

Knowledge and E-Governance Building in Conflict Affected Societies: Challenges and Mechanisms

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ABSTRACT

Conflict is the source of pains, losses and severe anxiety. Its existence and prevalence act as major deterrence to societal achievements. Conflict for many is however, an inducer of human initiation of survival attempts, plans and policies. This is often coupled with the adaptation of mechanisms and possible innovation that serve to convert the pressure of conflict into a catalyst for human achievement in defiance of such pressure and consequent devastation.

This paper will then look into ways that made ICT a tool for survival and life continuity under conflict. It will explore the different sectoral projects which were/ are still capable of utilizing human determination to facilitate the emergence of more connected societies whose fabric becomes consolidated with the Internet and information access as well as wider dissemination of ICT into citizen's lives even on the governance level!

The paper will further project human attention in societies of conflict to ICT and the role ICT plays in bettering life quality. This will be verified by living examples from two countries deeply affected by years of wars and disputes. Such verification is to be supported by data and graphs. The paper will further show how e-governance is possible in conflict and how the e-transformation is achievable amongst societal ranks. It will therefore, attempt to devise methods to draw an inversely proportional connection between conflict and ICT dissemination.

1. INTRODUCTION

“Technology prospers with wealth and stability and is only available for the financially comfortable”- a saying that no longer applies nowadays. Thanks to people's determination and the Internet revolution, the information age has broken all taboos, exceeded all expectations, gone beyond all limits, overcame all barriers and defied all odds. Welcome to the era of the 'global village' the internet has promised and the decade of the emergence of the Internet's neo-culture where the rich and poor, the oppressed and oppressor vividly compete within cyber space.

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The power of internet and the need for demolishing physical barriers have both teamed up to provide a cheaper medium of communication, data exchange, political campaigning and knowledge acquisition. The human journey around the world and beyond have not been any easier with services stretching from telemedicine to live cyber gaming.

The emergence of global initiatives to fight poverty, reduce ignorance, combat hardship; have all encouraged the world to find in the Information Communication Technologies (ICTs) faster, cheaper and reliable mediums of leading change towards establishing the long awaited knowledge economy.

Furthermore, financial hindrance has been and continues to be overcome by collective societal cooperative measures especially at places of socioeconomic hardship and conflicts.

2. ICT: A TOOL FOR SURVIVAL AND WIDER SOCIETAL CONNECTIVITY

As indicated before, this paper will draw upon two living examples in countries torn by political turmoil, genocide, instability and armed conflict. Palestine and Rwanda are two prime examples of poverty, conflict and political unrest in which people's determination to adopt, access and utilize technologies; was pivotal in replacing the traditional financial prosperity, political stability and governmental leadership.

Although unclear as to how money has evolved to cater for effective ICT projects in these two countries, it's perceived that citizens have been to some extent, successful in directing donors agendas often burdened and governed by relief constraints, to back the emergence of ICT achievements, advanced educational systems through the introduction of computers and Internet accessibility and/or utilize projects surplus to back ICT. .

Influenced by heightened media coverage of cheaper internet accessibility, poverty alleviation, closing the digital divide and accessing rural communities, NGOs, academic institutions, international relief agencies and occasional governmental interventions have all deployed ICT. This was furthered by global initiatives such as: the Global Education Initiative (GEI) launched by the World Economic Forum (WEF), the \$100 laptop, 'PC and Internet 4 All' and the 'Laptop for a Gun' campaigns.

Moreover, moves towards recycling old computers coupled with the introduction of Open Source software have helped introduce technologies at cheaper and reliable terms. Exciting projects led to the emergence of the 'short wave internet coverage' at the Solomon Islands, The Jhai Foundation's peddle-charged computer batteries in India, Wireless connectivity in Botswana, mobile unit electronic mail delivery in Cambodia, satellite beamed

educational material at rural areas in Pakistan, the SMS- ordered Nokia's educational materials' satellite transmission, the Gramin-funded mobile phone veggie trade in Bangladesh and the wireless backed medical equipment in South East Asia. One common factor amongst all these projects is the fact that they all happened and continue to happen in poverty, conflict and disease torn communities which refused but to be driven by the will of human accessibility to information via cheaper means.

What's also of help is the global fierce market competition that's suppressing prices and tariffs in favor of humanity's access to technology at large.

3. ATTENTION TO ICT BY CONFLICT TORN COMMUNITIES

3.1 Palestine

Denoted by the UN as the Occupied Palestinian Territories (OPT) composing now of the West Bank and Gaza. Palestine has repetitively shrunk in size following successive occupations by the Ottomans, Britain and Israel. The total area of OPT now stands at 6,165 sq kms mostly ruled by Israel with the Palestinians enjoying partial control of 22% of that area.

After almost four decades of occupation, the conflict economy¹ of the occupied Palestinian territory (OPT) in the West Bank and Gaza (WBG) continues to be subject to restrictive Israeli measures and years of violent confrontations and war-like conditions. These factors have had serious ramifications on the growth, structure and functioning of the economy. Between 1999 and 2004, the economy contracted with a 15 per cent loss in gross domestic product (GDP). The welfare impact is more serious: real per capita gross national income (GNI) dropped by more than 33 per cent, in 1997 US dollars, from \$1,860 in 1999 to \$1,237 in 2004 (UNCTAD, 2005). As a result, poverty has risen substantially, leaving 63 per cent of the population below the (income) poverty line of \$2.3 per person per day, including 16 per cent of the population living in extreme poverty below \$1.6 per person per day in 2003, unable to meet their basic needs (World Bank, 2004a). In terms of deterioration of households' income, it is estimated that 61 per cent of households were living beyond the poverty line of \$350 per household (of four persons) per month by the end of 2004 (PCBS, 2005a). Households' median monthly income fell by 45 per cent from \$610 in 2000 to \$330.

In 1988 the Palestinian National Council (PNC) the Palestinian Parliament in exile, recognized the State of Israel and UN resolutions relevant to the Palestine-Israel conflict hence instigating what became known as the Peace Process. Following years of direct and back channel diplomacy and negotiations the Palestine Liberation Organization (PLO) signed a Declaration of Principles (DoP) with Israel in 1993 on the White House Loans which was believed then to become a key for ending years of conflict through direct and phased negotiations and withdrawals. The Palestine National Authority (PNA) was then established. However, years of failed negotiations have sparked the break out of the second Palestinian uprising in September 2000 widely

¹ United Nations Conference On Trade and Development (UNCTAD) *The Palestinian war-torn economy: aid, development and state formation*, July 2006.

known as the 'second Intifada'. The unrest resulted in Israeli destruction of Palestinian infrastructure, more annexation of Arab land, expansion of settlements, continued closures, invasion of Palestinian localities and the erection of a 730km separation wall in the West Bank beyond the 315km long green line. This situation led to severe economic, social and political implications. Life was further worsened by accumulated track record of corruption which in turn led to the change of the Palestinian political composition when the second free elections were conducted in 2006. The result of such elections led to a wider embargo by both Israel and the international community as well as the emergence of an internal Palestinian refute.

Such a state of hardship nurtured a desirable nation-wide intent to go beyond the physical closures to the outside world with the wish to propagate messages and videos abroad as well as sharing data and access political and educational material. Geographical contiguity between the west Bank and Gaza as well as inner-West Bank contiguity were replaced by internet access. NGOs, academic, public and legislative institutions became dependent on technology to handle daily work. Universities during closures as well as the Palestinian Cabinet also became dependent on ICT.

Palestine so far has one telecom operator for both fixed-line and mobile operator which was awarded a debatable license in 1996. Yet the notion for liberalization led to the fairly recent award of a second mobile operator's license and newly approved seven Wi-Max and VOIP providers.

Telecom Work in Palestine is governed by a telecom law approved by the PNA presidency in 1996. However, lack of governmental control and continued Israeli rule allowed for the fast mushrooming of illegal services. Moreover, the Palestinian Territories became home to four other Israeli mobile operators and over sixty radio and TV stations (possibly putting Palestine on the top of the list of countries that has such unregulated concentration of such stations as opposed to the total area).

The law for a telecom regulator was issued by the president in February 2006 then exercising his constitutional right to issue decrees that have the power of laws. However, it's believed that corruption and political rivalry have led to the law being dropped.

Public thirst for accessibility and communications within and beyond Palestine led to unexpected results. Palestine became no.1 user of video-conference facilities and practically leading other more stable Arab countries and economies in Internet connectivity and mobile phone technology use.

With almost 100 ICT firms, 3000 NGOs, 11 universities, 13 university colleges and 19 community schools and colleges² computer ownership, Internet cafés and ICT community centers increased tremendously. University students are each afforded an electronic e-mail and a university-based disk quota. SMEs in ICT were encouraged by the Palestine ICT Incubator (PICTI) playing a major role in encouraging new ICT business ideas.

A number of ICT initiatives were introduced before the elections of 2006 after which all such initiatives were halted. Those sprung out of the ICT strategy approved in 2005 and included, the Palestine Education Initiative (PEI), e-Government, e-Cabinet,

² Palestinian Academic Society for the Study of International Affairs (PASSIA), 2007 agenda

Palestine Technology Park, Falastinyia (for greater women ICT inclusion) and the Euomed university network.

In short Palestine could well represent a prime case for ICT nurturing in time of conflict despite high poverty rates, instability, high unemployment and closures.

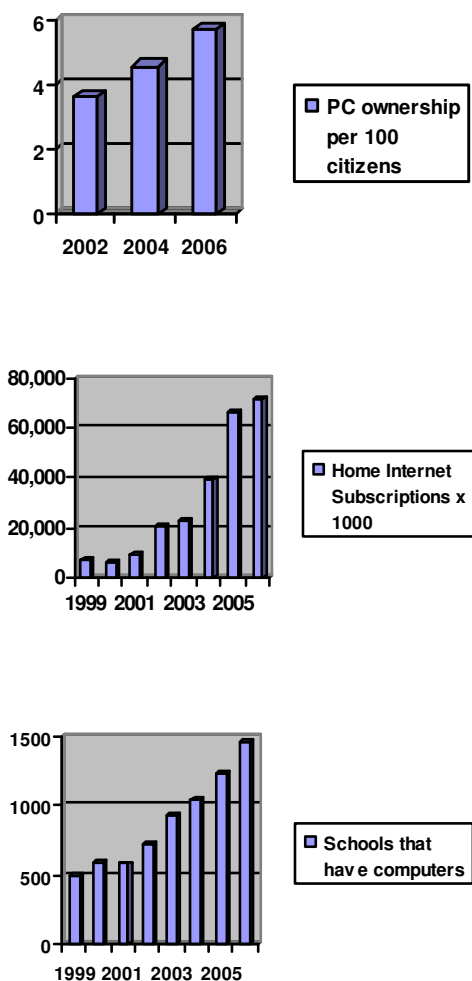


Figure 1. ICT in figures for Palestine³

3.2 Rwanda

A small land locked densely populated country that has a population of approximately 8 million living on an area of almost 27,000 sqm that lies south of the equator surrounded by Uganda Democratic Republic of the Congo (DRC), Uganda, Tanzania and Burundi. The country is led by a president elected in 2003 and has a nine-party political structure. The country's GDP stood at US \$2.2bn with an estimated growth of 6% (2007) with Coffee, tea, Colton, cassiterite, fruit juice constituting major exports.

³Palestinian Central Bureau of Statistics (PCBS), commissioned analysis, August 2007

With few exploitable resources and changing climates, Rwanda suffers from periodic droughts, over-cultivated lands and consequently soil exhaustion and erosion. This collectively leads to food insecurity necessitating a continued international support.

This follows years of civil war that started in 1990 and peaked in 1994 following the assassination of the country's president in April 1994 and the failure of peace talks between tribal rivals, the Tutsis and Hutus leading to what became known as the Rwandan genocide which saw the extermination of almost 1m Rwandans. Fighting was stopped by a Tutsi front known as the Rwandan Patriotic Front (RPF) that was said to have ousted hard line Hutus from power and the remnant of the Rwandan army and later established a unity government under a formula agreed in 1993 in the previous peace talks. In 2003 Rwanda witnessed a major political change with a new constitution approved by a national referendum with Presidential and parliamentary elections taking place in August and September of that year. Despite such changes, it was said that Rwanda continued to witness political unrest⁴ and conflict by external troop's deployment and claimed violations of human rights and impotence of opposition parties.

Yet Rwanda evolved to become committed to a privatization programme involving the telecommunications, water and electricity, gas, transport and mining. Rwanda formally joined the East African Community (EAC) economic bloc in June 2007 year.

An ambitious government ICT initiative was drawn out in recent years that included the development of telecommunications infrastructure and services including mobile phone, fiber optic networks, PC dissemination and Internet access. Such initiative seems to have sparked a rapidly increasing local and international interest in Rwanda's ICT market⁵ inclusive of major players such as Microsoft and Nokia. Such interest and development placed Rwanda top on the United Nations Conference on Trade and Development (UNCTAD) list for East African countries with an ICT sector budget considered by the Organization of Economic Cooperation and Development (OECD) as far above the African average. Yet such evolution wouldn't have happened without the adoption the Rwandan 2020 vision and the emergence of the smart ICT policies that encouraged wider investment in a more business-friendly environment. A decision to achieve self reliance in building knowledge-based economy was very pivotal to ICT advancement and the initiation of advanced initiatives in the fields of scientific research and education, technological innovation, and telecommunications distribution. Heightened international support, capacity building, key portals such as the Rwandan Development Gateway, government backing and citizen interest in technology and connectivity were essential in advancing ICT trends in Rwanda leading to the belief that the country is well on its way to achieving its Millennium Development Goals (MDGs) as a result of its ICT-based poverty reduction strategies.

Major future initiatives to lessen the inner-country digital divide include a one-billion nation-wide tele-centres, affordable village phones, ICT SME development, an Internet Exchange Point, ICT

⁴ British Foreign and Commonwealth Office Country profile: <http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcellerate/ShowPage&c=Page&cid=1007029394365&a=KCountryProfile&aid=1020338066458>

⁵TRADE- Rwanda Leading Africa in ICT Revolution: <http://ipsnews.net/news.asp?idnews=38423>

Park, National Computing Centre, and Telemedicine Network and ICT scholarships for neighboring countries.

Table 1. Rwanda telecommunication profile in brief - operators and services providers [7]

Services	Operators
Fixed telecom operator	Rwandatel s.a.
Mobile operator	MTN Rwandacell
ISPs	Rwandatel sa, Terracom(new entrant) Artel, Mediapost
VSAT network operator	Artel s.a.r.l (rural communication)
Data/leased line	Rwandatel s.a
Gateway	Rwandatel s.a MTN Rwandacel

Table 2. Rwanda telecommunication profile in brief - subscribers (active lines)

Operators	Services	2001	2002	2003
Rwandatel	Fixed telephone	21,458	25,105	25,565
	Internet	1,482	2,047	2,378
MTNRwandacell	Mobile phone	44,117	82,391	130,720
Artel	Telephone		30(sites)	152(sites)
	Internet		Not available	12
Mediapost	Internet	Not available	Not available	114

4. MECHANISMS FOR E-GOVERNANCE AND E-TRANSFORMATION: AN ICT-CONFLICT INVERSELY PROPORTIONAL APPROACH

It's best to focus on solid steps to nurture better e-governance and e-transformation. These steps were developed through a focus group assembled for this specific paper and composed of experts who internationally worked in the field of e-governance, e-transformation, ICT dissemination and development especially in war torn and poverty stricken communities. Failure to address the factors identified below will leave the situation in countries affected by war and conflict rather intact.

- 1) Direct donor communities attention to development approach and not only relief-based approach that has long dominated the donor community's agenda.
- 2) Focus on ICT support in projects to come with ICT being a tool for change and building knowledge based economy. Lobbying can be further improved by including local communities, educationalists, women and youth, thus believing in the power of society at large.
- 3) Capitalize on public sector political leadership whether individuals or groups who show inclination towards fighting corruption, elevating poverty, supporting change and achieving better governance through the utilization of ICT.
- 4) Learn from international experiences and apply those that's best suit the local community.
- 5) Try to attract diasporas' backing and support to e-transformation.

- 6) Lobby and advocate for policies and laws that support liberalization and regulation of ICT.
- 7) Apply the approach of re-cycling old computers and utilizing open-source software when needed.
- 8) Build the knowledge of senior citizens and mature adults in ICT in parallel with building ICT knowledge within younger generations. This will help minimize the social rift and the cultural resistance. Otherwise, communities would continue to consider the computer as a black box and the Internet as the medium for cultural challenge and inappropriate material.
- 9) Focus on building the ICT culture through small steps. Big leaps and shocks may perturb change and transformation.
- 10) Encourage competition between players and operators as this improves quality, price and option.
- 11) Nurture innovation in science and technology when possible. Every step counts.

5. CONCLUSIONS

As evident from figures and argument presented by this paper, e-transformation is not impossible and needs to be induced by institutions as well as individuals so to lead towards the establishment of the knowledge based economy. While there is no doubt that ICT is evolving to become the bread and butter of our daily lives, its introduction and dissemination requires leadership, courage, vision and determination. This applies to all societies regardless of financial abilities or existing political structure. Global inclusion in ICT culture thus needs some alteration and magnification of few steps we often make. So far the lords of conflict are not seeing the transition towards adopting ICT beyond their greed and self interest. The duty thus lies on the community at large to refuse being excluded and deprived from being part of change. This requires courage and leadership.

6. ACKNOWLEDGMENTS

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