E-governance at the grass roots: SAARC Context

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ABSTRACT

At the age of the Internet and its evolutionary technologies nations have taken keen interest in utilizing information and communication technologies to upgrade the livelihood of citizens. Governments have initiated multi-faceted programs and efforts to provide enhanced services through means and methods that are being facilitated by the Internet. Forms and norms of services have taken shapes and domains depending on the maturity of ICTs in their countries and communities. This paper will explore situations of electronic forms of government, which it argues is a pre-requisite to reach the common mass of people. Particularly, the paper will review the emancipation of ICTs in eight countries of the South Asian Association for Regional Cooperation (SAARC). It investigates some basic parameters of ICTs retrieving archived data from various institutions and organizations.

Categories and Subject Descriptors

H.0 [Information Systems] – General; J.1 [Administrative Data Processing] – *Government;* K.5.2 [Governmental Issues]: Regulation

General Terms

Management, Performance, Human Factors, Standardization, Legal Aspects.

Keywords

E-government, e-governance, e-readiness, ICTs, local government, SAARC

1. INTRODUCTION

Governments throughout the world are in quest of finding novel ways to deliver public services more efficiently and effectively. Incorporation of e-governance in the local governments tier is an option widely discussed, although the expectations often vary. They vary in nature, culture, practice, habits and habitations among communities, regions, states and nations. Various social motivations and political commitments may also be reasons for the change as well [43, 10, 15, 48].

In spite of the potentiality of e-government services, it is somehow unchartered in many countries in terms of implementing the governance system at the grass roots. In theory it is the local government, in practice it is the lowest of the governance system, and for this research it is the grass roots governance. The reality is that the implementation of grass roots governance lack proper incentives, adequate resources, satisfactory management, long term management plan and foremost any standardized framework [61, 14, 40, 17].

Moreover, due to non availability of any long term action plan or vision, and or any accepted e-governance framework, some countries and agencies of implementation are still at the stage of simulation or experimentation or at the state of confusion, even after years of successful operation of e-government system in many countries. Countries in the developing and transitional economies are major victims of this situation, as most of the time they just try to replicate an established system in a country or try to simply manipulate on their own without enough researches in this aspect or try to popularize a vision without looking into the intricacy within it.

The consequences are that, not only governments, but also, development actors are revisiting the concept of e-government as many projects on e-governance have failed throughout the globe. Some of the international agencies have even shifted their focus area of funding. Perhaps, these could be due to factors related to design, perception, culture, economics, transparency or simple failure due to lack of proper attention [32, 35, 46]. This paper likes to see the pattern of progress for some parameters of e-government and ICT for development (which are very much inter-related) in the SAARC region. From the various patterns, it would like to make a synthesis and recommendation.

2. BACKGROUND

Local governments in different countries are primarily composed of provinces, districts, sub-districts, municipalities, villages and

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other forms of localities varying by geography, norms, culture, laws, jurisdiction, national integrity, political will and many other parameters. A research [15:2] supported this by stating, 'Local government size varies dramatically around the world', and so the institutional framework that influences the framework of e-governance. The number and size of municipalities differ widely across countries and governments have to take strategies befitting the ground context to fit into the e-governance framework. In administrative sense, four major themes may act as key to run a local government authority; such as leadership, communication and coordination, immediate risk management, and trust, confidence and transparency [12, 9, 3].

While applying thought of ICTs, one can think of the local e-government system be comprised of an on-line resource designed to assist electronic access to government delivery intermediaries; provide homogeneous linkage to technology, policy and organizational management; promote inter-organizational integration at the local level for information system development, management and institutional partnership; accommodate subsidies, grants and other facilities to empower local communities with greater autonomies; deliver efficient, citizen-centric and cost-effective contents to accelerate participation and partnership-based e-services; integrate communities, societies, and localities to local, national, regional and global e-government initiatives; produce strategic plan to support efficient delivery of government services; identify level of organizational readiness at the local context to prepare for the effectiveness and efficient service delivery; and lead toward the ultimate goal of transformation to offer better citizen services at the grass roots [11, 12, 4, 33, 37, 44, 26].

Scope of this research will restrict the study limited to see pattern of progress on various parameters of basic ICTs, such as nature of GDP; growth of fixed telephone, mobile telephone, Internet penetration (data are taken from ITU); establishment of national agencies responsible for the development and establishment of ICT policies and Acts; some aspects of ICT strategies; and foremost implementation of any long term action plan (data obtained from literature review) to upgrade the ICT parameters in these SAARC countries, which are pre-requisite to implement grass roots e-governance.

3. THE STUDY

This study is based on observations of various parameters of ICT for development and thus effective for implementing and flourishing electronic government in a country. Parameters are taken from ITU, UN and other reputable institutions who are researching in the paradigm of e-governance over the years. This research purview among parameters like, GDP, tele-density, ICT readiness in terms of policy issues and e-government readiness index in terms of applications, and argues that these parameters have direct or consequential effects on the overall development of the governance systems of a country.

3.1 Role of GDP and economic efficiency

An empirical study [5] finds that the level of economic development has a moderate impact on the e-government development, while national competitiveness and innovation play quite a strong role. That study [5] further argues that, there is also a low correlation between overall government efficiency and e-government. There study reveals that economic power (GDP per capita in PPP) has a very moderate impact on the current state of e-governments.

This study finds and shows in Figure-1 the ten years of GDP pattern of the eight countries under the SAARC. The figure shows four distinct pattern of growth with Maldives being taken the lead.

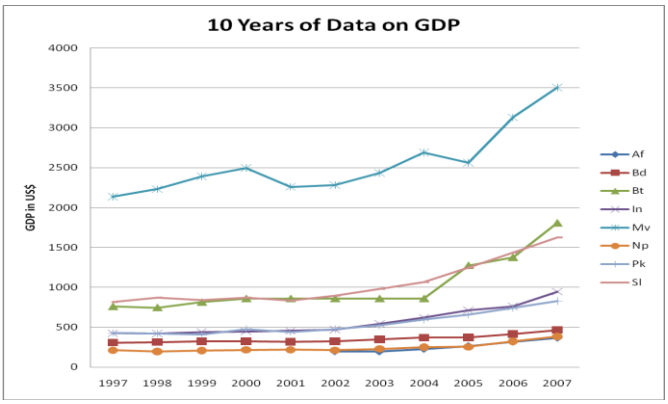

Figure-1: 10 years of GDP data from the eight SAARC countries (Source: ITU Statistics)

There is another school of thought that the role of GDP information in the modern economy should not be considered as inevitable (a law of nature) [59], and also there is a scarce of research on GDP growth pattern in this region, but the distinct growth rate of GDP in countries under the SAARC region is significant to be noted.

3.2 Internet users and e-government

Since the early days of Internet, theoretical studies and small scale pilot projects have proven the role of Internet in the socio-economic development in the developing countries [41]. Another study [42] based on research and personal interviews of selected representatives of the Government of National Capital Territory of Delhi, highlighted the role of Internet, particularly the World Wide Web (WWW), which has made it easier for citizens to locate and download official information and to conduct transactions. Information management agencies such as tele-centres, or knowledge centres play a vital role in supporting transparent and accountable governance. However, she emphasized that e-government needs to be integrated into the broader public management framework so as to make a substantial change in the government to citizen (G2C) relationship. Other researchers [16] also emphasized the role of the Internet in accessing public information from telecenters through their study which has been carried out in India, Pakistan, Philippines, Sri Lanka and Thailand.

This study shows the ten years of growth pattern of Internet in the SAARC region (see Figure-2). The data (as of 2008) supports that Bhutan, Maldives, Pakistan and Sri Lanka are in better situations in terms of Internet penetration in their countries, which is one of the important ingredient of e-government development. However, there is a general positive trend of development in each country.

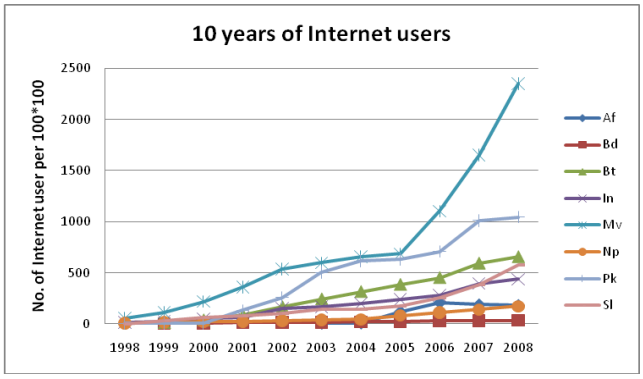

Figure-2: 10 years of Internet users' data from the eight SAARC countries (Source: ITU Statistics)

3.3 Fixed phone and Cellular phone vs. e-governance

From the very beginning of the benchmarking of countries in the context of e-readiness and e-governance, role of fixed phone and cellular phone carries significance. International agencies like ITU or UN and other research institutions while either making ranking or evaluation of indexing in terms of e-readiness or e-governance, include the number of fixed phone users and cellular phone users in their research. Both of these instruments have influential role in disseminating and delivering public services and contents for the promotion of e-governance [16, 13].

Figure-3 and 4 depict the growth of fixed phone and cellular phone in this region as found by this study. The data for figure-3 shows recent year´s emerging growth in Maldives and Sri Lanka, while others still not in a comfortable situation. However, cellular phone growth shows a general positive trend for all countries, while Maldives has taken the lead.

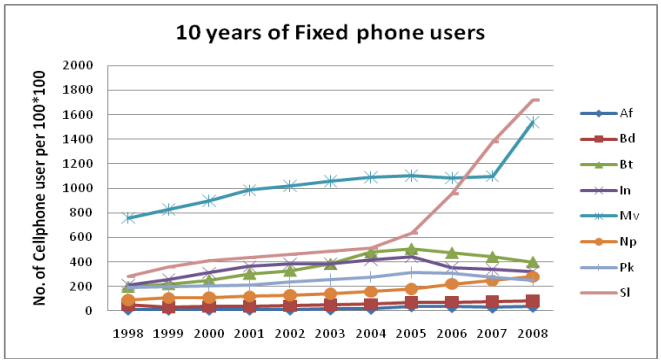

Figure-3: 10 years of fixed phone users´ data from the eight SAARC countries (Source: ITU Statistics)

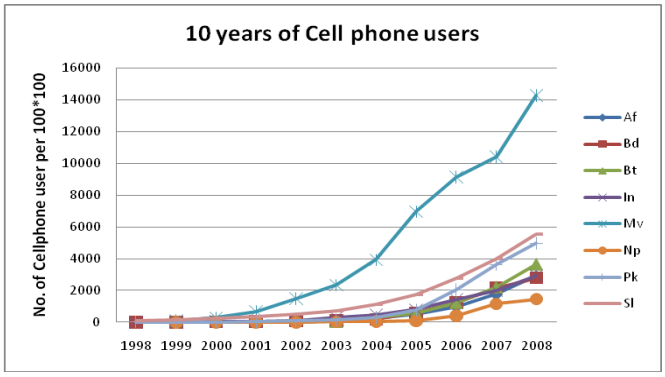

Figure-4: 10 years of cell phone users' data from the eight SAARC countries (Source: ITU Statistics)

3.4 Governance structures

As a whole, e-Governance cannot be separated from governance, and it cannot be taken as an adjunct of governance. It has to be an integral part of the governance structure and processes. Thus, every government organization or entity, every government programme or policy and every law and regulation would have to integrate e-Governance modules within itself rather than brought-in as an afterthought or introduced as an adjunct [25]. Previous researchers [46, 47, 48:313) argued that governance structure has an impact in disseminating public information at the grass roots and suggested a five tier governance structure in an early research. However, for the sake of this research, an exploratory study on governance structure of the SAARC countries is being presented next.

3.4.1 Governance structure towards e-governance

Afghanistan

There are 34 multi-member districts corresponding to the 34 provinces[i], which are further divided into 365 districts [60]. In the House of Elders (*Meshrano Jirga*) 34 members are elected by regional legislatures to serve 4-year terms, 34 members are elected by regional legislatures to serve 3-year terms and 34 members are appointed by the President to serve 5-year terms[ii]. In the House of People (*Wolesi Jirga*) 249 members are elected by single non-transferable vote to serve 5-year terms[iii]. *Note: The governance pattern shows two forms of administrative measures. There are two tiers of government structure, one bottom-top, and the other one top-bottom. Furthermore, the district council seats are allocated in proportion to provincial population, not geographical boundary.*

Bangladesh

The rural/regional local government, as proposed by the commission on local government in 1997 has four tiers: Gram (Village) Parishads (being reconstituted in 2003 as Sarkers, and later on changed again) (40,392); Union Parishads (4451); Thana/Upazila Parishads (469); and Zila (District) Parishads (64). Urban areas have a separate set of local governments. The Bangladesh Census Commission recognized 522 urban areas in 1991 (with a minimum population of about 5000 or more), but only about 269 of the larger urban areas among these have urban

local governments. The six largest cities have a City Corporation status, while the rest are known as Pourashavas or Municipalities, which again are classified according to financial strength[iv]. Note: *There are four tiers of government structure existed in the country.*

Bhutan

Local government in 1991 was organized into four zones, or dzongdey, and eighteen districts, or dzongkhag. Before the zonal administration system was established beginning in 1988 and 1989, the central government interacted directly with district governments. The zonal boundaries were said to be dictated by geophysical and agroclimatic considerations. Eighteen districts comprised local government at the next echelon. Districts were further subdivided into subdistricts (dungkhag) and village blocks or groups (gewog). Ten of the eighteen districts had subdistricts, which were further subdivided into village groups. Bhutan also has two municipal corporations[v]. *Note: There are three tiers of government structure.*

India

There are 28 states and 7 Union territories in the country [vi]. The Union Territories are administered by the President through an Administrator. Each state is broken up into several administrative districts. A District is divided into several Community Development Blocks, each of which is headed by a Block Development Officer (BDO). Each Block, in turn, is usually divided into several Tehsils, headed by a Tehsildar. It is probably apparent that the political and administrative set ups are closely interlinked at the district and sub-district levels. For example, the CEO of the Zilla Parishad is a bureaucrat, although the Zilla Parishad itself is made up of elected representatives, including representatives from the Mandal (Praja) Parishads from the different mandals within the district. The Mandal Parishad or Council comprises the heads of the Panchayat Samitis, and some co-opted resource persons. Each Panchayat Samiti, in turn, has representatives from various Gram Panchayats (Village Councils), which is the basic tier of local government[vii] [36]. Note: *Note: There are five tiers in the government system; however, there are different administrative channels.*

Maldives

Maldives has 7 provinces each consisting of two to four administrative divisions. The Maldives has twenty-six natural atolls[viii] and few island groups on isolated reefs, all of which have been divided into twenty-one administrative divisions (twenty administrative atolls and Malé city). Each atoll is administered by an Atoll Chief (*Atholhu Veriyaa*) appointed by the President. The Ministry of Atoll Administration and its Northern and Southern Regional Offices, Atoll Offices and Island Offices are collectively responsible to the President for Atolls Administration. The administrative head of each island is the Island Chief (Katheeb), appointed by the President. The Island Chief's immediate superior is the Atoll Chief[ix]. *Note: There are two tiers in the governance structure, but, there exists three tiers of administrative structure.*

Nepal

Nepal has a *two-tier system of local governance*; with village development committee (VDC) and Municipality as the lower tier, and district development committee (DDC) as the higher tier. In the case of DDCs and VDCs, there is a provision of classification on the basis of differences in terms of transportation, communication, education and health facilities (including population in the case of VDCs), but such classification has not been completed as yet. Furthermore, the classification does not include the functional bases such as work responsibility, fiscal authority, fiscal attempts and discipline. However, a municipality may be established in any area having access to facilities such as electricity, drinking water supply, roads and transport, education and communication[x]. *Note: Basic human infrastructures are essential elements of the local e-government.*

Pakistan

Local governments in Pakistan exist under the supervision of the various provincial governments, where provincial governments have simply delegated some of their functions and responsibilities to local governments by the promulgation of ordinances. It was a new model of local government pioneered to ensure direct participation of the people in managing their own affairs through representative's bodies set up down to the village level. There were two separate laws for rural (i.e. Basic Democracy Ordinance 1959) and Urban Councils (i.e. Municipal Administration Ordinance 1960). It established a *four tier hierarchical system of local council* throughout the country, namely the Union Councils (for rural areas), Town Committees (for urban areas), Tehsil Councils, and or District Councils and Divisional Councils. The Tehsil Council was the second tier above the Union Council. It was mainly concerned with the development activities in the proclaimed areas[xi].

Sri Lanka

The organizational structure of local governance consists of three legal instruments: the Municipal Council Ordinance, the Urban Council Ordinance and the Pradeshiya Sabhas Act. At present there are 18 Municpal Councils, 37 Urban Councils, and 256 Pradeshiya Sabhas (*three tiers*). Local governments used to be divided into wards. Wards have been discontinued under the new proportional system. The composition of a local council is based on the total population of a local authority area and not on a ward basis[xii]. *Note: Population is the indicator of local authority area, not geographic boundary.*

3.4 ICT Policy and strategy

Formulation of appropriate ICT policy and relevant strategy is essential in promoting e-governance within the government and enabling the government in reaching out to the grass roots [1, 31]. This sub-section will discuss ICT policies through a mixed approach, providing a comparative study on various ICT Policies, Acts and establishment of national agencies responsible to carry out any long term vision, or strategy in these countries. First

portion of it is an exploratory one and then a table of comparison will be presented.

3.4.1 ICT Policies and initiatives towards e-governance

Afghanistan:

In October 2002, the Ministry of Communications (MoC) published a national telecommunications development strategy that outlined key ICT infrastructure development initiatives and set the conditions for developing the Afghanistan telecommunications and Internet Policy (ATIP). In October 2003, the ATIP was approved. The Information and Communications Technology Policy was enacted in November 2003 and one of the important objectives among the three was to use ICTs to increase government efficiency and to effectively deliver improved social service. The policy also included a plan to computerize all central government entities by the year 2005, and the plan to form National ICT Council of Afghanistan (NICTCA). At the same time (November 2003), the Ministry of Communications (MoC) enacted the Telecommunications and Internet Policy containing specific policies related to telecommunications sector [56, 18, 19, 20, 60].

Bangladesh:

Bangladesh Computer Council (BCC), established by Act No IX of 1990 is an autonomous body under the Ministry of Science and Information & Communication Technology, Government of Bangladesh to encourage and provide support for ICT related activities in Bangladesh[xiii]. In Bangladesh, the focus of capacity-building through ICT is on socio-economic development. Provision of nationwide infrastructure under a national ICT policy, spearheaded by a National ICT task force chaired by the Prime Minister, is designed to facilitate good governance, e-commerce, and as well as e-learning. The human resource development focus of the national ICT policy is to develop ICT professionals and engineers to meet the demand for skilled ICT workers that is growing world-wide, especially for the global software and ICT-enabled services market [50]. Ministry of Post and Telecommunications, Ministry of Science and Information and Communications Technology, Bangladesh Telecommunications Regulatory Commission, Bangladesh Telegraph and Telephone Board, Bangladesh Rural Telecom Authority are a few apex bodies which are given the responsibility to formulate policies and national plan and regulate them in the country [8].

Bhutan:

The first attempt to streamline ICT development in the country was taken in 1994, when the government with assistance from UNDP produced the Computerization Master Plan of Bhutan for 1997–2000. This document outlined necessary steps required to initiate development of ICT in Bhutan. The document also contains some statistics about computer use in Bhutan at that time. In 1999, the Computer Service Center (now Dept of Info and Technology), with assistance from the government of Denmark, conducted a more comprehensive study, resulting in the Bhutan ICT Policy and Strategies (BIPS). This strategy analyzed the ICT situation in the Bhutan in depth, and provided important ICT initiatives to be implemented in the near future, which resulted into the Bhutan ICT Master Plan 2001 and further enhanced its practicality with the introduction of global Internet in June 1999 [34, 21, 22, 23].

India:

In India, the Department of Electronics (DoE) was established in 1971 for recommending and implementing policies for the country's IT sector. The National Taskforce on Information Technology and Software Development was established by the Prime Minister of India on 28 May 1998 to formulate a long-term National IT Policy for the country and to remove impediments to the growth of the IT industry. The main objective was to assist India emerge as an IT software superpower. In 1999 National Telecoms Policy of India was enacted to provide affordable and effective communication systems for citizens; achieve a balance between the provision of universal service to all uncovered areas and of high-level services capable of meeting the needs of the country's economy; and create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, telecom and consumer electronics and thereby propel India into becoming an IT superpower. Later on the IT Act 2000 was adopted focusing the legal recognition of electronic contracts and digital signatures; created controller for certifying authorities and cyber appellate tribunal [24, 25, 45, 39]. *Note: To roll out grass roots e-governance a comprehensive and long term vision with requisite action plans are essential.*

Maldives:

The Ministry of Communications, Science & Technology (MCST) is responsible for the overall policy development and guidance for the ICT sector in the country. The Telecommunications Authority of Maldives has given the mandate to develop and regulate the telecom sector which covers Internet services as well. The responsibility for establishing a national computer center was given to the Ministry of Communication, Science and technology, which was formed in 1998. The national center for information technology took the key role of guiding the adoption of IT standards within the government. The Maldives telecommunication policy 2001-2005 aimed at the development of the telecommunications sector towards achieving the targets of the Sixth National Development Plan and, ultimately the economic and social development objectives envisaged in *Vision 2020*. The policy also guided the sector in developing ICT services to link the grass roots communities and reduce the impact of geographical isolation and physical separation on the island communities. *Vision 2020* sets a challenging development target to become one of the top-ranking nations among middle-income developing countries by 2020. Vision 2020 also sets a number of goals for social development and quality of life improvement of people at large by addressing issues of equality, security, healthcare delivery, education, gender disparities, environment, work ethics and a caring society [2, 27, 28, 29, 30].

Nepal:

Nepal's Information Technology Policy was developed in 2000 with the aim to put the country on the global IT map by 2005. Its objectives included: making IT accessible to the general public and increasing employment through this means; creating a knowledge-based society; and establishing knowledge-based industries. Nepal's IT plan also identified 16 activities that constitute its IT policy. These include declaring IT a policy priority; providing Internet access to all of the country's Village Development Committees; computerizing the system in all government offices; developing – with private sector participation – IT parks; promoting e-commerce and e-health; and enacting necessary laws. The action plan for implementing the IT policy includes: participation of the private sector in infrastructure development; human resources development; dissemination of IT; promotion of e-commerce, and promotion of e-governance [38, 39]. *Note: For the promotion of e-governance at the local level, ICT policy should incorporate development activities at the village level, so that people at large could foresee the ultimate economic value and eventually adopt the system as part of their livelihood.*

Pakistan:

Pakistan Telecommunications (Re-organization) Act was enacted in 1996, and Pakistan IT Commission was established in 2000. Eleven working groups were created under auspices of IT Policy 2000 with emphasis on e-government[xiv]. The e-Government Program was launched in 2001 with three fold objectives: to encourage ICT's for enabling information and services delivery to the citizens in a cost effective manner; to initiate measures for reengineering of work flow in government departments enabling electronic services delivery to citizens for bringing efficiency in operation; and to bring transparency in government functions and access to information[xv]. Promulgation of Electronic Transactions Ordinance in 2002 was another milestone for promoting economic activities at the grass roots strengthening the local government. Furthermore, Telecom Deregulation Policy was approved in 2003 [57, 58]. *Note: Inclusion of economic activities is an essential component of electronic government.*

Sri Lanka:

The Government of Sri Lanka first recognized the need for the development of ICT through the National Computer Policy of 1983 (COMPOL), and this was the first attempt from the government that was taken by the Natural Resources, Energy and Science Authority of Sri Lanka (NARESA) on the instructions of the then President. A committee appointed by NARESA produced the National Computer Policy Report. The acceptance of the COMPOL report by the Government gave rise to the establishment of CINTEC by Act No. 10 of 1984 as the "Computer and Information Technology Council of Sri Lanka. Later on, the Science and Technology Development Act No. 11 of 1994 changed the name to "Council for Information Technology" but retained the acronym CINTEC. The "e-Sri Lanka", project launched in November 2002 was tasked to develop an ICT Roadmap for Sri Lanka. The e-Sri Lanka roadmap resulted in the implementation of the ICT Act No. 27 of 2003, which resulted in the establishment of the Information and Communication Technology Agency of Sri Lanka, (ICTA. The mandate of the e-Sri Lanka policy is to build a national information infrastructure, create a framework for the promotion of software and ICT enabled industries, re-engineering the Government and developing ICT-based human resources[xvi]. *Note: Information infrastructure development, re-engineering of the government, and human resource development are basic ingredients of local e-government development.*

3.4.2 National ICT strategies

By taking the opportunities of ubiquitous ICTs, governments formulated ICT policies and strategies for e-development (rather, e-enhanced development) focusing social and economic development, poverty reduction and foremost the improvement of governance system [6, 7, 49]. This research supports this by presenting table-1 where it has been revealed that initiation of ICT policies and strategies are essential element for overall elevation of ICT platform in a country. It further argues that a long term vision is crucial for sustainable growth of e-governance.

Table-1: Years of initiation of ICT Policies, Acts and related laws in SAARC Countries

	AF	BD	BT	IN	MV	NP	PK	SL
ICT Policy	2003	2002 (2008)	2004 (2006)	1998	2003	2000	2000	1983[1]
Telecom Act/Law/Policy	2005	2001	1999	1999	2001 (2006)	1997	1996	1991
National ICT Council	2005	1990	1999[2]	1971[3]	1998	2002[4]	2000	1984 (2003)
ICT Act		2006 (2009)	2004	2000	2003			2003
ICT Master Plan			2001					

Note: This table is based on exhaustive literature review and may subject to any authentication of years indicate.

3.5 E-government index (E-government readiness index and ranking)

Governments are increasingly becoming aware of the importance of employing e-government and e-governance in improving public service delivery to people. The potential of e-government, as a tool for development, hinges upon three pre-requisites- a minimum threshold level of information infrastructure, human capital, and e-connectivity for all. To support the development efforts of UN member states' efforts in e-government the United Nations Department of Economic and Social Affairs (UNDESA) undertook to produce the United Nations Global E-government Surveys (which ranks them through the e-government readiness index) to gauge the comparative state of e-government development in a rapidly globalizing world [51]. For this parameter, data was taken from the Global E-government Surveys conducted by the United Nations [51, 52, 53, 54, 55]. As observed from Table-2, most of the SAARC countries are showing positive trend in their e-government readiness ranking, but Maldives has taken the lead.

Table-2: E-government Index/ E-government Readiness Index of SAARC Countries

Country	EGI*	EGI		EGRI#		EGRI		EGRI	
	2001	2003		2004		2005		2008	
	Index	Index	Rank	Index	Rank	Index	Rank	Index	Rank
Afghanistan	-	0.118	168	0.1337	171	0.1490	168	0.2048	167
Bangladesh	0.90	0.165	159	0.1788	159	0.1762	162	0.2936	142
Bhutan	-	0.157	161	0.1590	165	0.2941	130	0.3074	134
India	1.29	0.385	87	0.3879	86	0.4001	87	0.3814	113
Maldives	0.93	0.410	79	0.4106	78	0.4321	77	0.4491	95
Nepal	0.94	0.268	130	0.2807	132	0.3021	126	0.2725	150
Pakistan	1.04	0.247	137	0.3042	122	0.2836	136	0.3160	131
Sri Lanka	0.92	0.385	84	0.3748	96	0.3950	94	0.4244	101
Total countries	133		173		178		179		182

*EGI- E-government Index; #EGRI- E-government Readiness Index (Source: UN)

4. A SYNTHESIS AND FUTURE RESEARCH

The overall findings of this study can be observed as highlighted texts and notes. However, as a synthesis, this study would like to point out the role of GDP; the growth of Internet and its users; the information infrastructure providing better services through fixed and cellular phones; simplified but transparent and interactive (vertical and longitudinal) governance structure; and effective ICT policies and strategies are essential for upgrading e-governance in a country. This study has found out the effect of these parameters on the e-government readiness index ranking in the SAARC countries. For future research, this study suggests observations on broadband penetration; flourishment and nourishment of local content in local languages; increased participation in the Internet through knowledge-based content delivery; and simple quantitative analysis on the parameters discussed earlier and parameters mentioned here. Finally, it recommends study on long-term vision or master plan on e-governance in this region targeting socio-economic progress.

5. CONCLUSIONS

This study finds that GDP, Internet penetration and other parameters of basic ICT for development has positive impact on the e-governance of a country and effectively improves the e-governance readiness ranking. However, it has also observes that long-term vision, action plan or master plan is not prevailing in majority of these countries, not in the form of a sustained pattern, which this study infers, as an extremely important pre-condition for sustained e-governance growth.

6. REFERENCES

[1] Accenture (2009) From e-Government to e-Governance: Using new technologies to strengthen relationships with citizens, Accenture, UK.

[2] Ahmed, I. (2004) Statistics and Indicators on ICTs in Maldives, Global Indicators Workshop on Community Access to ICTs, Mexico City, 16-19 November 2004

[3] Anttiroiko, A. (2004). Towards Citizen-centered Local E-government: The Case of the City of Tampere, In Khosrow-Pour, M. (Ed.). Annals of cases on information technology 2004, Volume 6, Idea Group Publishing: pp. 371-388

[4] Austin City Council (2008). Audit Report 2008: City of Austin's E-government Initiative, Office of the City Auditor, Austin, Texas

[5] Bavec, C. & Vintar, M. (2007). What Matters in the Development of the E-Government in the EU?. In: Wimmer, M. A., Scholl, Jochen, S. and Anke, G. (Eds.) Electronic Government, Springer Berlin / Heidelberg, pp. 424-435

[6] Bajwa, S.B. (2003) ICT policy in India in the era of liberalisation: its impact and consequences, Global Built Environment Review, 3(2): 49 – 61

[7] Butt, D. & Sarker, P.P. (2009) ICT for development in Asia Pacific: Emerging themes in a diverse region. In: Digital Review of Asia Pacific 2009-2010, Orbicom and the International Development Research Centre: 3-13

[8] Chapagain, D.P. (12-14 December 2007). Regional Overview of Policy and Legislations on Provision of ICT Access for Disadvantaged Communities through Public-Private Partnership, a paper from the Expert Group Meeting on the Provision of ICT Access for Disadvantaged Communities through Public-Private Partnership, Bangkok

[9] Chutimaskul, W. & Chongsuphajaisiddhi, V. (2004). A Framework for Developing Local E-Government, In Wimmer, M.A. (Ed.). Proceedings of Knowledge Management in Electronic Government: 5th IFIP International Working Conference, KMGov 2004, Krems, Austria, May 17-19, 2004 : pp. 319-324

[10] Commonwealth (2004). Commonwealth local government handbook: Modernisation, Council Structures, Finance, E-Government, Local Democracy, Partnerships, Representation, Commonwealth Local Government Forum, Commonwealth Secretariat, 2004

[11] CTG (2002). New foundations: Annual Report 2002, Center for Technology in Government, University at Albany, State University of New York.

[12] CTG (2003). Annual Report 2003, Center for Technology in Government, University at Albany, State University of New York.

[13] CTO (2008). Towards Effective E-governance: The delivery of public services through local e-content, Global Summary Report, Commonwealth Telecommunications Organization

[14] Das, S.R. & Chandrashekhar, R. (2006). List of Asia Pacific e-government case studies, UNDP-APDIP

[15] Fox, W.F. & Gurley, T. (2006). Will Consolidation Improve Sub-National Governments? World Bank Policy Research Working Paper WPS3913, May 2006, World Bank, Washington DC.

[16] Galpaya, H., Samarajiva, R. and Soysa, S. (2007). Taking e-Government to the Bottom of the Pyramid: dial-a-Gov? A proceeding of the 1st international conference on Theory and practice of electronic governance, Macao, China. ACM

International Conference Proceeding Series; Vol. 232: 233-241

[17] Gessi, T., Ramnarine, D. & Wilkins, J. (2007). Introducing a New E-Governance Framework in the Commonwealth: From Theory to Practice, The Asia Pacific Journal of Public Administration, Vol. 29, No. 2: 131-151

[18] Government of Afghanistan (2003a). Afghanistan Telecommunications and Internet Policy, Government of Afghanistan, November 2003.

[19] Government of Afghanistan (2003b). Information and Communications Technology Policy, Government of Afghanistan, November 2003.

[20] Government of Afghanistan (2005). Afghanistan Country Report: Telecommunications, Ministry of Communications, Government of Afghanistan, April 2005.

[21] Government of Bhutan (2003). Information and Communications Technology (ICT) Policy for Bhutan: A White Paper, Ministry of Information and Communications, Royal Government of Bhutan, Thimphu; Bhutan

[22] Government of Bhutan (2006).Technical Guidelines on Information and Communications Technology (ICT) for Preparation of the Tenth Five Year Plan (2008-2013), August 2006, Ministry of Information and Communications, Royal Government of Bhutan, Thimphu, Bhutan

[23] Government of Bhutan (2007). Information, Communications and Transport Sectors in Bhutan: A Special Report, July 2007, Ministry of Information and Communications, Royal Government of Bhutan, Thimphu, Bhutan

[24] Government of India (2000) *The Information Technology Act 2000*, Ministry of Communications and Information Technology/Dept of IT

[25] Government of India (2006) *Information Technology*: Annual Report 2006-2007, Ministry of Communications and Information Technology/Dept of IT

[26] Government of Jordan (2006). Jordan e-government-2006: E-Government Strategy, Jordan e-Government Program, Ministry of Information and Communications technology (MoICT), Government of Jordan

[27] Government of Maldives (2001) Maldives Telecommunication Policy 2001-2005, Ministry of Communication, Science and Technology, Maldives, 1 August 2001

[28] Government of Maldives (2002). Maldives Government Information Technology Initiative – the progress, A paper at the 2nd APT Meeting on Asia-Pacific Initiatives for the Information Society (AIIS), 5-9 August 2002, Negara, Burunai Darussalam, Post & Telecom, Ministry of Communication, Science & Technology, Government of Maldives

[29] Government of Maldives (2003) Ministry of Communication, Science and Technology. e-Maldives: The Republic of Maldives National Information and Communications Technology Policy. Draft. 2003.

[30] Government of Maldives (2006) Maldives Telecommunication Policy 2006-2010 (towards ONE ISLAND NATION through effective telecommunications), Minister of Transport & Communication, 1 August 2006

[31] Hanna, N.K. (2003). Why National Strategies are needed for ICT-enabled Development, ISG Staff Working Papers No. 3

[32] Heeks, R. (2006). *Implementing and Managing e-Government*, Vistaar Publications

[33] Hoogwout, M. (2003). Super Pilots, Subsidizing or Self-Organization: Stimulating E-Government Initiatives in Dutch Local Governments, In Traunmüller R. (Ed.). Proceedings of Electronic Government: Second International Conference, EGOV 2003, Prague, Czech Republic, September 1-5, 2003, Springer: pp.85-90

[34] Jurmi, K. (2004). A Paper on Bhutan's Information and Communication Technology, 1st International Conference by the Italian Chamber of Deputies, 6 & 7 Oct. 2004, Rome, Italy

[35] i4D (2005) e-Government: Evolution or Revolution? Information for Development (i4D). Vol. 3, No. 6

[36] James, Y. (2003). e-Government in Asia: Enabling Public Service Innovation in the 21st Century. Times Edition.

[37] Kolsaker, A. (2005). Third Way e-Government: The Case for Local Devolution, In Böhlen, M.H., Gamper, J., Polasek, W. & Wimmer, M.A. (Eds.). Proceedings of E-Government: Towards Electronic Democracy : International Conference, TCGOV 2005 Bolzano, Italy, March 2-4, 2005, Springer: pp.70-80

[38] Lallana, E.C. (2003). Comparative Analysis of ICT Polices and e-Strategies in Asia, A presentation at the *Asian Forum on ICT Policies and e-Strategies*, 20-22 October, Kuala Lumpur: UNDP-APDIP

[39] Lallana, E.C. (2004). *An Overview of ICT Policies and e-Strategies of Select Asian Economies*, United Nations Development Programme-Asia Pacific Development Information Programme (UNDP-APDIP) – 2004, Reed Elsevier India Private Limited

[40] Malhotra, C., Chariar, V.M., Das, L.K. & Ilavarasan, P.V. (2007). ICT for rural development: An inclusive framework for e-Governance. In. Sahu, G.P. (Ed.) Adopting e-Governance, GIFT Publishing, New Delhi, p. 216-226

[41] Nguyen, A. (2007). Public Information Network as Computing and E-government Infrastructure in Developing Countries, Invited talk at the 7th Global Forum on Reinventing Government: Building Trust in Government, Vienna, Austria, June 2007

[42] Paul, S. (2007). A case study of E-governance initiatives in India, The International Information & Library Review, Volume 39, Issues 3-4, September-December 2007, pp. 176-184

[43] Pattakos, A.N. (2004). The Search for Meaning in Government Service. Public Administration review, 64(1): 106-112

[44] Perotti, E.C. & von Thadden, Ernst-Ludwig (2006). Corporate Governance and the Distribution of Wealth: A Political-Economy Perspective, Journal of Institutional and Theoretical Economics JITE, Volume 162, Number 1, March 2006 , pp. 204-217(14), Mohr Siebeck

[45] Pertrazzini, B.A. & Harindranath, G. (1997) Information Infrastructure Initiative in Emerging Economies: The Case of India. In: Brian Kahin and Ernest Wilson (eds) *National Information Infrastructure Initiatives: Vision and Policy Design*, Cambridge, MA: MIT Press, p. 220

[46] Rahman, H. (2007). Role of ICTs in Socioeconomic Development and Poverty Reduction. In: Rahman, H. (Ed.) Information and Communication technologies for Economic and Regional Developments, Idea Group Inc., Hershey PA., pp. 188-219

[47] Rahman, H. (2008). An overview on Strategic ICT Implementations Toward Developing Knowledge Societies. In Rahman, H. (Ed.). Developing Successful ICT Strategies: Competitive Advantages in a Global Knowledge-Driven Society, ISR, Hershey, PA., pp.1-39

[48] Rahman, H. (2010). Local E-government Management: A Wider Window of E-governance. In: Rahman, H. (Ed.) Handbook of Research on E-government Readiness for Information and Service Exchange: Utilizing Progressive Information Communication Technologies, IGI Global, Hershey, PA., pp. 295-323

[49] Sarker, S. (2005) ICT Policy: perspectives and challenges, Information for Development, 3(6): 6-7

[50] Sayo, P., Chacko, J.G. & Pradhan, G. (2004). (Eds.) ICT Policies and e-Strategies in the Asia-Pacific: A critical assessment of the way forward, United Nations Development Programme-Asia Pacific Development Information Programme (UNDP-APDIP) – 2004, Reed Elsevier India Private Limited

[51] UN (2001). Benchmarking E-government: A Global Perspective --- Assessing the UN Member States, United Nations, NY.

[52] UN (2003). Global e-Government Survey 2003: E-Government at the Crossroads, United Nations, NY.

[53] UN (2004). Global E-Government Readiness Report: Towards Access for Opportunity, United Nations, NY.

[54] UN (2005). Global E-Government Readiness Report: From e-Government to e-Inclusion, United Nations, NY.

[55] UN (2008). United Nations e-Government Survey 2008: From e-Government to Connected Governance, United Nations, NY.

[56] UNDP (2002). Information and Communications Technology Policy for Afghanistan, Final Report, Asia-Pacific Development Information Programme, UN Development Programme, October 2002

[57] UNESCAP (1999). (Ed.) Local Government in Asia and the Pacific: A comparative Study of Fifteen Countries. Bangkok, UN Economic and Social Commission for Asia and the Pacific (UNESCAP), Thailand

[58] UNESCAP (2003). Country Reports on Local government Systems: Pakistan, United Nations Economic and Social Commission for Asia and Pacific

[59] van den Bergh, J.C.J.M. (2007) Abolishing GDP Tinbergen Institute Discussion Paper, TI 2007-019/3, Vrije Universiteit Amsterdam, and Tinbergen Institute

[60] Wentz, L., Kramer, F. & Starr, S. (2008). Information and Communication Technologies for Reconstruction and Development: Afghanistan Challenges and Opportunities, Center for technology and National Security Policy, National Defense University, Washington, DC.

[61] Zwahr T., Rossel P. and Finger M. *Towards Electronic Governance – A Case Study of ICT in Local Government Governance*, Dg.o 2005, Proceedings of 2005 International Conference on Digital Government Research, Atlanta, May 15-18, 2005

---

[i] https://www.cia.gov/library/publications/the-world-factbook/geos/af.html

[ii] Each Provincial Council elects one of its members to the House of Elders under a two-round system (4-year term). Each District Council elects one of its members to the House of Elders under a two-round system (3-year term).

[iii] http://www.electionguide.org/country.php?ID=2

[iv] http://www.unescap.org/huset/lgstudy/new-countrypaper/Bangladesh/Bangladesh.pdf

[v] http://www.mongabay.com/reference/country_studies/bhutan/GOVERNMENT.html

[vi] http://www.india.gov.in/knowindia/state_uts.php

[vii] http://en.wikipedia.org/wiki/Administrative_divisions_of_India; http://www.oifc.in/ViewFolder.aspx?FolderName=Understanding_the_States&FolderID=65

[viii] http://www.statoids.com/umv.html

[ix] http://en.wikipedia.org/wiki/Maldives

[x] http://www.unescap.org/huset/lgstudy/new-countrypaper/Nepal/Nepal.pdf

[xi] http://www.unescap.org/huset/lgstudy/new-countrypaper/Pakistan/Pakistan.pdf

[xii] http://www.unescap.org/huset/lgstudy/new-countrypaper/SriLanka/SriLanka.pdf

[xiii] http://www.bcc.net.bd/

[xiv] http://www.apdip.net/projects/dig-rev/info/pk/

[xv] http://www.apdip.net/projects/dig-rev/info/pk/

[xvi] http://www.ifip.or.at/minutes/GA2005/Rep_SriLanka1.pdf