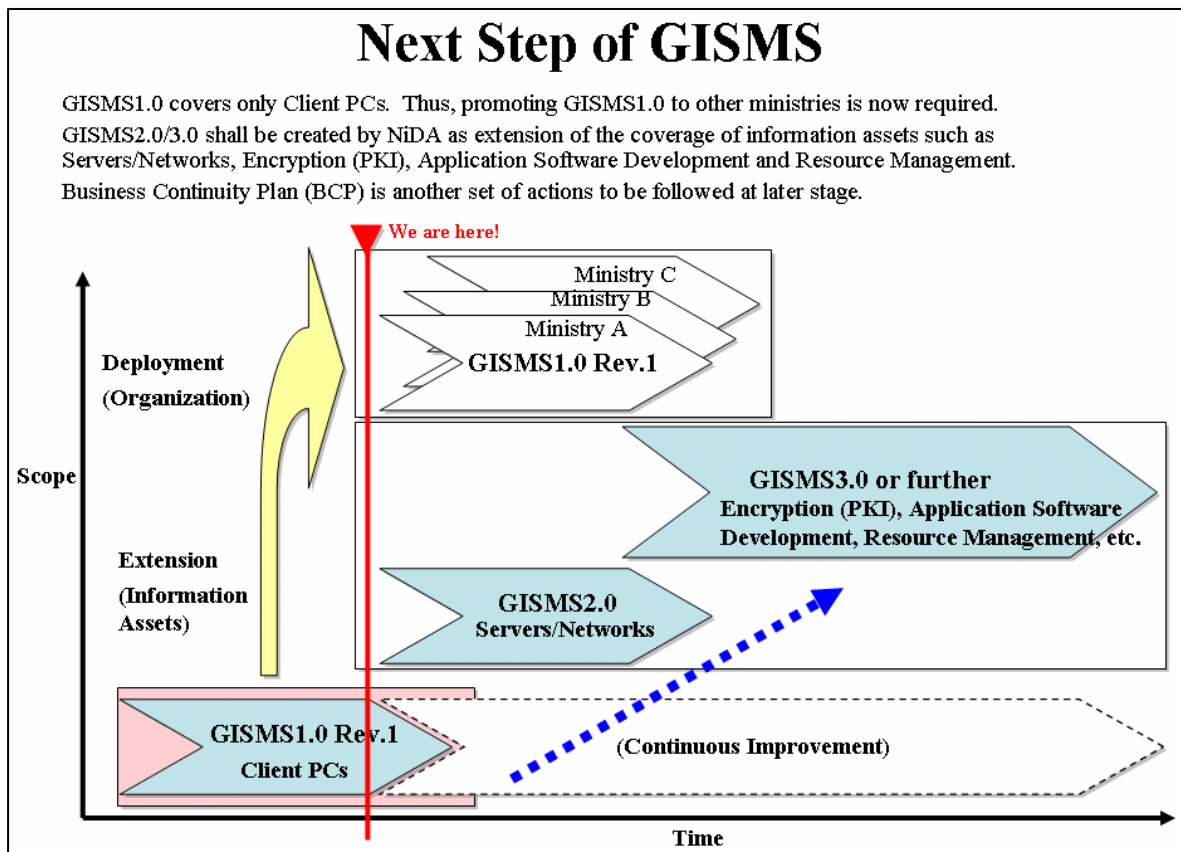
Action No.	D-2	GISMS Dissemination to Government Offices
Category	GISMS Promotion	
Importance	<p>★★★</p> <p>Promotion of GISMS is extremely important to disseminate the idea on information security management at Government level. It is obvious that RGC cannot cope with cyber attacks without equipping with a unified information security concept and actual tool to protect its IT systems and networks. In order to construct the unified information security concept, NiDA should perform promotion activities with the tool, i.e. GISMS. GISMS1.0 Rev.1 is available at the moment.</p>	
Priority	<p>★★★</p> <p>Action to be taken immediately, since ISMTT is available with a tool, GISMS1.0 Rev.1, for the purpose of illuminating the necessity of the government information security management.</p>	
Relevance	<p>★★★</p> <p>Strong information security can be considered one of assurances of or guarantees on the Government for the public, business people, foreign government, foreign firms, international society, etc.</p>	
Benefits	<p>Information security of each entity can gradually be strengthened as a result of activities of GISMC.</p> <p>GISMS is a tool for the practicing and will be a bridge between the entities through the activities.</p> <p>Smooth coordination between NiDA and other entities can be expected through strengthening information security at RGC level.</p>	
Expected Difficulties	Need to convince other entity of its necessity	
Sustainability	N/A	
Related Ministry and/or organization	OCM and each entity	

Action No.	D-2	GISMS Dissemination to Government Offices
Consideration		It is clear that information security can only be strengthened in RGC through activities done by IT staff of each entity and ISMTT of NiDA. Now a guideline for the activities is available as GISMS. If the work has been delayed or not been performed yet without reason, such desertion will result in irreparable damage or loss to the entity from the viewpoint of recent development of cyber attack technology.
Reference		GISMS1.0 Rev.1

Action No.	D-3	Preparation of GISMS2.0/3.0
Category		GISMS Promotion
Importance	★	It is necessary to revise the existing GISMS1.0 Rev1 up to GISMS2.0 and GISMS3.0, which will cover ‘servers/network’ and ‘encryption (cryptographic)/PKI technologies’, respectively, because the information security strengthening should cover all of IT systems entirely, not to cause any defects or weak point on them.
Priority	★★	Action to be taken urgently so that an entire GISMS can be completed by NiDA to protect IT systems in RGC not only related to client PCs but also servers/networks, etc., considering use of state-of-the-art information security technology.
Relevance	★	Primarily, protection of client PCs will be considered. Protection of servers/networks is more important than that of client PCs because of accumulation and concentration of important information, however. Use of encryption technology and PKI will progressively be considered depending of importance of information to be handled at RGC level. From these viewpoints, GISMS shall be revised accordingly.
Benefits		GISMS will entirely cover information security of IT systems of each entity, including not only protection of client PCs but also protection of servers and networks and encryption technology and PKI.
Expected Difficulties		Nothing in particular
Sustainability		N/A
Related Ministry and/or organization		OCM and each entity



<b>Action No.</b>	<b>D-3</b>	<b>Preparation of GISMS2.0/3.0</b>
Consideration	<p>It is clear that information security can only be strengthened in RGC through activities done by IT staff of each entity and ISMTT of NiDA. GISMS is a tool for this purpose. Since GISMS1.0 only covers client PCs, it is necessary to evolve the system up to higher versions which will cover servers, networks, encryption technology and PKI. As a result of the revision work, NiDA can obtain an entire GISMS companion.</p>	
Reference	GISMS1.0 Rev.1	



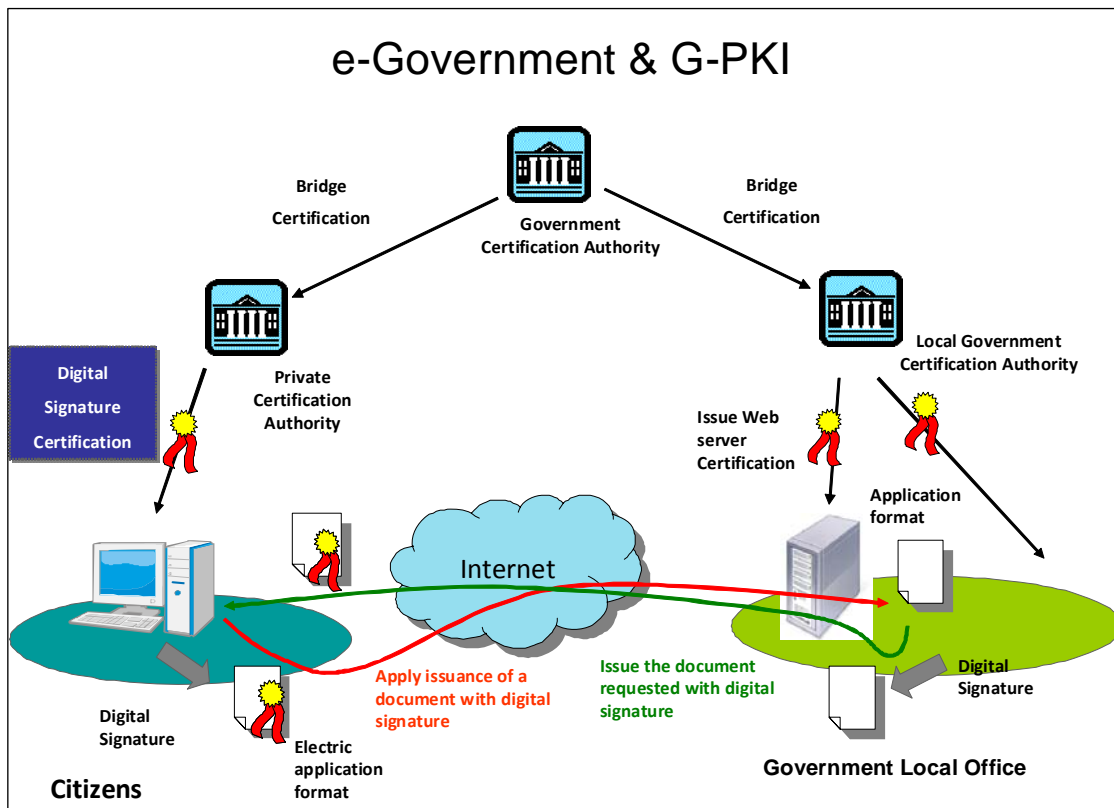
Action No.	D-4	Continuous PKI Study
Category		GISMS Promotion
Importance	★	It is necessary to continuously study PKI to be ready for welcoming e-Commerce society. More or less, sooner or later, use of PKI will be necessitated for handling various kinds of electric commerce systems in Cambodia. NiDA must keep its capability of handling PKI technology, even taking into consideration establishment of Government PKI (G-PKI) in the near future.
Priority	★	Action to be taken as soon as possible so that NiDA can obtain readiness for use of PKI applications, including G-PKI establishment.
Relevance	★★	The need for PKI will increase day by day in order to put into practice safe and secure on-line computing. Further, development of Cambodian society will request establishment of Government PKI (G-PKI) in the near future. NiDA should be ready to handle PKI on behalf of RGC.
Benefits		Authentication by PKI can provide safe, secure and reliable authentication for the public and business people in Cambodia.
Expected Difficulties		Nothing in particular
Sustainability		N/A
Related Ministry and/or organization		OCM
Consideration		A study on PKI, including G-PKI, will be a must for NiDA as long as NiDA is in the position for ICT development on behalf of RGC. Use of PKI will be unavoidable in the light of recent development of electric commerce over network. It is preferable that NiDA should initiate to study G-PKI, including establishment of a Certification Authority (CA) under RGC.

**Action No. D-4 Continuous PKI Study**

Reference GISMS1.0 Rev.1

### PKI Design Procedure

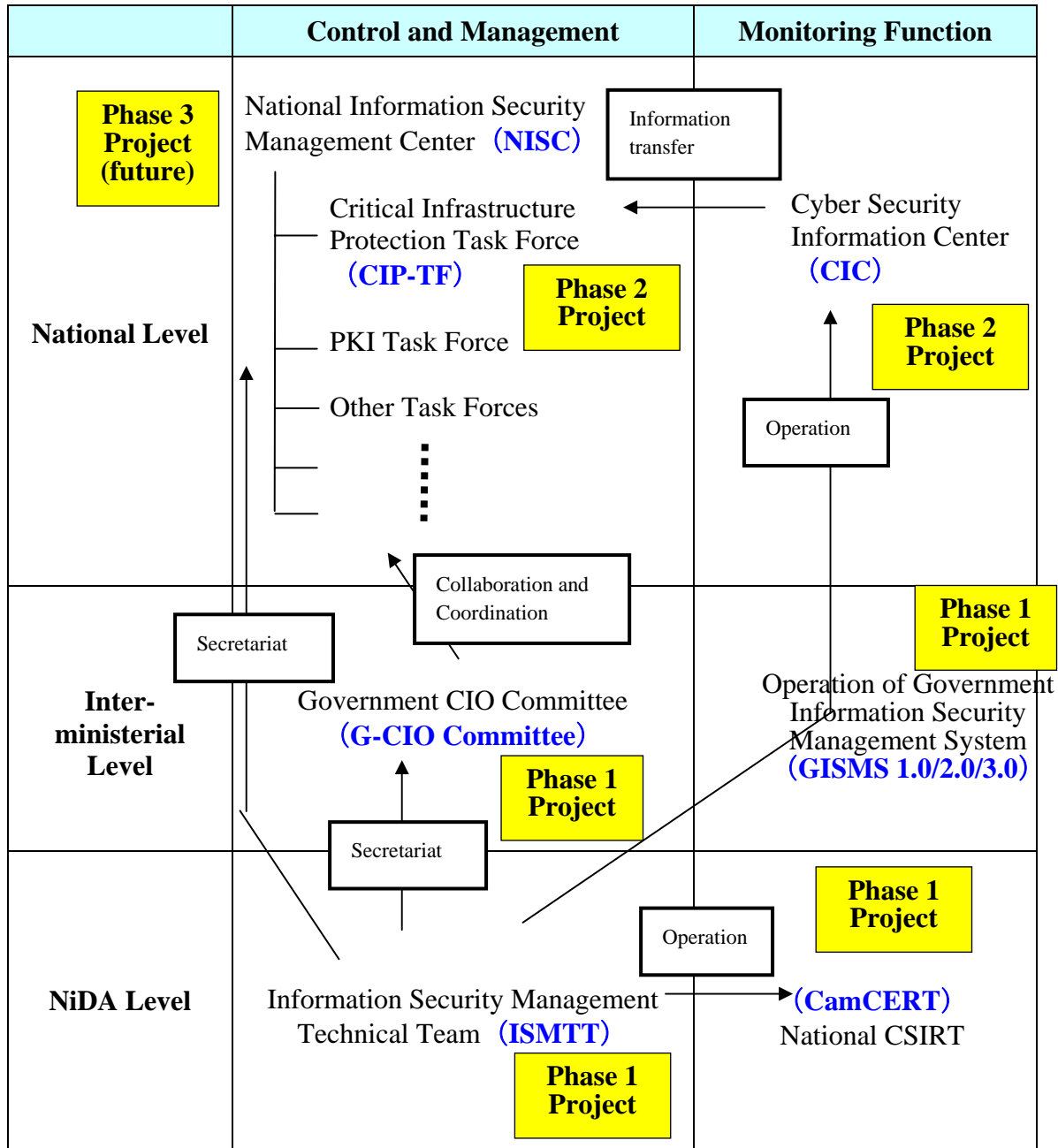
Work Item	Work item	Output (Example)
1. Service Design	<ul style="list-style-type: none"> <li>To create policies for authentication service</li> <li>To define service models</li> <li>To set target and define scope of service</li> <li>To estimate costs and profits</li> <li>To define the master schedule</li> </ul>	<ul style="list-style-type: none"> <li>Service design guideline</li> </ul>
2. Operation Design	<ul style="list-style-type: none"> <li>Procedure to issue certificate</li> <li>Operation team and work assignment</li> </ul>	<ul style="list-style-type: none"> <li>Operational requirements and procedure</li> </ul>
3. System Design	<ul style="list-style-type: none"> <li>Functional design of authentication system</li> <li>Security requirements</li> </ul>	<ul style="list-style-type: none"> <li>Specifications for functional requirements</li> <li>Specifications for security requirements</li> </ul>
4. CP and CPS Design	<ul style="list-style-type: none"> <li>CP (Certificate Policy)</li> <li>CPS (Certificate Practice Statement)</li> </ul>	<ul style="list-style-type: none"> <li>CPS service guideline</li> </ul>



<b>Action No.</b>	<b>D-5</b>	<b>Establishment of NISC (National Information Security Management Center)</b>
Category	GISMS Promotion	
Importance	<p>★★★</p> <p>It is imperative to establish National Information Security Management Center to control information security issues not only at RGC level but also state level toward creating a firm ICT oriented society in Cambodia with tightened information security. Such efforts will surely differentiate Cambodia from other countries in business activities, guaranteeing comfortable business environment with secure ICT infrastructure.</p>	
Priority	<p>★★★</p> <p>Action to be taken immediately, whenever NiDA gets the commitment of donor to implementation of the project.</p>	
Relevance	<p>★★★</p> <p>All the countries in the world have been linked one another through the Internet, creating a global network society. Malicious-minded hackers will leverage this situation, thanks to development of formidable malware. To combat with those people, it is keenly needed that the state of Cambodia should declare its fighting stance and readiness to them. Establishment of NISC is a symbolic approach in this context, whereas continuous activities of NISC are its precondition.</p>	
Benefits	<p>With regard to information security strengthening,</p> <ul style="list-style-type: none"> <li>– Formulation of basic national information security strategy</li> <li>– Information sharing</li> <li>– Use of unified measures and procedures at each entity</li> <li>– Adequate actions against cyber attacks</li> <li>– Protection of critical infrastructure</li> <li>– Quick and adequate response to incidents at RGC level and state level</li> <li>– International coordination and cooperation</li> </ul>	
Expected Difficulties	Need to convince other ministries of its necessity	
Sustainability	N/A	
Related Ministry and/or organization	OCM	

<b>Action No.</b>	<b>D-5</b>	<b>Establishment of NISC (National Information Security Management Center)</b>
Consideration	This project will be materialized and implemented subject to Japan's technical cooperation. For this purpose, the request for Phase 2 Capacity Development Project has been requested to Japanese Government.	
Reference	GISMS1.0 Rev.1 Application Form (Request Paper)	

Envisioned Information Security Strengthening Program

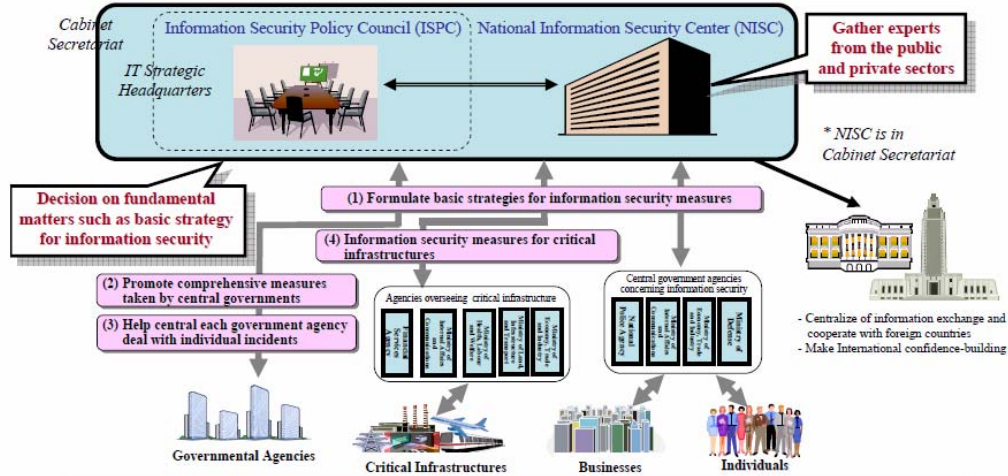


# Japan

## Information Security Policy Council (ISPC) & National Information Security Center (NISC)

- Based on "Review of the Role and Functions of the Government in terms of Measures to Address Information Security Issues (decided by the IT Strategic Headquarters on December 7, 2004)," the government is developing essential functions and frameworks toward strengthening its core functions to address information security issues.

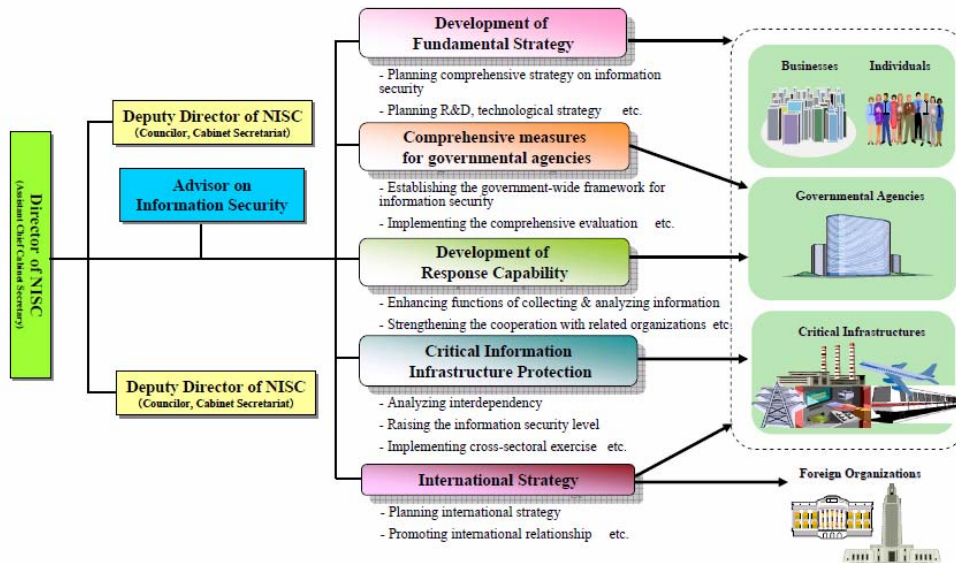
- > National Information Security Center (NISC) has been established since April 25, 2005
- > Information Security Policy Council (ISPC) has been established under the IT Strategic Headquarters since May 30, 2005



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# Japan

## Structure and Functions of NISC



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Action No.	E-1	CSIRT Capacity Development
Category		CSIRT (CERT) Evolution
Importance	★★	In case of the Internet society (now it has come to Cambodia), at least a watchdog is necessary in order to monitor the Internet security, alert the cyber attacks and publicize the incident reports. NiDA should keep and foster CSIRT function in this context. The existing CamCERT will work for the Internet security in public sector, while GCERT will guard the government network.
Priority	★★★	Action to be taken immediately, because CSIRT is a kind of the billboard of NiDA.
Relevance	★★★	No Internet association or the like is available in Cambodia at the moment. Considering this situation of the Internet development in Cambodia, it is very logical that NiDA should take care of developing CSIRT for a certain period.
Benefits		To have a complete watchdog function for the Internet security in Cambodia in public and private sectors.
Expected Difficulties		Need to have continuous support from other CERTs, including APCERT
Sustainability		N/A
Related Ministry and/or organization		OCM
Consideration		<p>CSIRT (CERT) functions a watchdog for the Internet security; CamCERT for the public, while GCERT for the Government. Activities of CSIRT are visible. NiDA should fully take up this point so that its own activities can be understood by others. CSIRT of NiDA contains both CamCERT and GCERT inside of ISMTT. Since this formation is ideal, it is recommendable that NiDA continuously develop CSIRT. Please do not forget that operation of CSIRT needs:</p> <ul style="list-style-type: none"> <li>- Continuation of routine work</li> <li>- Supply of human resource</li> <li>- Coordination with other CERTs</li> </ul>



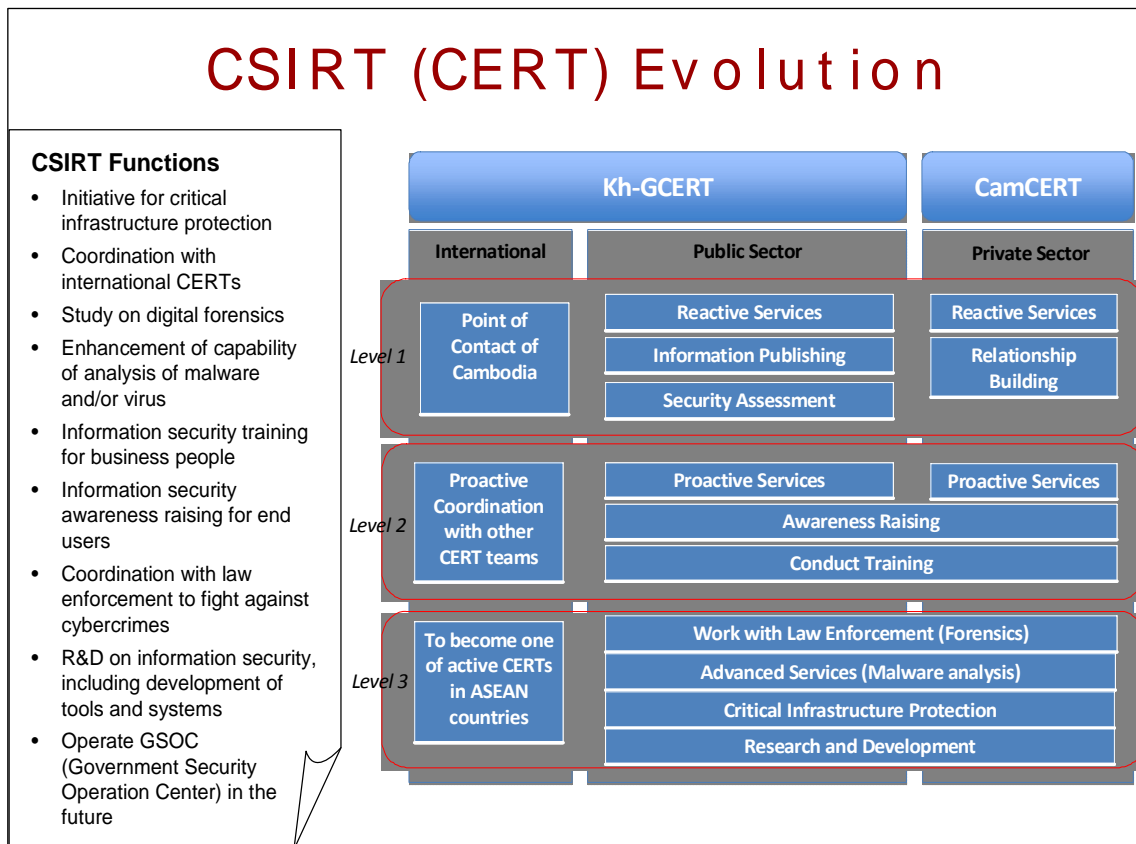
**Action No. E-1 CSIRT Capacity Development**

- Training for information security technology
- Coordination with ISPs and ICT related organizations

It is recommendable to be a member of APCERT as early as possible considering ease of coordination with other CERTs and international information security organizations.

In the near future, it is preferable that NiDA should set up a guard dog function for the Internet security and government network security at NISC. CIC (Cybersecurity Information Center) will be the one.

Reference GISMS1.0 Rev.1  
CERT Operation Manual prepared by JPCERT/CC



Action No.	G-1	e-Learning System Development
Category		e-Learning Buildup
Importance		<p>★</p> <p>e-Learning system should be constructed by LMS and LCMS to manage subscribers (students) and course contents, respectively. Accordingly, the e-learning system can contribute to Skillpath development at NiDA.</p> <p>Lateral spread of the e-Learning system by NiDA is highly possible. This will be appreciated by others.</p>
Priority		<p>★</p> <p>Action to be taken as soon as possible.</p>
Relevance		<p>★</p> <p>Using e-Learning, NiDA will be able to provide proper IT education from the viewpoints of policy, administration and information security of IT.</p>
Benefits		Ease of Realizing skillpath management at NiDA with low cost
Expected Difficulties		How to keep motivation of subscribers (students); promotion and/or incentive for successful subscribers (students) would be considered.
Sustainability		Depending on course contents development in both quantity and quality, including preparation of Khmer contents
Related Ministry and/or organization		OCM
Consideration		e-Learning will be developed step by step and evolve up to e-college for ICT at NiDA at the end of the day.
Reference		Presentation Paper dated August 20, 2009 FOSS Development: Focusing on e-Learning System Project Report

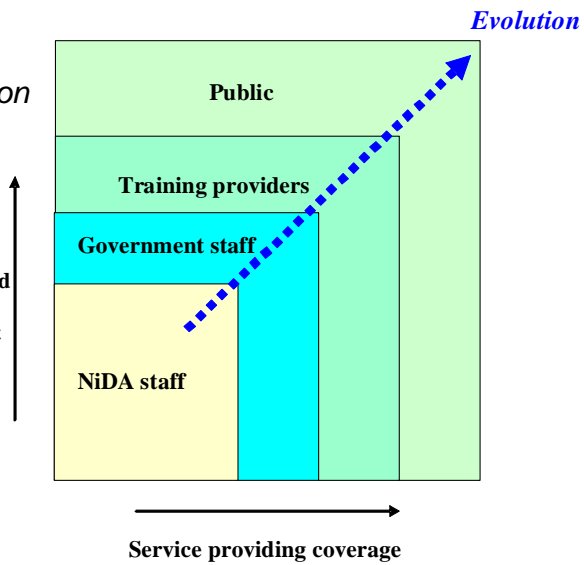
## e-Learning Development at NiDA toward Building up e-Tech College

*Keys to be Considered by NiDA:*

- *Learning management*
- *Contents development*
- *Lateral spread to any organization*

**Variation**

- Registration category
- Course registration and enrollment
- Learning management
- Course design
- Tuition fee



## Establishment of e-Learning System of NiDA (Memo)

August 17, 2009  
FUSE Makoto, JICA expert

### 1. Purpose

- To benefit for NiDA in educating its staff members
- To give chances to other people than NiDA personnel so that those people can learn IT, which NiDA consider necessary to learn.
- To provide training providers with contents on a cooperation basis

### 2. Responsible and managing division

The R&D Team of HRD department, headed by Mr. Vandy under Mr. Noy, will be recommendable considering its role. FOSS development team and Network Team should assist the R&D Team in this connection.

### 3. Starting time

Mid September, 2009

Some contents provided by CICC will become available from the mid September 2009. So, NiDA can run e-Learning system from that time, limiting to NiDA personnel only.

### 4. A need of creating a policy for e-Learning of NiDA considering future evolution

The following is an example of checklist for policy creation:

Coverage and Classification		NiDA Personnel			Government Officials			Training Providers			Pubic			Guest
		Cat 1	Cat 2	Cat 3	Cat 1	Cat 2	Cat 3	Cat 1	Cat 2	Cat 3	Cat 1	Cat 2	Cat 3	
Registration	Temporary			X										NA
	Employed period only		X											NA
	Permanent	X												NA
Training course	Temporary	X	X	X										
	Regular	X	X	X										
	Special	X												
	Open course	X	X	X										X
Enrollment	Temporary	X	X	X										NA
	Regular	X	X											NA
	Special	X												NA
Tuition fee	Chargeable													
	Free				Not applied for the time being									X
	Other													

NiDA and Government personnel

- Category 1 Management or higher
- Category 2 Staff
- Category 3 Temporarily employed staff

Training providers

- Category 1 National universities, institutes or colleges
- Category 2 Private universities, institutes or colleges
- Category 3 Others

Public

- Category 1 People living in Phnom Penh
- Category 2 People living outside Phnom Penh
- Category 3 People living outside Cambodia

## 5. Problem to be Solved

Access speed to e-Learning system is rather slow in case of the access from NiDA office (LAN connection inside NiDA), compared with that from the Internet outside NiDA office. So, this cause should be clarified.

## 6. Actions to be Taken

To operate e-Learning system properly, the following work should be done at NiDA. Otherwise, the system installed will become just “the form but not the spirit”.

- Learning management policy
- Contents development policy, including copyright matter
- System maintenance policy, including budget

To collect contents from other organizations whenever utilizable.

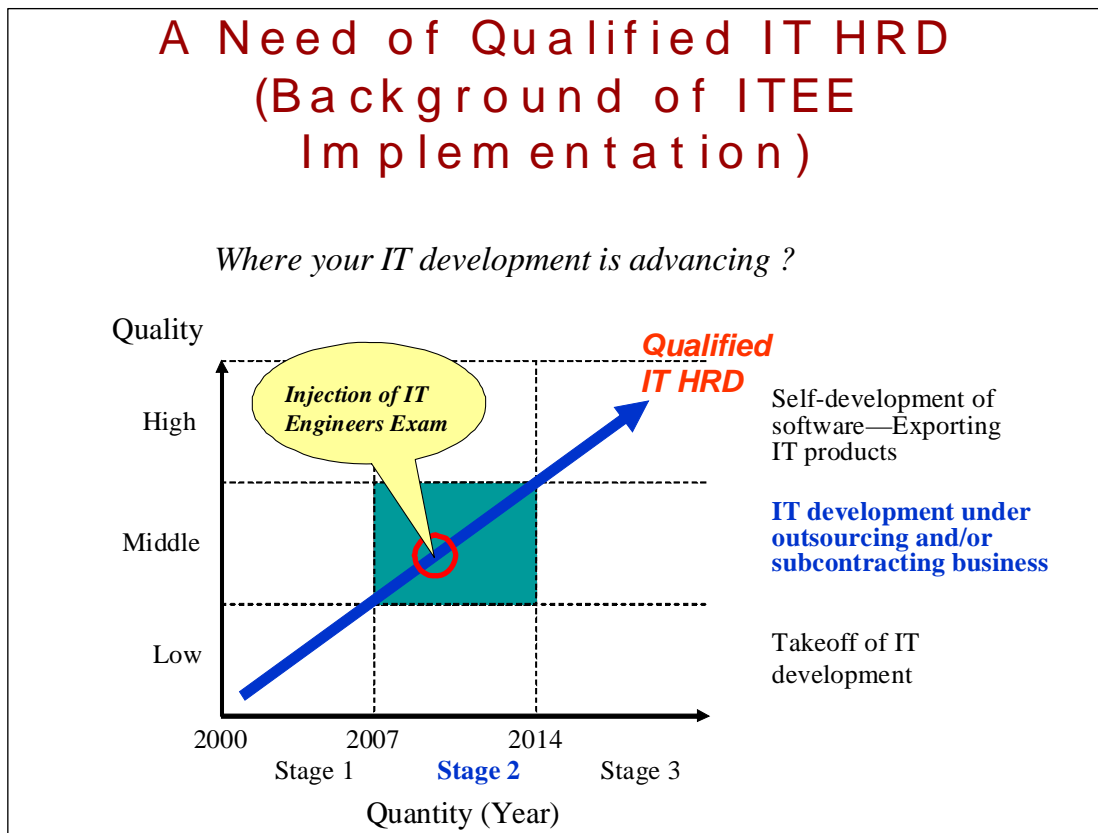
To create Khmer contents step by step, paying careful attention to copyright matters.

[End of paper]

Action No.	G-2	Khmer e-Learning Contents Development
Category		e-Learning Buildup
Importance	★★	e-Learning is a useful and helpful tool to educate staff of NiDA coupled with skillpath development. In this case, use of Khmer in education will make effect and efficiency double.
Priority	★	Action to be taken as soon as possible.
Relevance	★	Developing Khmer contents of e-Learning is related to normal change of culture in e-Learning; it is natural to expedite development of contents in Khmer so that everybody can study and understand the contents provided obediently without difficulty.
Benefits		High learning effect and efficiency can be expected.
Expected Difficulties		Nothing in particular, except for carefully handling copyright infringement (piracy).
Sustainability		N/A
Related Ministry and/or organization		OCM
Consideration		<p>It will be practical at the initial stage to create Khmer e-Learning Contents, translating Contents in English into Khmer ones one by one. If there is a copyright issue in this connection, NiDA should obtain the copyright of the contents from its copyright holders.</p> <p>It is recommendable to start translating the contents provided by CICC, Japan, in to Khmer, considering ease of handling the copyright matter with the organization. At a request from NiDA, CICC will arrange the copyright clearance.</p>
Reference		Six kinds of the contents provided by CICC, Japan

Action No.	H-1	IT Engineers Exam on a Trial Basis
Category		IT Engineers Exam
Importance	★★	ITEE (IT Engineers Examination) can be a measure not only to appraise the level of IT engineers but also to evaluate the level of training providers including universities. As a result, it will contribute to improving IT education at training providers in Cambodia, upping level of IT education of and equalizing quality of IT education among training providers.
Priority	★★★	Action to be taken immediately. The actual work will be started after CITEC (Cambodia IT Engineers Exam Center) is established, however.
Relevance	★★★	In fact, each industry is waiting for supply of qualified IT engineers. ITEE is a tool for Cambodia to produce qualified IT professionals who can work with first class firms both in Cambodia and abroad, including IT industry.
Benefits		Fostering qualified IT engineers to IT industry in Cambodia Contribution to improving IT education of training providers (especially enhancement and equalization of IT education at training providers, including universities)
Expected Difficulties		No support from Japan side, if CITEC is not established officially.
Sustainability		Sustainability will be kept, if CITEC succeed in joining ITPEC (IT Professional Examination Council), Manila. It is expected that there will be support from Japanese Government.
Related Ministry and/or organization		OCM, IT related ministries, Chamber of Commerce

<b>Action No.</b>	<b>H-1</b>	<b>IT Engineers Exam on a Trial Basis</b>
Consideration	<p>It is clear from the beginning that Cambodia should foster IT engineers both in quantity and in quality. Training providers, including universities, currently supplies a certain number of IT engineers to labor market every year. Nonetheless, this is not enough, when considering how to develop outsourcing business in IT field. Foreign counterparts will always request qualified IT engineers. ITEE will help encourage qualification of IT engineers in this concern.</p> <p>This action will be taken subject to establishment of CITEC (Cambodia IT Engineers Exam Center) and cooperation of IPA/METI, Japan. JETRO will support CITEC as well.</p>	
Reference	<p>Presentation Paper ITEE in Cambodia: Focusing on Developing Qualified IT Human Resources by Mr. R. Hiratsuka, expert</p>	



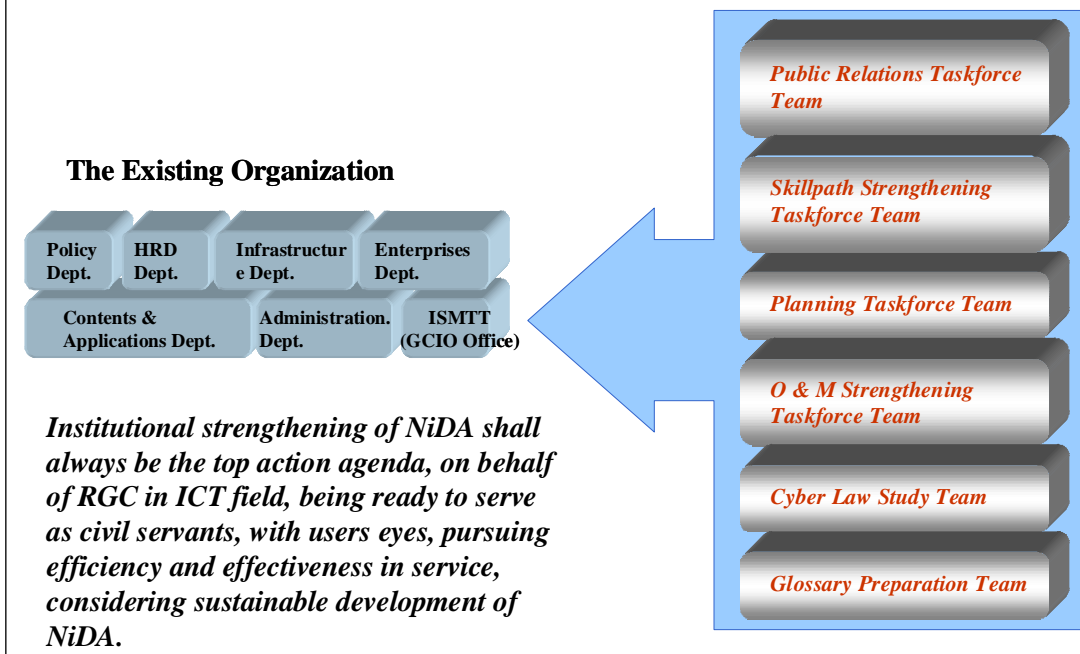


Action No.	<b>I-1</b> <b>Forming 6 Taskforce Teams:</b> <b>(1) Public Relations Taskforce Team</b> <b>(2) Skillpath Strengthening Taskforce Team</b> <b>(3) Planning Taskforce Team</b> <b>(4) O &amp; M Strengthening Taskforce Team</b> <b>(5) Cyber Law Study Team</b> <b>(6) Glossary Preparation Team</b>
Category	Other Institutional Strengthening
Importance	<p>★</p> <p>ICT environment has changed and NiDA has evolved in answer accordingly. In fact, the missions of NiDA have been widened and deepened. To cope with various demands and requirements for NiDA, to overcome various kinds of difficulties and to solve issues raised, NiDA should brace itself with forming the taskforces. The work to be done by the taskforces is keenly necessitated by the public as well as RGC.</p>
Priority	<p>★★★</p> <p>Action to be taken immediately, considering that formation of such taskforce teams surely reinforces the organizational aspect of NiDA and will further lead NiDA to sole ICT control and management authority at RGC.</p>
Relevance	<p>★</p> <p>It will be allowed to reach the idea on forming a certain number of taskforces to reinforce activities of NiDA, considering both the urgency and necessity of the work. Experience in working for each taskforce will contribute to capacity development of personnel concerned.</p>
Benefits	<p>NiDA can substantially play its role being imposed.  Further utilization of PAIS/NII is expected.  PAIS/NII O&amp;M framework is properly formed, taking into consideration its expansion.  Person-by-person HRD can be accomplished for NiDA personnel.  Both positive and negative aspects of information society development can be studied through cyber law issues, including forensics.  Unified technical terms in Khmer will be worked out despite NiDA version at the moment.</p>

Action No.	<b>I-1</b> <b>Forming 6 Taskforce Teams:</b> <b>(1) Public Relations Taskforce Team</b> <b>(2) Skillpath Strengthening Taskforce Team</b> <b>(3) Planning Taskforce Team</b> <b>(4) O &amp; M Strengthening Taskforce Team</b> <b>(5) Cyber Law Study Team</b> <b>(6) Glossary Preparation Team</b>
Expected Difficulties	Each taskforce will perform its task given, experiencing a trial-and-error adjustment approach.
Sustainability	After completion of its mission, NiDA will demobilize each taskforce.
Related Ministry and/or organization	OCM
Consideration	<p>It is an essential matter to institutionally strengthen the organization of NiDA to enhance its functions. In this context, strengthening the following six functions is an urgent agenda, i.e.</p> <ol style="list-style-type: none"> <li>(1) Public Relations</li> <li>(2) Skillpath Pursuance in HRD</li> <li>(3) Planning Capability</li> <li>(4) O &amp; M Capability</li> <li>(5) Readiness to Cyber Law Enforcement</li> <li>(6) Preparation of ICT Glossary</li> </ol> <p>Considering its urgency and ease of formulation, it is recommendable to form the following six taskforce teams to achieve the purposes, i.e.</p> <ol style="list-style-type: none"> <li>(1) Public Relations Taskforce Team, mainly working for PAIS/NII utilization campaign.</li> <li>(2) Skillpath Strengthening Taskforce Team, mainly working for creation of a unified Personnel Resource Management, utilizing e-Learning education courses, etc.</li> <li>(3) Planning Taskforce Team, mainly working for projects at next phase to envision and input NiDA's requirements therein.</li> <li>(4) O &amp; M Strengthening Taskforce Team, working for PAIS/NII upkeep.</li> <li>(5) Cyber Law Study Team, in order that NiDA is ready for cyber law enforcement in near future, including forensics.</li> <li>(6) Glossary Preparation Team, working for creation of an ICT glossary English-Khmer/Khmer-English as NiDA version.</li> </ol>

Action No.	<b>I-1</b>	<b>Forming 6 Taskforce Teams:</b> <b>(1) Public Relations Taskforce Team</b> <b>(2) Skillpath Strengthening Taskforce Team</b> <b>(3) Planning Taskforce Team</b> <b>(4) O &amp; M Strengthening Taskforce Team</b> <b>(5) Cyber Law Study Team</b> <b>(6) Glossary Preparation Team</b>
Reference		Presentation paper: Capacity Development on ICT Management at NiDA – A Comprehensive, Perspective and Sustainable Approach to Enhancing Functionality of NiDA to Provide Effective and Secure ICT Services in Cambodia

## Reinforcement of the Organization by Taskforces



## Main Activities of the 6 Taskforces

- 1) **Public Relations Taskforce Team**
  - To promote utilization of PAIS/NII platform by other ministries, authorities and organizations, including seminars, publications and campaigns
  - To publicize activities, roles and outputs of NiDA to the public and other organizations.
- 2) **Skillpath Strengthening Taskforce Team**
  - To build up a unified Personnel Resource Management Scheme, utilizing e-Learning system, etc.
  - To study skillpath method for personnel management
  - To realize person-to-person skillpath development management for NiDA personnel.
- 3) **Planning Taskforce Team**
  - To maximize effectiveness and efficiency of work of NiDA with minimum costs, planning is indispensable and essential.  
Especially, planning for next project(s) is important in order to make it clear what is scope of work of the project(s), taking into account benefit of the project implementation.
  - To prepare planning tools step by step
- 4) **O&M Strengthening Taskforce Team**
  - Since NiDA now possesses PAIS/NII, a kind of national ICT resource, constructing proper O&M structure is essential. It is required to study and construct a suitable O&M structure based on the result considering sustainability of PAIS/NII platform.
- 5) **Cyber Law Study Team**
  - To study roles of NiDA in connection with cyber law development, including digital forensics, toward present and future information society of Cambodia.
- 6) **ICT Glossary Preparation Team**
  - It is the time that NiDA should prepare a Glossary for ICT Technical Terms as its own version so that not only NiDA personnel but also other government officials will be benefitted from the glossary.

## **APPENDIX**

### **Capacity Development on ICT Management at NiDA**

**A Comprehensive, Perspective and Sustainable Approach to Enhancing  
Functionality of NiDA to Provide Effective and Secure ICT Services in Cambodia**

The logo for the National ICT Development Authority (NiDA) of Cambodia, consisting of the letters "NiDA" in white on a grey rectangular background.

**JICA Technical Cooperation**

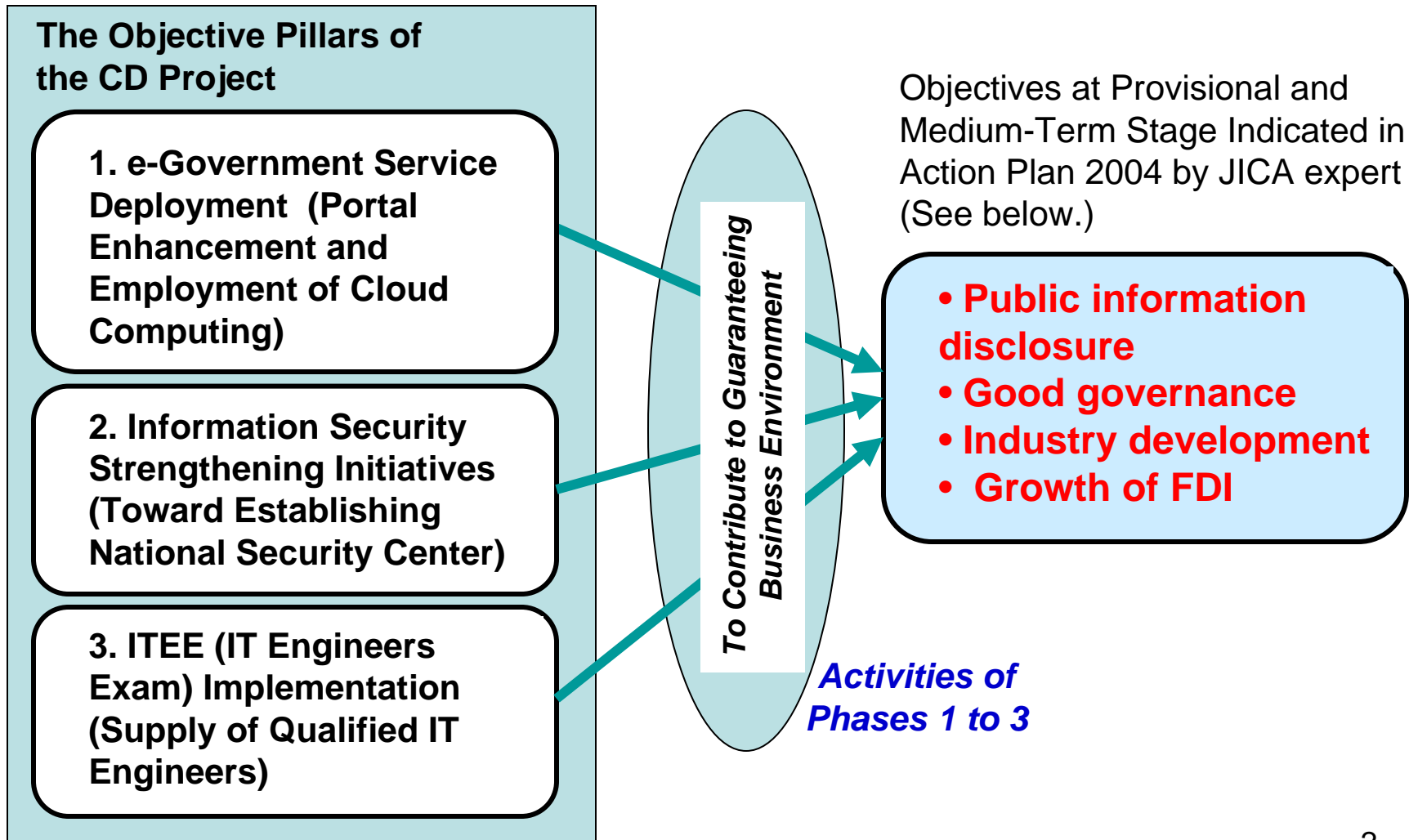
# **Capacity Development on ICT Management at NiDA**

*A Comprehensive, Perspective and Sustainable Approach  
to Enhancing Functionality of NiDA to Provide Effective and  
Secure ICT Services in Cambodia*

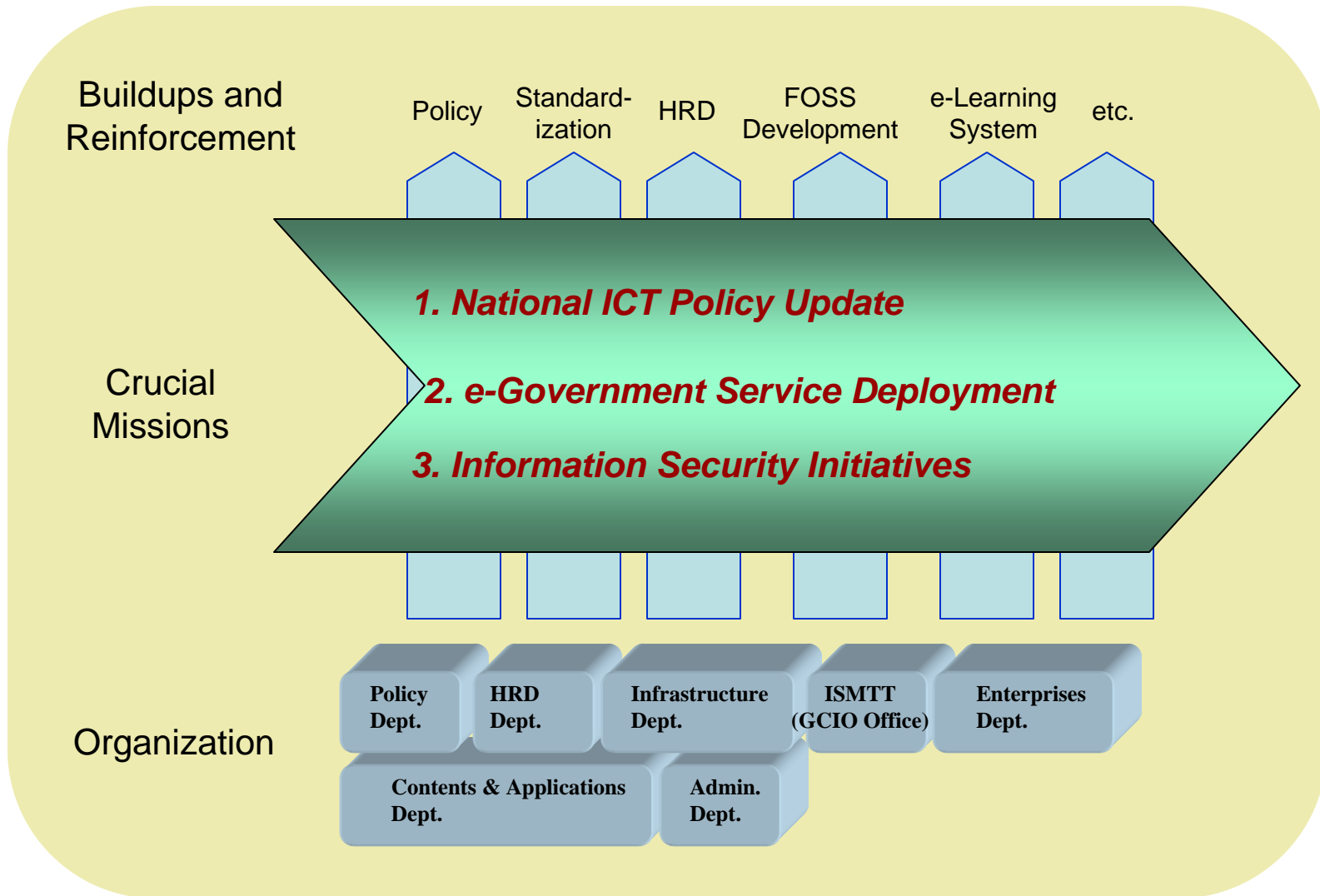
**January 14, 2010**

**Dr. PHU Leewood  
Secretary General  
National ICT Development Authority**

# The Logic of Capacity Development Program for NiDA

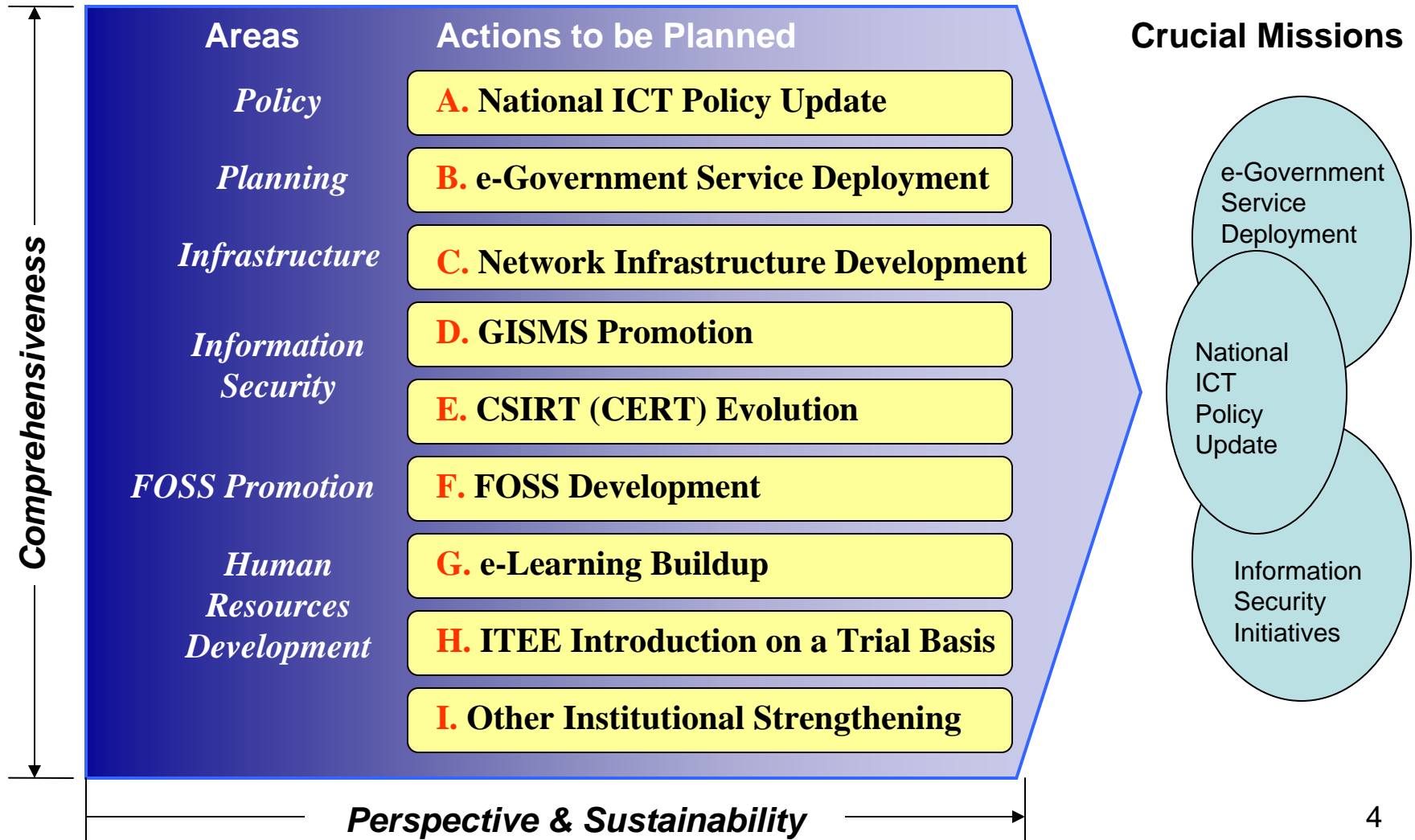


# Missions of NiDA

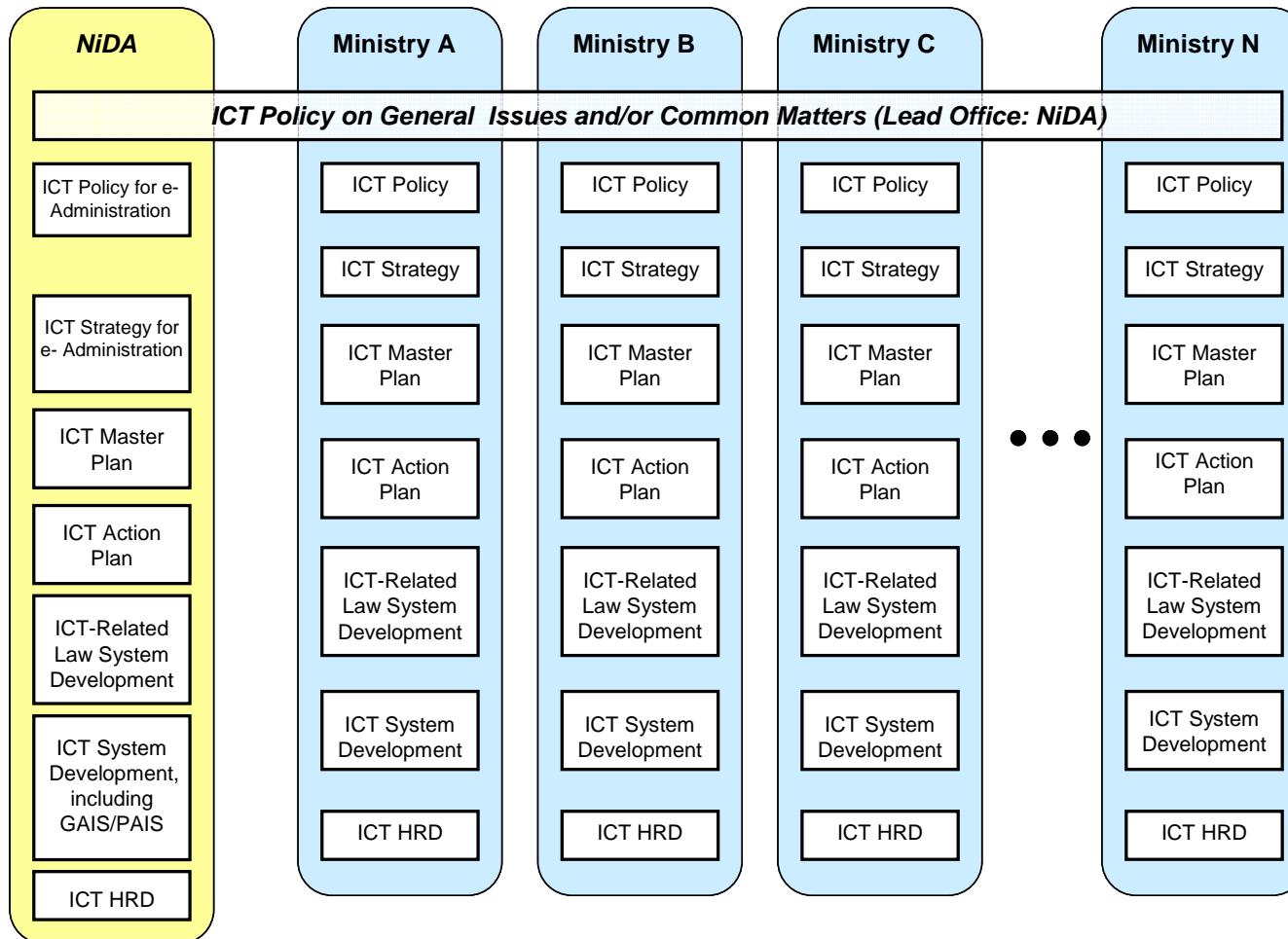




# Expected Actions for ICT Development at NiDA



# Structural Aspects of e-Government Development at Each Ministry



# Policy Proposal for the Government of Cambodia for Drafting National ICT Policy

## ***Policy Pillars and Coverage***

*ICT Policy 2015 shall be incorporated with the following:*

### **1. ICT Framework**

- 1.1 Develop a national ICT legal and regulatory framework to ensure a national economic and social stimuli.
- 1.2 Develop measures to achieve the e-ASEAN Framework Agreement, as well as to ensure efforts to keep pace with the ASEAN level of ICT technology through the promotion of a national ICT innovation.

### **2. ICT Service**

- 2.1 Improve government services through the application of ICT
- 2.2 Support the use of ICT in the private sector and the growth of e-commerce
- 2.3 Encourage the growth of a national ICT industry and its links among the ASEAN region

### **3. ICT Infrastructure**

- 3.1 Develop a reliable national ICT infrastructure

### **4. ICT Development**

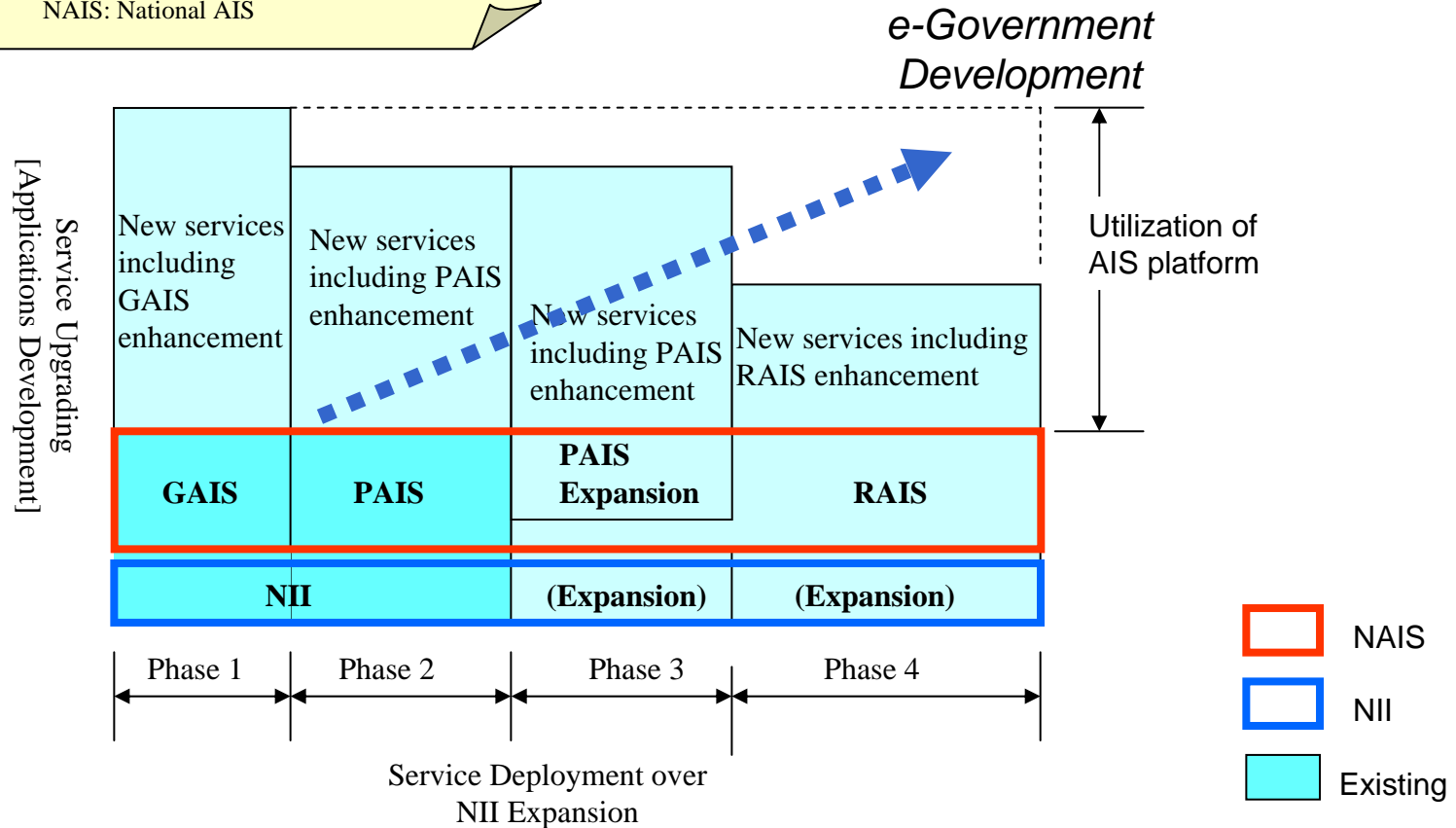
- 4.1 Enhance the level of ICT literacy among the population
- 4.2 Develop regionally competitive ICT experts and ICT savvy human resources
- 4.3 Support WID (Women in Development) in the ICT Sector

### **5. Commitment to Global Issues**

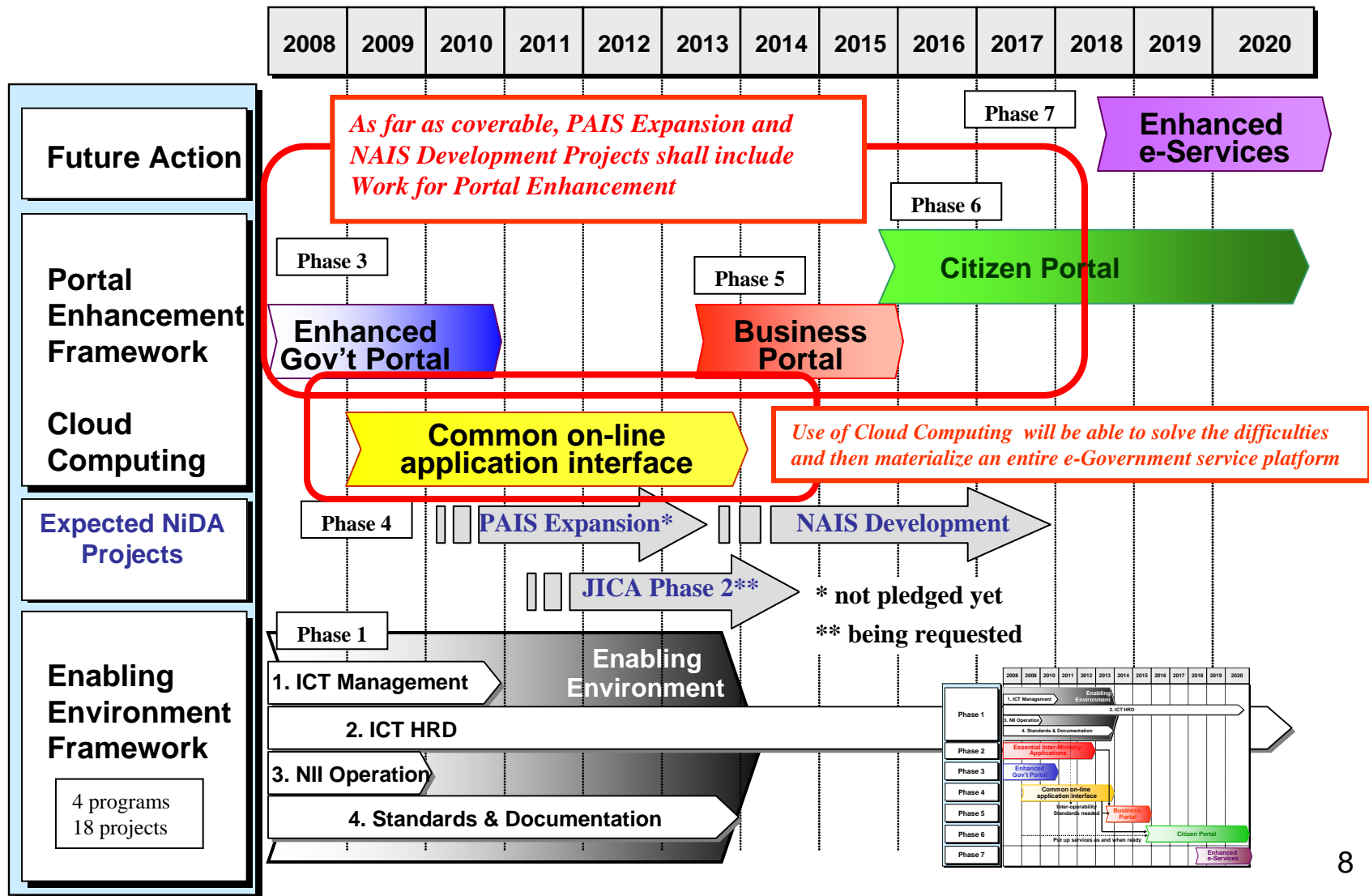
- 5.1 Encourage an awareness of ICT as a tool for fighting global warming

# e-Government Service Deployment Concept Based on NAIS/NII Platform

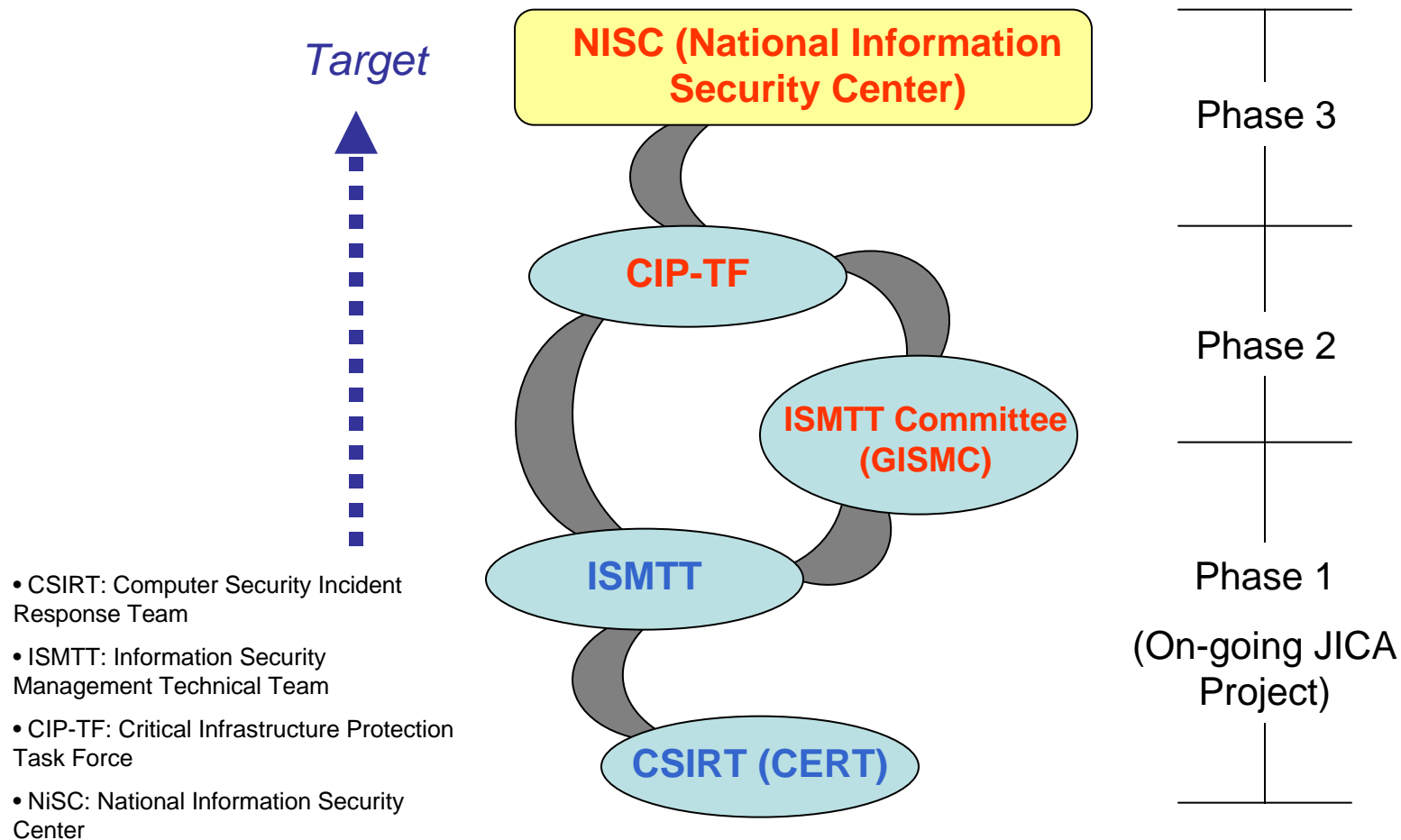
AIS Platform Deployment:  
**GAIS + PAIS 1/2 + RAIS → NAIS**  
 GAIS: Government AIS (Core)  
 PAIS 1: Provincial AIS (10 provinces)  
 PAIS 2: Expansion of PAIS 1 (14 provinces)  
 RAIS: Rural AIS  
 NAIS: National AIS



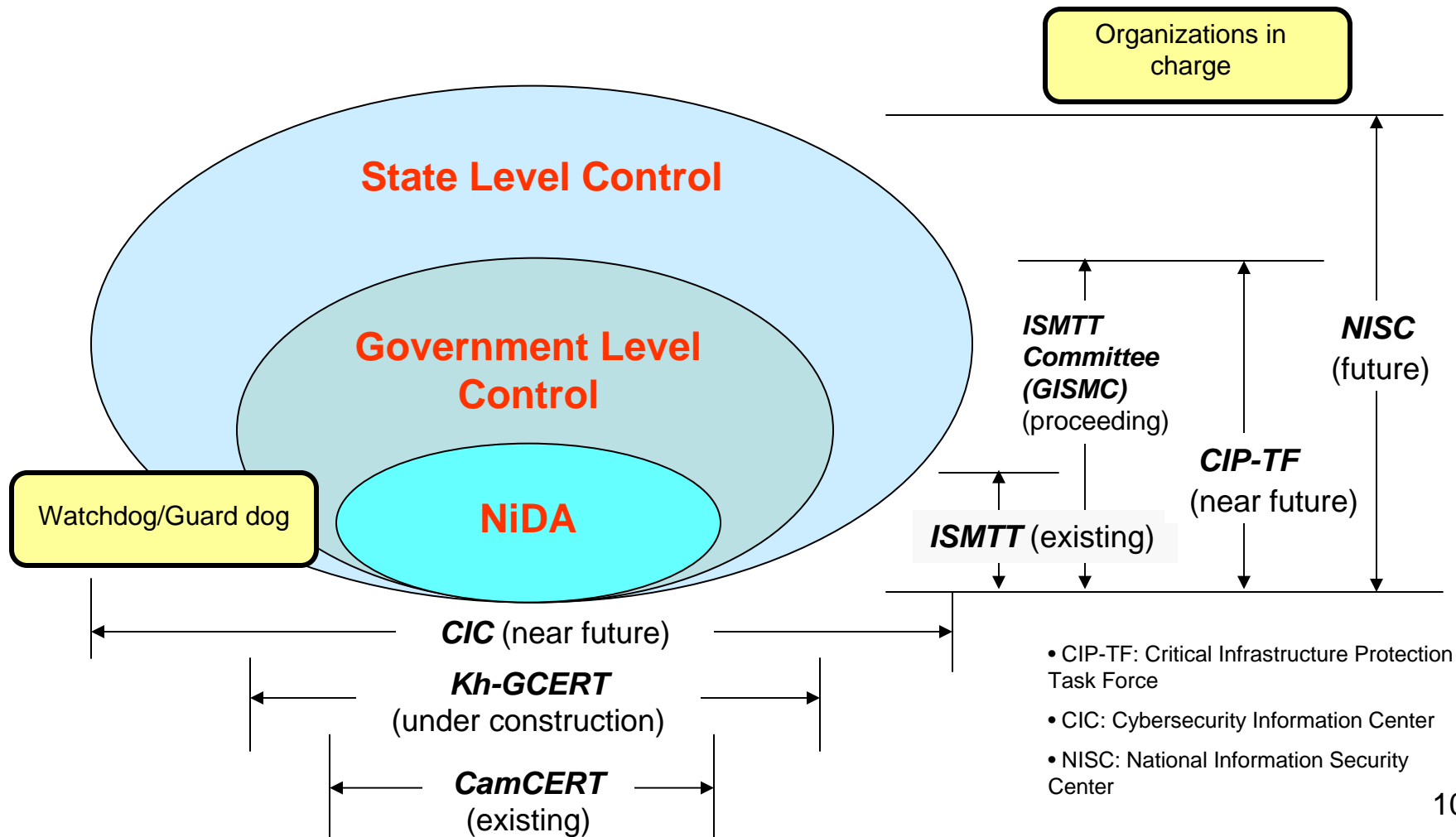
# The Idea on Materializing e-Government Project at NiDA



# Information Security Strengthening Program toward Establishing NISC



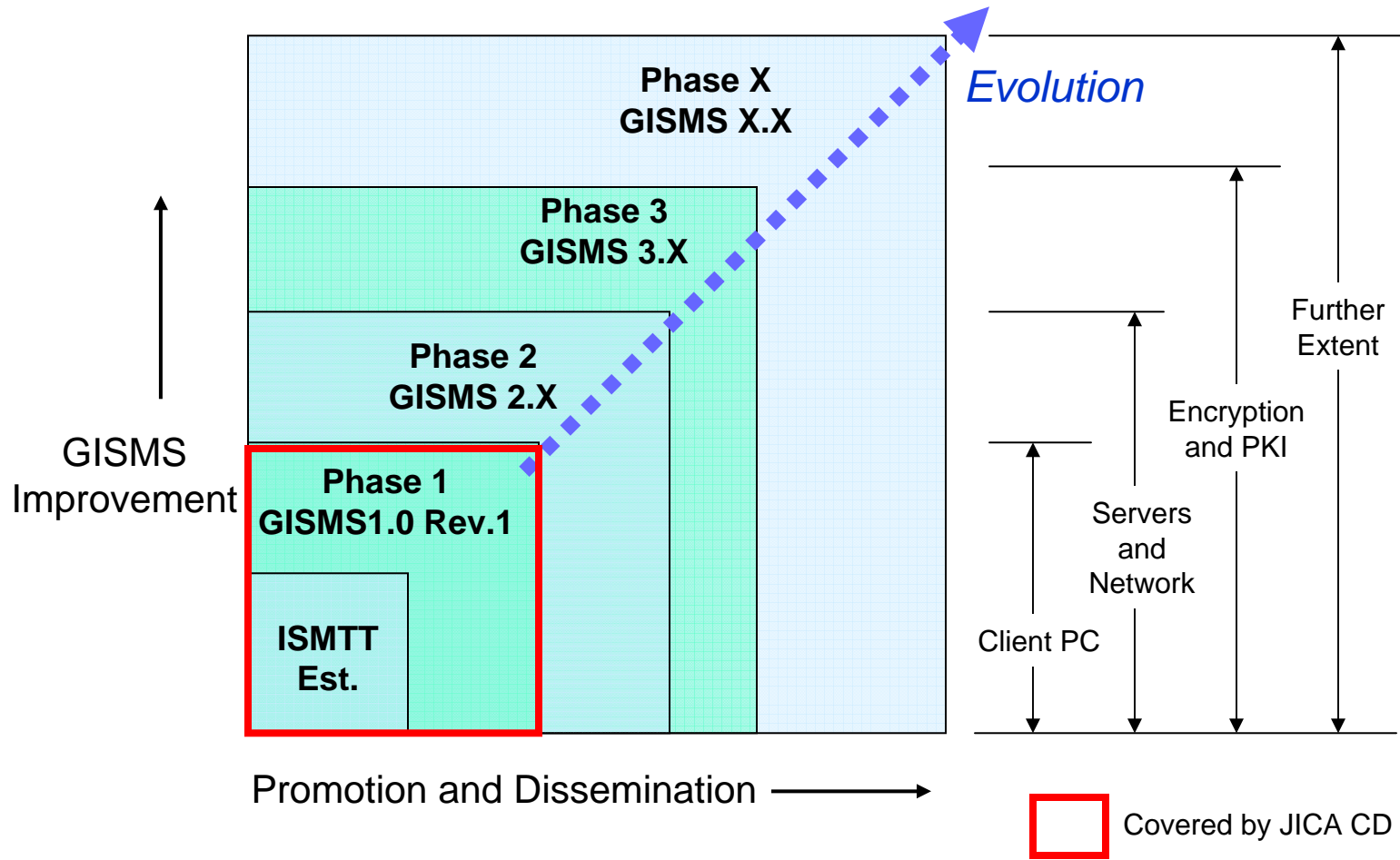
# Information Security Strengthening at RGC Considering Transition



# Evolution of GISMS

GISMS: Government Information Security Management System

ISMTT: Information Security Management Technical Team of NiDA

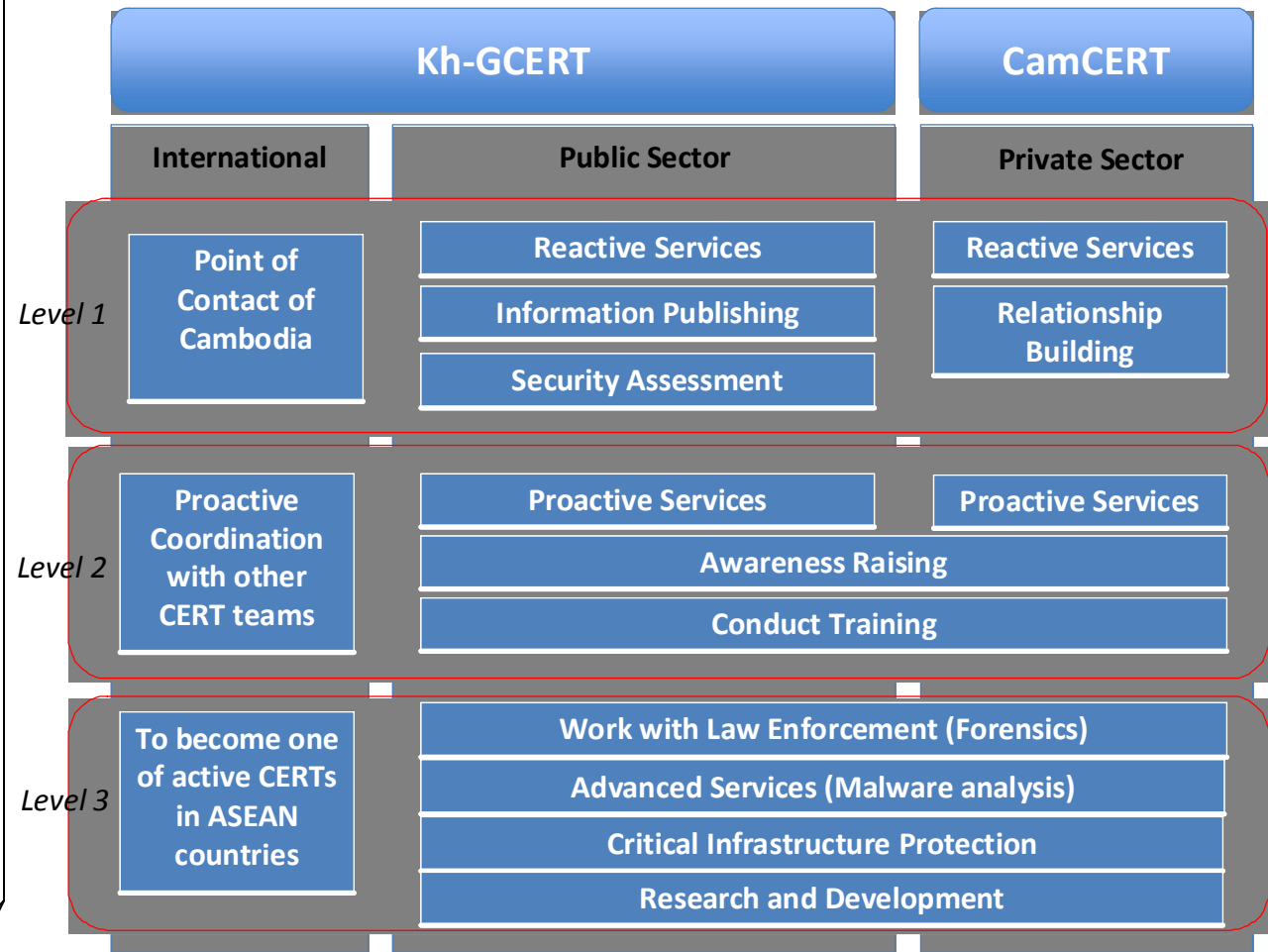




# CSIRT (CERT) Evolution

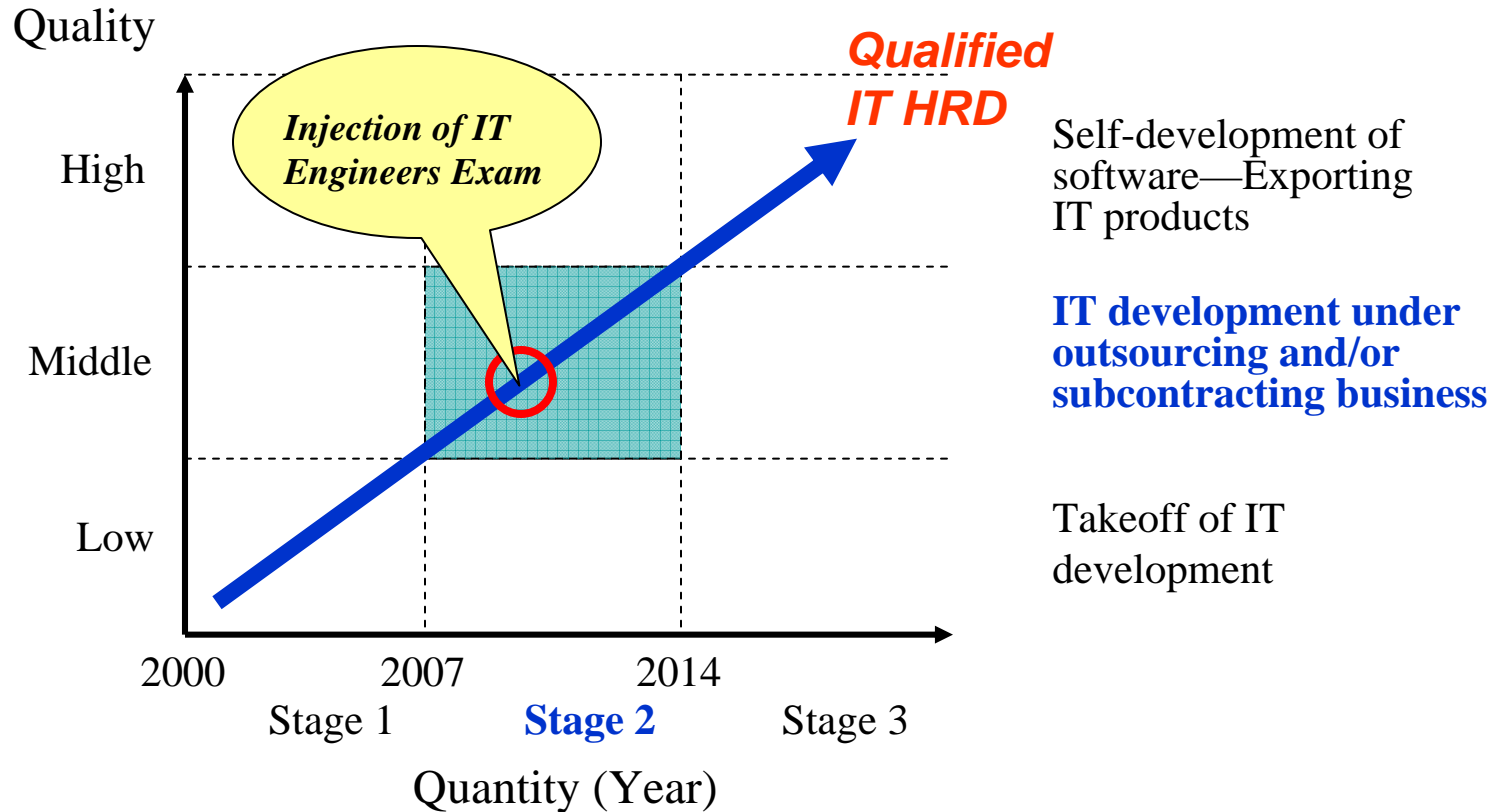
## CSIRT Functions

- Initiative for critical infrastructure protection
- Coordination with international CERTs
- Study on digital forensics
- Enhancement of capability of analysis of malware and/or virus
- Information security training for business people
- Information security awareness raising for end users
- Coordination with law enforcement to fight against cybercrimes
- R&D on information security, including development of tools and systems
- Operate GSOC (Government Security Operation Center) in the future



# A Need of Qualified IT HRD (Background of ITEE Implementation)

*Where your IT development is advancing ?*



# **A Need of Qualified IT HRD (Actions for Substantial ITEE Implementation)**

## **1. Establishment of Implementing Organization (CITEC) for IT Engineers Examination (ITEE)**

CITEC: Cambodia IT Engineers Examination Center

## **2. Preparation of educational materials in Khmer language**

## **3. Preparation of ICT glossary (NiDA version 1.0)**

## **4. Starting a study on ITSS (IT Skill Standard)**

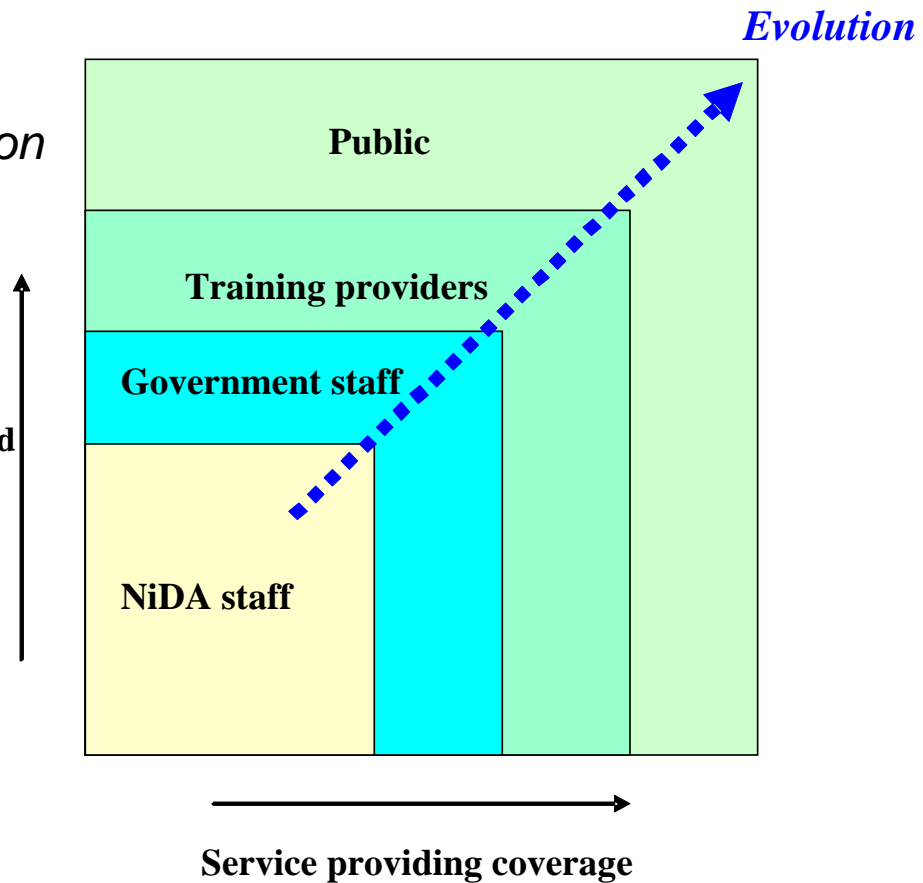
# e-Learning Development at NiDA toward Building up e-Tech College

*Keys to be Considered by NiDA:*

- *Learning management*
- *Contents development*
- *Lateral spread to any organization*

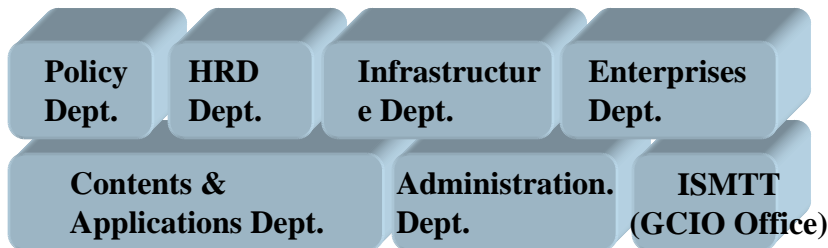
**Variation**

- Registration category
- Course registration and enrollment
- Learning management
- Course design
- Tuition fee

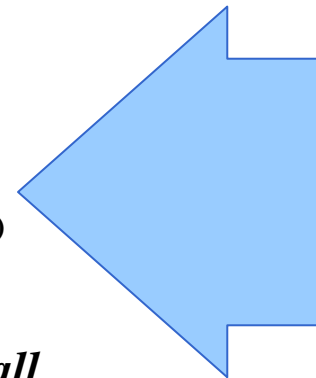


# Reinforcement of the Organization by Taskforces

## The Existing Organization



*Institutional strengthening of NiDA shall always be the top action agenda, on behalf of RGC in ICT field, being ready to serve as civil servants, with users eyes, pursuing efficiency and effectiveness in service, considering sustainable development of NiDA.*



# Main Activities of the 6 Taskforces

## 1) Public Relations Taskforce Team

- To promote utilization of PAIS/NII platform by other ministries, authorities and organizations, including seminars, publications and campaigns
- To publicize activities, roles and outputs of NiDA to the public and other organizations.

## 2) Skillpath Strengthening Taskforce Team

- To build up a unified Personnel Resource Management Scheme, utilizing e-Learning system, etc.
- To study skillpath method for personnel management
- To realize person-to-person skillpath development management for NiDA personnel.

## 3) Planning Taskforce Team

- To maximize effectiveness and efficiency of work of NiDA with minimum costs, planning is indispensable and essential.  
  
Especially, planning for next project(s) is important in order to make it clear what is scope of work of the project(s), taking into account benefit of the project implementation.
- To prepare planning tools step by step

## 4) O&M Strengthening Taskforce Team

- Since NiDA now possesses PAIS/NII, a kind of national ICT resource, constructing proper O&M structure is essential. It is required to study and construct a suitable O&M structure based on the result considering sustainability of PAIS/NII platform.

## 5) Cyber Law Study Team

- To study roles of NiDA in connection with cyber law development, including digital forensics, toward present and future information society of Cambodia.

## 6) ICT Glossary Preparation Team

- It is the time that NiDA should prepare a Glossary for ICT Technical Terms as its own version so that not only NiDA personnel but also other government officials will be benefitted from the glossary.

**Thank you for your cooperation.**

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