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Citizens' Volunteerism and Digital Governance in Pakistan

Omer Ahmed Awan

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Chapter 1- Digital Governance - An Introduction

Over the last few years, international governance actors have been urging countries to utilize innovative solutions for better governance in general and for ensuring transparency and accountability as well as enhanced citizens' participation in particular. In the current era of innovation and disruptive technologies, the traditional concept of governance in the 21st century has been shaped by the emergence of new holistic models of good governance, good enough governance and democratic governance. However, one key element in all these new theories is the advent of the digital tools, commonly known as internet and other Information and Communication Technologies (ICTs). ICTs have drastically altered traditional service delivery methods and interactions at governmental as well as at citizen level and at the level of other stakeholders too. Where the concept of governance has evolved from simple models of public administration and service delivery to cater for more holistic and democratic credentials of transparency, accountability and enhanced citizens' participation; the role and use of digital tools has also evolved as enablers to achieve these dimensions of governance.

Under different concepts and definitions of '**e-Government**,' '**e-Governance**,' '**online government**,' '**one stop government**' and '**digital government**'[1][2][3][4][5][6] etc. the expectation is now for services to be delivered with greater efficiency and accessibility, within a shorter timeframe and for citizens to have increased access to information to hold governments accountable.

Similarly, ICTs have enabled the provision of prompt and transparent information online, as well as the creation of visual or analytic tools that simplify complex information. Information and Communication Technologies are enabling governments to increase their outreach to citizens and communities for determining their needs and preferences in public policies and services. Conversely, ICTs are also empowering citizens to access public institutions and have their voices heard.[7] E-participation, then, is the process of engaging citizens through ICTs in policy and decision-making in order to make public administration participatory, inclusive, collaborative and deliberative at intrinsic and instrumental ends. E-Participation expands a government's toolbox for reaching out to and engaging with its people·

1. Andersen, KV, and HZ Henriksen (2006), 'E-government maturity models: extension of the Layne and Lee model', Government Information Quarterly, Vol. 23, 236–248

2. Abramson, MA, and GE Means (Eds.) (2001), E-government 2001, Rowman and Littlefield, Lanham, MD

3. Fraga, E (2002), 'Trends in e-Government: How to Plan, Design, Secure and Measure e-Government', Government Management Information Sciences (GMIS) Conference, Santa Fe, New Mexico, 16–19 June 2002

4. World Bank (2001), 'Issue Note: E-Government and the World Bank'. November 5, World Bank, Washington DC

5. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

6. OECD (2016), 'Digital Government Strategies for Transforming Public Services in the Welfare Areas, OECD

7. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

ICTs/Digital tools generally range from traditional tools, e.g. radio, mobile SMS, fixed line DSL internet to more contemporary tools like fixed broadband, mobile broadband, mobile applications, cloud computing, data analytics etc.

Consolidation of different debates and arguments in literature suggests that the evolution of governments' utilization of ICTs is based on a journey that 'broadly' involves the following three stages:

- **Digitization** – This involves utilization of digital technologies to improve cross government activities and data/information management with a focus on efficiency and productivity. The aim of digitization is to improve internal processes of the government and production of individual databases, information systems and some standardized services.[8]
- **e-Government** – The most widely used terminology is defined as the electronic interaction (transaction and information exchange) between the government, the public (citizens and businesses) and employees. OECD (2016) argued that e-government is a middle stage in digital transformation from 'digitization' to 'digital government' and governments require progression through a period of e-government to complete the journey.[9] It was also argued that under e-government, governments make greater use of digital technologies, particularly the internet, to achieve results.[10]
- **e-Governance/Digital Government** – e-Governance is a more holistic phenomenon that involves utilization of ICTs by governments to interact with and provide services to businesses, citizens and other governments, with intent to improve transparency, increase public service efficiency and deepen democracy.[11]
  E-governance aims to make the interaction between government and citizens (G2C), government and its employees (G2E), government and business enterprises (G2B) and inter-agency relationships (G2G) more friendly, convenient, transparent and inexpensive.[12]

  Similar to the concept of e-Governance, digital government is a process in which digital technologies and user preferences are

8. OECD (2016), 'Digital Government Strategies for Transforming Public Services in the Welfare Areas, OECD

9. Abramson, MA, and GE Means (Eds.) (2001), E-government 2001, Rowman and Littlefield, Lanham, MD

10. OECD (2016), 'Digital Government Strategies for Transforming Public Services in the Welfare Areas, OECD

11. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

12. Fang, X (2002), 'E-Government in Digital Era: Concept, Practice, and Development',International Journal of The Computer, The Internet and Management, Vol. 10, No.2, 2002, p 1-22

integrated in the design and receipt of services and broad public sector reform with a clear focus on governance, openness, transparency, engagement with and trust in government as well on efficiency and productivity.[13]

Digital Governance is the utilisation of digital tools/ICTs to engage/interact with and provide people driven services to citizens, businesses, and other governments to improve transparency, ensure accountability, increase public service efficiency and enhance citizens' participation with an overall goal of deepening democracy.

Inferring from the more holistic definitions of 'e-governance'[14] & 'digital government'[15] mentioned above, the terminology of 'Digital Governance' and the following definition will be coined and used in the upcoming sections.

The following table provides an overview of the evolution of a government's utilization of digital tools in terms of its technology focus, intended governance outcomes and stakeholder involvement:

	Digitization	e-Government	Digital Governance
Technology Focus	Use of digital tools such as computers and information management systems to improve intra and inter government activities and data/information management.	Use of ICTs, in particular internet to improve government's service delivery.	Use of optimum digital tools ranging from basic internet to mobile technologies, data analytics and integrated digital models etc. to create public value through integration of public preferences with the service delivery.
Governance Outcome Focus	Efficiency and productivity of government's basic internal functions.	Efficiency of customized public service delivery to the citizens.	Enhancing democratic governance through efficient service delivery, transparency and accountability through increased and open access to information as well as bringing citizens closer to the government through increased engagement.
Stakeholder Focus	Government centric with lease participation of the citizens.	Citizen centric where citizens are part of the service delivery process.	Citizens and ecosystem driven-citizens and other stakeholders engage with government to highlight their needs and demands and become part of the agenda for ensuring enhanced democratic governance.

13. OECD (2016), 'Digital Government Strategies for Transforming Public Services in the Welfare Areas, OECD

14. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

15. OECD (2016), 'Digital Government Strategies for Transforming Public Services in the Welfare Areas, OECD

In recent years, digital governance has proved itself to be the new path to improvement for the public sectors of both developed and developing countries.[16] It is also credited as having the ability to decrease poverty and corruption.[17] [18]

How Digitization is Ensuring Greater Transparency

Various digital tools are being used by the government for ensuring transparency.[19] For instance, transparency portals developed by governments around the world provide free and open access to government information and spending. Thus, promoting public accountability, decreasing corruption and developing a sense of citizens' ownership over government spending priorities.

The introduction of such initiatives not only enhances public trust in the government but also leads to the inclusion and empowerment of groups often excluded from the policy process.[20] Building a reliable evidence base, citizens act as virtual watchdogs, ensuring that the rights are protected, projects are delivered as promised and officials are held to account for when funds are misspent.

Case Study: Transparency Portal (Brazil)

Brazil's Transparency Portal is a general gateway where budgetary information is presented in a user-friendly format and updated daily. In 2004, the Brazilian Office of the Comptroller General (CGU) created the Transparency Portal, a tool that aims to increase fiscal transparency of the Brazilian Federal Government through open government budget data. The Transparency Portal relies on the collaboration of diverse ministries and bodies of the Federal Public Administration to advance transparency and to offer a tool that stimulates citizen participation. It is like a channel through which citizens can monitor the financial implementation of government programs at the federal level. Five broad categories of data are published: 1) direct spending by federal government agencies through contracts and tender processes; 2) all financial transfers to states, municipalities and the federal district; 3) financial transfers to social program benefactors; 4) administrative spending, including staff salaries, staff travel expenses and per diems and office expenditures; and 5) information on all government official credit card spendings.

16. Dada, D (2006), 'The Failure of E-Government in Developing Countries: A Literature Review', available at: www.ejisdc.org/ojs2/index.php/ejisdc/article/viewFile/277/176 (accessed 20 November 2017).

17. Dada, D (2006), 'The Failure of E-Government in Developing Countries: A Literature Review', available at: www.ejisdc.org/ojs2/index.php/ejisdc/article/viewFile/277/176 (accessed 20 November 2017).

18. Coursey, D, and D Norris (2008), 'Models of E-Government: Are They Correct? An Empirical Assessment', Public Administration

19. Fung, A, H Russon Gilman and J Shkabatur (2010), 'Technology for transparency: Impact case studies from middle income and developing countries', Transparency and Accountability Initiative, available

20. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

Over the years, it has received numerous awards and forms of recognition, including the 2007 Brazilian IT and Government award (e-Democracy category).[21] In addition, it was presented as a Best Practice case study at the 2008 Meeting of the UN Convention against Corruption in Bali; the 2009 Transparency Initiative Conference on International Aid in the Netherlands; and the 2009 Third European Meeting on Anti-Corruption in Brussels.

Immediately after its inception, in 2004, the portal registered an average of 410,000 monthly visits from around 10,000 unique visitors. By 2012, the number of unique monthly users rose to 336,512; today, the site receives over 900,000 unique visitors per month and the media has made extensive use of the website in order to investigate corruption schemes and frauds involving federal resources.

Regional neighbours such as Peru, Bolivia and Chile have launched their own transparency portals, as have countries throughout Africa and Asia – including, recently Sierra Leone, with support from the Commonwealth Secretariat.

Case Study: Transparency Sierra Leone Portal (TSL-P)

This initiative, led by the Commonwealth Secretariat is a dynamic gateway where government records, spanning the full array of government activities, are publically available.[22] The portal itself focuses on three key aspects of open governance: accountability, engagement and collaboration.

The portal has three key features:

- **The Government of Sierra Leone (GoSL) Intranet** – This provides a collaborative space where various ministries can interact and search for content. In addition, it also serves as the central dashboard for all performance reports. Moreover, while improving internal governance, the intranet also acts as an engine for the portal, constantly providing material that can be deposited onto the TSL-P for public scrutiny.
- **The Project Tracker** – This is atracking tool for citizens to monitor the implementation of '**Agenda for Change**' projects. It includes information like project cost, contractor details and implementation timelines.

21. Graft, a, Verhulst, F & Young, A, (2016), 'BRAZIL'S OPEN BUDGET TRANSPARENCY PORTAL Making Public How Public Money Is Spent', ODI Impact

22. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications

- **The 'Join Our Transformation' (JOT) site** – This feature is focused on enabling discussions and increasing citizens' participation through the use of web 2.0 technologies to encourage a national debate on the government's poverty reduction strategy.

Similarly, governments have been using digital platforms to provide digital public service delivery to their citizens. Many countries have now started using 'one stop' platforms to provide a holistic and integrated set of public services. The following table provides a list of a few countries that are using digital service delivery through a single platform:

S.No	Country	Web Address
1.	Singapore	http://www.egov.gov.sg/
2.	Malta	https://www.gov.mt/en/Pages/gov.mt%20homepage.aspx
3.	UK	http://www.gateway.gov.uk/
4.	Australia	http://australia.gov.au/
5.	Germany	http://www.bund.de/EN/Home/homepage_node.html

Moreover, citizen engagement and participation has been evidenced to increase civic and political knowledge, foster a greater sense of empowerment, deepen networks, increase access to state services and resources as well as enhance state responsiveness.[23] Digital tools can play a vital role in this regard. For ensuring citizen's participation in decision making, accountability and transparency many innovative digital tools have been adopted by the government.

Case Study: ICT4GOV (DR Congo)

Supported by the World Bank, the Congolese government launched Information and Communication Technologies (ICTs) based ICT4Gov initiative which is helping in increasing citizens' led service delivery and accountability mechanism. Introducing mobile technology to enhance participatory budgeting processes, citizens are empowered to demand and work towards improved governance. Through mobile technology, citizens can now express and vote on the priorities that are most pressing for their communities. When they have reached an agreement the local government devotes a percentage of the local investment budget to the project selected by the citizens.

23. Gaventa, J, and G Barrett (2010), So What Difference Does it Make? Mapping the Outcomes of Citizen Engagement, Institute of Development Studies (IDS), Brighton

The mobile led initiative has four features of citizen-government engagement:

- To invite citizens to the participatory budgeting assemblies through geo-targeted SMS messages. These messages reach all the phones receiving signals from a particular tower and announce the date, time and location of the assemblies.
- Mobile phones are also being used for voting, allowing the citizens to send a text to identify which of the priorities they would like to see addressed in their community.
- Mobile phones are being used to announce the voted decision, making the process more transparent and inclusive
- Finally, mobile phones are being used to ask citizens about the projects that had been chosen. Through text messages, citizens are able to offer feedback and monitor the projects.

Impact and Outcomes

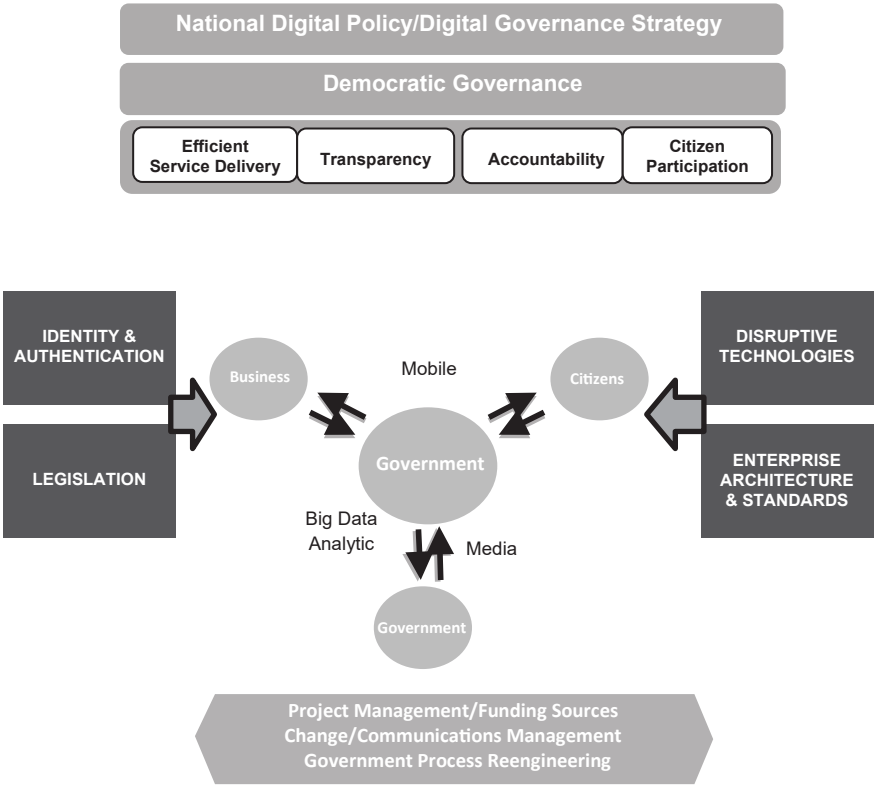
- In the first phase of project, over 250,000 text messages were sent throughout the different stages of this initiative.[24]
- Since the beginning of the program, provincial government sees an increasing capacity of the local government to better allocate resources; communities involved have already seen an increase in transfer of funds from the provincial to the local levels.
- The preliminary results of an external evaluation suggest a reduction of tax evasion at the local level with citizens more willing to pay taxes as they link government spending to improvement in the delivery of services.
- In some areas, more than $80,000 were invested in interventions such as school building, health clinics, roads or irrigation structures; in most cases, this was the first time that any real investment was made in the districts. For instance, Ibanda, a rural community, went from not having any investment budget to having 40 percent of its budget devoted to investments.
- The programme is now being scaled-up country wide.

24. World Bank (2012), 'Mobile-Enhanced Participatory Budgeting in the DRC', World Bank Institute Capacity Development and Results, Washington DC.

Digital Governance Framework

An overarching framework of digital governance is important for any successful and well-targetted programme. There are various frameworks developed, discussed and adopted by multiple stakeholders including governments, development partners as well as researchers. Primarily, most of these frameworks were developed in the era of 'e-government' and they are arguably more focused on the technical aspects and less on the broader agenda of democratic governance and involvement of the relevant stakeholders.

The following 'Digital Governance Framework' is proposed with the intention of going beyond the technical aspects and addresses more important policy, governance and stakeholders' dimensions of the digital governance mechanism.[25] It is an amalgamation of key features of basic e-government model and key ingredients of policy, programme management, ecosystem and overall democratic governance.



25. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications.

Policy Dimension – National Digital Policy and Digital Governance Strategy

Building upon the policy and strategy era of national ICT strategy, IT and telecom policies that also provided overall e-readiness of a country, the current era of national policies are derived through a comprehensive and well integrated 'National Digital Policy'. It is an umbrella policy that links ICT infrastructure planning and development with other pillars of development, digitization of entire eco system to expand knowledge based economy and drive socio-economic growth. Covering various common dimensions such as digital inclusion, promoting innovation and entrepreneurship, socio-economic up lift of women and youth, guiding the integrated and linked enhancement; national digital governance agenda serves as one of the key elements of the national digital policy.

National Digital Governance Strategy, on the other hand derives the overall guidance of digital policy and it is focused on developing a roadmap for using digital tools for governance and it includes all other dimensions of the framework.

Governance Dimension

The focus of this component of the framework is to ensure that all digital tools based interventions are targeted at achieving the following governance goals:

Efficient Service Delivery - Through speeding up transactions by providing them online or mobile devices, or through enabling, monitoring and feedback of service delivery, which can lead to increases in efficiency and responsiveness.

- Enhanced openness, transparency and accountability to engage citizens in the decision making and feedback processes, by allowing greater public access to information, making government more accountable to citizens and by increasing transparency by facilitating the provision of prompt and information online.
- Increasing citizens' participation in government decision-making processes, by including the excluded citizens through electronic and mobile platforms.

Stakeholders' Dimension

Unlike a basic technical model of e-Government the digital governance framework gives a 'two way' interaction with the key stakeholders of the process. It includes citizens, businesses and other government departments at federal, provincial and local levels. It is imperative to highlight that unlike the digitalization process, there is a constant interaction from these stakeholders with the government and vice versa.

Technical Dimension

ICTs and digital tools are cornerstone enablers in the digital governance framework.[26] It includes ICTs such as the internet, mobile devices and kiosks or telecentres to transform relations with citizens, the private sector and other government agencies. It facilitate citizen's participation in decision making processes. ICTs that are available for digital governance encompass a full assortment of technologies that ranges from radios, television, the press, physical notice boards and computers with internet at one end,[27] to Personal Data Assistants, mobile phones, digital cameras, networks, databases, portals, software and new disruptive technologies, including cloud computing, mobile technologies and Web 2.0 on the other. Hence, offering solutions to many cost- and accessibility-related issues.[28]

Moreover, a specific citizen identity and authentication process is important in order to ensure secure financial and non-financial transactions within digital governance as well as to tackle issues of identity theft, fraud, cybercrime and data privacy vulnerability.

Last but not the least, specific legislation and technical enterprise architecture are essential if government is to effectively use ICTs and ensure the legal validity of digital services, the safety of personal and government data, the equal access of digital services to citizens and the optimal performance of information systems.

26. Sobrinh, JH (2011), 'Brazil's Transparency Portal Freely Delivers Information to Citizens', Open Government Partnership, available at: http://www.transparency-initiative.org/archive/news/ brazils-transparency-portal-freely-delivers-information-to-citizens (accessed 20 March 2013)

27. Sobrinh, JH (2011), 'Brazil's Transparency Portal Freely Delivers Information to Citizens', Open Government Partnership, available at: http://www.transparency-initiative.org/archive/news/ brazils-transparency-portal-freely-delivers-information-to-citizens (accessed 20 March 2013)

28. Sobrinh, JH (2011), 'Brazil's Transparency Portal Freely Delivers Information to Citizens', Open Government Partnership, available at: http://www.transparency-initiative.org/archive/news/ brazils-transparency-portal-freely-delivers-information-to-citizens (accessed 20 March 2013)

Programme Management Dimension

Furthermore, digital governance is good project management and continuous feed of funds, change and communications management and government process re-engineering[29] i.e, 'fundamental reconsideration and radical redesign of organisational processes, in order to achieve dramatic improvements of current performance in cost, speed, and quality of service.

Conclusion

To conclude it is imperative to highlight that digital governance is not a 'quick-fix'[30]; the journey to attain digital governance is generational, requiring various stages of maturity. It is also an iterative process, as plans and strategies have to be updated to reflect new government priorities and innovative technologies. It therefore requires both short-term strategies and long-term planning.[31] As the public sector draws upon technologies to reform structural processes and institutions for greater efficiency and better service delivery, it is essential for there to be a deep understanding of the structures, relationships, institutional spaces, interests and incentives that underpin current processes before applying any digital tools.

29. Hammer, M (1990), 'Reengineering work: Don't automate, obliterate', Harvard Business Review, Vol. 68 No. 4, 104–112.

30. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications.

31. Institute of Development Studies (IDS) (2010), An Upside-down View of Governance, Institute of Development Studies, Brighton

Chapter 2 - Youth Volunteerism in 21st Century

Concept of Volunteerism

One of the simplest and most precise definitions of volunteerism is that it is "…any work performed with free will, for the benefit of the community and not primarily for financial gain."[32]

Volunteering is an activity that is not to be done for a profit making organization or for profit making itself. It is something that is done for the benefit of the society or community as a whole and without being forced by some authority or being paid for the work performed.

Five elements have been considered by most authors when examining volunteerism.[33]

- No monetary compensation
- Non-obligatory action
- On-going and planned activity
- Organizational context (and)
- Carried out for human helpfulness and betterment of the society

Youth volunteerism is advancing in many developed and developing countries. Along with increasing youth volunteerism, focus on good governance and social reforms has also increased significantly. The societies in the modern era can convey their social, financial and environmental and social needs through these volunteer groups and individuals volunteering for the benefit of fellow human beings. Geographically countries experiencing an increase in youth volunteering include Philippines, Malta, and Singapore, UK, US, European countries and now South Asian countries as well.[34]

Particularly, it is also getting considerable momentum in the developing countries as well after experiencing success in the developed countries. Youth volunteering for good governance is now effective on local levels and the young adults and students are equally passionate to take part in reforming their society and addressing their local needs without hesitating or wishing for financial and nonfinancial rewards. The community needs that are addressed through nonprofit organizations and volunteering are more often to be fulfilled by the government as the civil society through

32. (UN General Assembly 56/38, 5 December 2001, Annex I.1).

33. Somro, K,A, Tan, S, Butt,M, Anand, V (2016), 'Participatory Governance through Youth Volunteerism in Public Sector of Pakistan, Journal of Public Administration and Governance 2016, Vol. 6, No. 2.

34. Bussell, H., & Forbes, D. (2002). UNDERSTANDING THE VOLUNTEER MARKET: THE WHAT, WHERE, WHO AND WHY OF VOLUNTEERING. INTERNATIONAL JOURNAL OF NONPROFIT AND VOLUNTARY SECTOR MARKETING, 7(3), 3-15.Bussell, H., & Forbes, D. (2002). UNDERSTANDING THE VOLUNTEER MARKET: THE WHAT, WHERE, WHO AND WHY OF VOLUNTEERING. INTERNATIONAL JOURNAL OF NONPROFIT AND VOLUNTARY SECTOR MARKETING, 7(3), 3-15.

these community activities are getting stronger and more effective. The youth volunteering activities are a cause of many governmental initiatives worldwide and the local and national level programs are also initiated for the betterment of the community and the people as a whole. The volunteerism and the governance are most popular concepts in the contemporary societies; volunteers are assisting in shaping the governance activities which is ultimately substituting the social and developmental reforms in the modern societies.[35]

Changing Trends in Youth Volunteerism

There is a direct and interesting relationship between volunteering and development which has already been studied for many countries. This relationship has evolved over time and there are certainly different national as well as international backgrounds to this evolution. The development though cannot be pursued without actual practice and implementation of plans and ideas; youth volunteering in this regard helps in the implementation and successful application of these ideas and plans for development. The developmental process in the decades of 1960s and 70s was led exclusively by governments. The critical engagement of civilians and civil society was negligible and their opinion and ideas were considered least significant. This trend, as we have seen in the recent years, has significantly changed. An increased sense of awareness among the people about their rights has fueled demands for greater accountability and transparency on the part of the government. This has led to many revolutions in recent history, most notably the Arab Spring, where people actually realized their rights and felt empowered enough to take part in the developmental process. True, that oppression and inequality could not be brought to an end in entirety and this new wave of volunteerism has set the stage for it to significantly decrease in the coming years. Worldwide, a more transparent and accountable style of governance is now "in-demand," with the help of awareness that the changing volunteering activities has carried with it.[36]

Similarly, the changing developmental process is directly linked to good governance and active civil societies and volunteering services have been the primary propellers to evoke a sense or demand for good governance.[37] The youth volunteers working without any personal or

35. Wallace, T., Bhattacharjee, S., Chao, M., Devereux, P, El-Kholy, H., & Hacker, E.(2015). STATE OF THE WORLD'S VOLUNTEERISM REPORT: TRANSFORMING GOVERNANCE. New York: United Nations Volunteers (UNV) programme.

36. Franco, E. L., & Shahrokh, T. (2015). The Changing Tides of Volunteering in Development: Discourse, Knowledge and Practice. IDS Bulletin, 46(5), 1-10.

37. Franco, E. L., & Shahrokh, T. (2015). The Changing Tides of Volunteering in Development: Discourse, Knowledge and Practice. IDS Bulletin, 46(5), 1-10.

financial benefit for the welfare of the society have succeeded with their aim to promote the developmental process that must be led by the people themselves. The intention to promote the developmental designs and plans according to what the people being its part believe in can be observed easily in most developed and developing countries. The era of 1970s experienced the transformation of the old system and popularized the idea of nongovernmental organizations (NGOs). The services provided by the NGOs cannot be denied and they actually assisted many people to come out of their subordination and oppression.

In addition, the era of 2000s turned the focus of development to institutionalization as a key determinant of growth rather than the free market. The more recent decades observed that good governance is most significant to the developmental process and to ensure good governance, transparency and accountability in turn needs to be ensured. The modern societies that are more developed and leading the developmental process are on to the principles of accountability and transparency. The civil societies and the youth volunteering services are working together to increase citizens' ownership to promote the developmental process which is not temporary and has long lasting results. The year 2015 observed the people centered approach in the developmental process due to the changing trends of volunteering services and the successful institutionalization and increased accountability and transparency of the private and public sectors.

Organized volunteering contributed to the evolution of the developmental processes.[38] Successful practices of the ideas and plans have also initiated many youth volunteering schemes historically like the Melbourne University's Volunteer Graduate Scheme, Voluntary Service Overseas in UK, Peace Corps in US, United Nations Volunteers, South-South and National Volunteering Scheme along with Mercy Corps. The purpose of the youth volunteering schemes was not just to promote the existing services but to make a difference and these changing trends in youth volunteering are also evident for noticeable changes in the modern societies in health, education, employment and social interactions of the people. The changing trends in youth volunteering services also contributed to the delivery of power and knowledge from global to local level, which fostered good governance for sustainable development.

38. Franco, E. L., & Shahrokh, T. (2015). The Changing Tides of Volunteering in Development: Discourse, Knowledge and Practice. IDS Bulletin, 46(5), 1-10.

In comparison, mentoring of the volunteers has been useful for the developmental programs as well. The recruitment of mentors for the volunteers requires considerable resources as well and the volunteering schemes utilized these resources to the full extent to augment the development process. The study conducted by the Bureau of Labor Statistics in 2016 revealed that the rate of youth volunteering in United States has been declining since 2006 and it kept on declining until 2015. For the declining rate of youth volunteerism in the past 5 years approximately; there is a need as well to recruit the mentors for the retention of youth volunteers.[39]

Micro Volunteerism and Online Volunteerism

As a solution to the problem of decreasing number of youth volunteerism highlighted in the section above, 'micro-volunteerism' in combination with 'online/digital volunteerism' has gained increased prominence.

The concept of micro-volunteerism is introduced for the ease and flexibility of those youth volunteers who want to contribute as a useful member of the society in the development process. The concept of micro-volunteerism is still emerging but it is generally defined as "…volunteering actions that can be completed in short, discrete periods of time'.[40] Apart from the common agreement on the basic definition, there are some common features of micro-volunteerism that have been highlighted including:

- **Duration** – It involves small increments of time.
- **Access** – It is easy to get started and take action. An individual should be able to identify the micro-volunteering opportunity and start without having to go through a complicated recruitment process or initial training.
- **Immediacy** – It is quick to start and complete, and requires minimal planning.
- **Convenience** – Volunteers decide when and where.
- **Level of Formality** – No formal agreement between the organisation and the volunteer is needed.
- **Frequency** – It can be one-off or repeated.
- **Activity** – It involves discrete actions.[41]

39. Raposa, E. B., Dietz, N., & Rhodes, J. E. (2017). Trends in Volunteer Mentoring in the United States: Analysis of a Decade of Census Survey Data. American Journal of Community Psychology, 59(1-2), 1-9.

40. Jochum & Paylor, 2013:4.

41. Browne et al, 2013.

Moreover, according to Steggles,[42] the common characteristics found in micro-volunteer activities are:

- Mission-related
- Discrete and/or small
- Non-hierarchical
- Of the moment—typically doesn't require application, screening or training period
- Synchronized mass mobilization
- Takes only minutes or a few hours to complete
- Does not require an ongoing commitment by the volunteer—generally a one-time event

Although micro volunteerism can take the form of physical interaction, it is now more widely used as another name for "virtual/digital volunteering" or "online volunteering." One of the major reasons behind this observation is that young volunteers across the world have been utilizing possibilities offered by the new digital tools, powered by tablets, computers and smartphones in enabling remote, flexible and convenient forms of participation. Subsequently, micro-volunteering is often defined, either implicitly or explicitly, as existing exclusively through internet-connected devices and/or as a new form of volunteering that is distinct from 'traditional' types.[43] Hence, now micro-volunteerism has been used in the context of various current phenomena such as "digital engagement" and virtual/online/digital volunteering, which both have digital tools as a central focus.

For instance, the South Australian Education Department defines "digital engagement" as "providing opportunities for using information and communication technologies, such as the internet, as means of making connection within and beyond a community.[44] Whereas 'Virtual volunteering' is referred as volunteer tasks completed, in whole or in part, via the internet and a home or work computer.[45] Moreover the UNV Online Volunteering service defines online (virtual) volunteers as "people, who commit their time and skills over the internet, freely and without financial considerations, for the benefit of society".[46]

42. Steggles, A (2013), 'The Changing Face of Volunteerism', White Paper, Higher Logic.

43. Jochum & Paylor, 2013:4.

44. Volunteering Qld, 2012.

45. Ellis & Cravens, 2000:11.

46.Wallace, T., Bhattacharjee, S., Chao, M., Devereux, P., El-Kholy, H., & Hacker, E.(2015). STATE OF THE WORLD'S VOLUNTEERISM REPORT: TRANSFORMING GOVERNANCE. New York: United Nations Volunteers (UNV) programme.

The constraints that these young volunteers may encounter could include their busy routine or prior pressing commitments; thus micro-volunteerism is designed to overcome these issues by dividing the task into small activities allocated to certain small groups and these activities can be performed in the free time without being overburdened.[47]

Micro-volunteerism is initiated and has also been studied as one of the most convenient forms of helping the helpers in the development process. The aim of micro/online volunteerism is to retain the maximum number of youth volunteers without overloading them and to keep them dedicated to the process as volunteerism is unpaid and unrewarded. The only key to retaining youth volunteers is to keep them motivated and dedicated about the job that they are doing. Similarly, the use of internet, social media networking and the mobile has contributed a lot for the youth volunteers in micro/online volunteering. The technology has brought with it the ease of quick and safe communication of issues and ideas. The youth volunteerism "movement" is using this modern technology to be more efficient and effective; also it allows more people to know about the developmental process through social media. This concept also helped the volunteers to gain practical and field experience along with online support and management. It has enabled them to be more dynamic and enthusiastic. Micro-volunteering can assist the NGOs and the volunteers simultaneously and help retain the volunteers for better performance and commitment.

The following tools are often used by young volunteers for digital volunteerism:[48]

- **Crowdsourcing:** This consists of collecting information from the public through internet and/or mobile technology in order to produce collaborative content, to which anyone can contribute. A variant, crowdmapping, geographically places crowd sourced data on a map. Volunteers have been utilizing these technologies quite actively to contribute in public service delivery (particularly in health and disaster management sectors), as well as to entice citizens' participation.
- **Social Networking:** This allows users to connect and communicate with friends and other contacts to discuss interests, ideas, events and activities. Social networking websites like Facebook and Twitter have been popularly used by volunteers to

47. Bernstein, M., Bright, M., Cutrell, E., Dow, S., Gerber, E., Jain, A., et al. (2013).Micro-volunteering: Helping the Helpers in Development. Conference on Computer Supported Cooperative Work Companion (pp. 1-4). San Antonio, Texas, USA: ACM.

48. Awan, O, Amin, M & Kirkby, K, (2013), ' Introduction to e-Governance', in 'e-Governance in Small States' (ed), Ming, A, Awan, O & Somani, N, London: Commonwealth Publications.

mobilize citizens for social and human rights' causes; e.g. in Arab Spring.

- **Online Communities:** These are types of social networks that are maintained through the practice of membership of the participants who share common interests. Online communities often take the shape of chat-rooms, forums or conversation threads to exchange ideas.
- **Blogging:** This is primarily the maintenance of an online space by individuals with regular entries offering commentary, details about various events, and/or other content such as graphics or video. This provides an opportunity for the exchange of ideas between bloggers and visitors.
- **Mobile Technology:** This is often characterized by communication enabled via mobile phones through voice call, short message service (SMS), multimedia messaging service (MMS) and access to the Internet.
- **TV/Radio:** Despite innovations in the available ICTs tools, TV and radio remain popular among volunteers to reach communities. This is specifically the case as these technologies enjoy high penetration in rural communities.

Technology also enables the volunteers to organize the process and activities by involving more people as it focuses on crowdsourcing and accompany the nonprofit organizations and also the people to ensure the transparency and accountability of the system for good governance. The online activities require management skills to manage the tasks and their time duration; execution and the issue of multitasking can also be resolved easily through the online volunteerism and open several many opportunities to augment the development process.[49]

Similarly, the micro/online volunteering tools have more benefits in terms of organizational and management issues. As discussed above, the modern technological tools and ideas are intended to relax the volunteers and enable more youth to participate in the process and speed it up. The developed countries are working successfully with improved good governance through small but effective youth volunteerism activities. The micro/online volunteering activities are assisting the projects in not just developed but the now the developing countries as well. The implementation of transparent and accountable system is empowering the

49. Ibarra, F., Korovina, O., Baez, M., Casati, F., Marchese, M., Carnuzzi, L., et al. (2016). Tools Enabling Online Contributions by Older Adults. IEEE Internet Computing, 20(5), 1-9.

civil societies and the public and making the development process more sustainable.

There are many examples that are using successful youth online/micro volunteerism through modern technological tools and have been able to empower their system and the people through this system. The countries through transparent and accountable systems by micro/online youth volunteerism are experiencing prominent change in the overall attitude and perception of the people and the government. The effective and efficient delivery of service by the government to the citizens is ensured through the youth micro/online volunteers. The issues of transparency and accountability are resolved within these countries implementing these activities and the public is empowered through updated information.[50] Next chapter will detail case studies and examples in this regard.

Conclusion

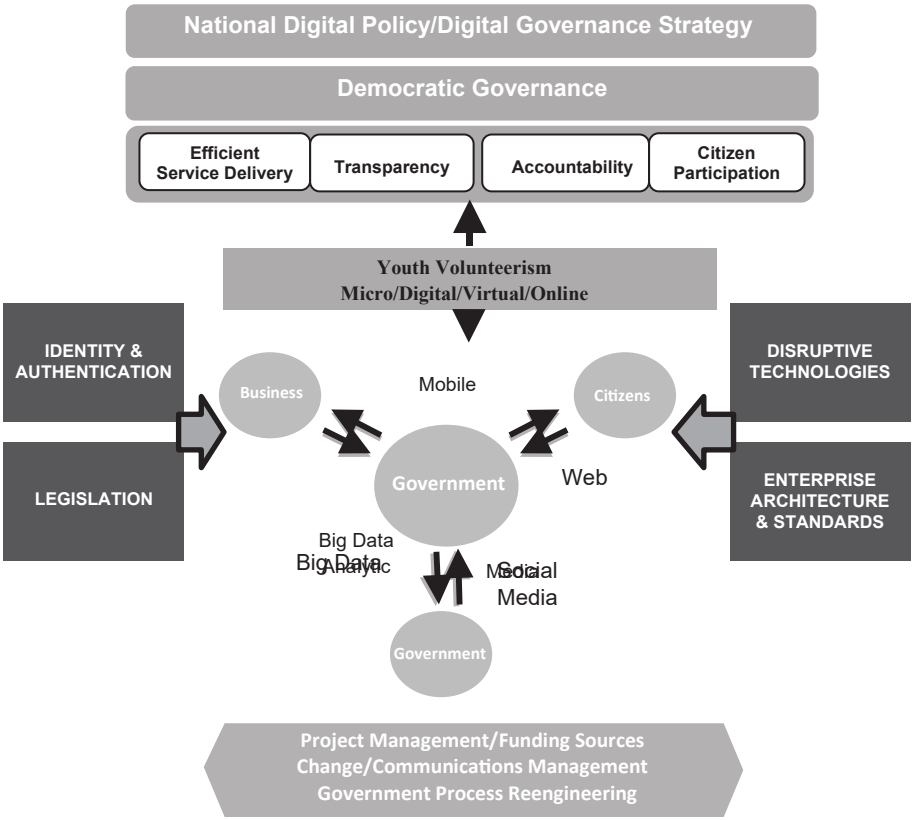
In conclusion, there are many countries and regions that are implementing online/micro youth volunteering which is enabling these countries to empower the young people and also the people and the government itself. The micro/online volunteering is successful and has an optimistic future ahead. There are many volunteering schemes that will help these countries to accelerate the sustainable development process. The micro/online youth volunteering is helping the people in diverse sectors including education, employment, social awareness and capacity building.

50. Wallace, T., Bhattacharjee, S., Chao, M., Devereux, P., El-Kholy, H., & Hacker, E.(2015). STATE OF THE WORLD'S VOLUNTEERISM REPORT: TRANSFORMING GOVERNANCE. New York: United Nations Volunteers (UNV) programme.

Chapter 3 – Linking Micro/Virtual Youth Volunteerism with the Digital Governance Framework

A Compilation of International Case Studies

Micro/Virtual/Digital volunteerism has changed the world of youth volunteerism as discussed in the last chapter. Young volunteers, being the generation of digital era are fully utilizing the potential of micro-volunteering through the use of available digital tools to ensure democratic governance in general and improving public service delivery, enhancing transparency and accountability in government actions and are giving a voice to citizens in particular.



That is why a component of "youth volunteerism" has been included in the digital governance framework which is explained in the first chapter. Young volunteers through the use of micro/digital tools can contribute (as well as link governments and stakeholders) to achieve targeted goals of democratic governance.

Youth volunteers through the use of digital tools for micro-volunteerism can play two key roles[51]:

- **Partnership Role:** Young volunteers have been using digital tools to work as the valuable partners of governments and assist them in ensuring democratic governance. Through digital volunteerism, young volunteers are contributing in the fields of health, education, disaster management etc. Moreover, they are quietly but efficiently bridging the gap between the government and its stakeholders.
- **Public Watchdogs:** As impartial and independent actors in the eco-system of digital governance, young volunteers across the world have come up with various innovative digital solutions whereby they are not only acting as watchdogs and keeping any eye on government transparency and accountability processes through portals, blogs, mobile SMS etc., but they are also providing virtual platforms for citizens to raise their voice and influence the government's policy making process. All these attributes are vital for any successful digital governance intervention.

Case Studies: Digital Volunteerism and Digital Governance

Following is a compilation of case studies whereby young volunteers have been using digital volunteerism as a tool to contribute towards strengthening the pillars of democratic governance, i.e. transparency & accountability, citizens' participation and service delivery.

Transparency

Digital Volunteerism and Transparency in Elections

This section will highlight case studies and examples where young volunteers have used ICTs to enable e-Democracy by contributing to the transparency in democratic transition through transparent elections.

51. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany

African Election Project (Regional and Multiple Partners' Initiative)

Pioneered by an enthusiastic volunteer Osiakwan with his team, The African Elections Project is a regional initiative with dedicated spaces to country specific platform.[52] Formed in 2008, the vision of the project is to enhance the ability of journalists, citizen journalists and the news media to provide more timely and relevant election information and knowledge while undertaking monitoring of specific and important aspects of governance (www.africanelections.org).

The initiative involves 10 volunteers, who work 10 hours per week during regular days and full time during election days. Their salient activities include training senior editors, journalists and reporters, SMS application in coverage and monitoring, development and dissemination of "Election Guide for the Media;" and running an Information and Knowledge Online Portal and other knowledge products (that include early warning systems) to facilitate media monitoring. The funds generated by partners and SMS generated revenue is focused on marketing and promoting technical platforms in the area of media monitoring and content management systems.

Impact/Achievement[53]

- The team has developed a Content Management System (CMS) – that includes an elections portal and Results Manager – for presentation of results graphically, through tables and maps. They have also developed an SMS System for news production process, news broadcast and elections' observation. Their other key products include a comprehensive Media Monitoring System and the production of education al video content.
- African Election Project has contributed to voter education and has created awareness about the electoral process. It has also ensured accountability by the electoral management bodies by making them stakeholders. Information about political parties, manifestos and campaign promises has invariably helped stakeholders and voters to make informed decisions.
- The Project has Africa wide coverage with dedicated country based web portals in 11 countries (www.africanelections.org):

52. Kaonga, v (2010b), 'The Ujima Project', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/ujima-project (accessed 01.12.2017).
53. Kaonga, v (2010b), 'The Ujima Project', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/ujima-project (accessed 01.12.2017).

i. Ghana: www.africanelections.org/ghana
ii. Mauritania: www.africanelections.org/mauritania
iii. Malawi: www.africanelections.org/malawi
iv. Mozambique: www.africanelections.org/mozambique
v. Namibia: www.africanelections.org/namibia
vi. Botswana: www.africanelections.org/botswana
vii. Togo: www.africanelections.org/togo
viii. Guinea: www.africanelctions.org/guinea
ix. Niger: www.africanelections.org/niger
x. Cote d'Ivoire: www.africanelections.org/cotedivoire
xi. Liberia: http://www.africanelections.org/liberia

- 100,000 visitors on Africa Elections Projects portal where majority of the audience is from Europe and North America and diaspora of covered countries.
- Volunteers working continuously on raising awareness about democracy and election monitoring in African region through blogging.[54]

Ushahidi (Global)[55]

Ushahidi is a path breaking crowd-sourced reporting tool first developed to track post-election violence in Kenya in 2007. Ushahidi has sparked a wave of election monitoring projects that utilize the tool, both in Africa and in other regions. The crowd-sourced reporting tool has also been deployed in Togo, and for the 2011 elections in Liberia. (Gronlund et al, 2010).

Following is an example of the use of Ushahidi in election monitoring.

Sudan Vote Meter (SVM)[56]

Sudan Vote Monitor was based on the conventional CSOs and volunteer based model of Ushahidi backed election monitoring initiatives of India and Ghana. It was a collaborative effort of Sudan Institute for Research and Policy (SIRP) and Sudan based organization, Asmaa Society for Development, in collaboration with other Sudanese civil society organizations. Fareed Zain (Head of SIRP) and his young team were among the key volunteers who dedicated their time and efforts to set up the Sudan Vote Meter website. Their initial budget was around $72,000. The final funding they received was under $50,000, which was spent on hosting, technical aspects and other logistical expenses such as travel etc.

54. http://africanelections.blogspot.com.
55. Gronlund, A, Heacock, R, Sasaki,D, Hellström, J & Al-Saqaf, W (2010), 'Increasing transparency and fighting corruption through ICT empowering people and communities, SPIDER ICT4D Series No. 3 | 2010, Stockholm: Universitetsservice US-AB,
56. Heacock, R (2010),'Sudan Voter Meter', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/sudan-vote-monitor (accessed 01.12.2017)

Certified election observers and volunteers throughout the country were deployed to report using standard paper forms. These reports were then collated and uploaded to Sudan Vote Monitor by designated members. Additionally, observers equipped with mobile phones were able to send reports directly using the SMS short codes setup by the project. The bulk of the reporting, however, was done by average citizens and volunteers throughout the country using SMS, and online via the project website. This was one of the project's biggest successes since this was the first time where technology was applied in reporting by citizens and civil societies in Sudan.

Impact/Outcomes[57]

- The site received a total of 564 reports from observers and volunteer citizens from 419 locations, covering 26 reporting categories.
- The team developed a comprehensive set of election monitoring categories, some of which are unique to Sudan. These could be utilized for future campaigns.
- SVM helped establish and utilize an SMS short code service through collaboration with Zain Telecom of Sudan and Clickatell (an international Bulk SMS Gateway provider). This service can be utilized for future events.
- The project gave participating Sudanese CSOs first-hand experience with SMS and web based reporting, and the possibilities it had too offer. Work was completed in close and full consultation with local partner organizations.
- SudanVoteMonitor.com gained wide recognition through a Sudanese-led, recognizable brand name. The site gained recognition despite inaccessibility for 2 days during the election period as a result of external interference.
- SIRP acquired substantial knowledge of ICTs landscape and technical capabilities in Sudan, where impressive levels of talent and skill bode well for future collaboration efforts.
- SVM established a wide network of global organizations focused on supporting the democratic transformation process in Sudan through collaboration with Sudanese CSOs.
- Most of the project's goals were accomplished efficiently using very limited resources, especially due to the high level commitment exhibited by both technical and on field volunteers.

57. Heacock, R (2010),'Sudan Voter Meter', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/sudan-vote-monitor (accessed 01.12.2017)

VoteBD – Shujan (Individuals/Citizens/National)

VoteBD is an excellent ICTs web-based platform for election monitoring from Shujan- a volunteer citizens' group of Bangladesh that tracks, compiles and disseminates information about politicians and electoral candidates in Bangladesh. Shujan – Shushanar Janniya Nagorik – made its debut in 2002 as an initiative of a group of concerned volunteer citizens of Bangladesh with the purpose of promoting democracy, decentralisation, electoral reforms, clean politics and accountable governance. Based on funds from volunteers' own pockets, this non-partisan pressure group provides an effective platform for people to discover their voices and be heard. Shujan has already achieved solid successes in its priority areas.[58]

The website was the first in Bangladesh to make voter registration records accessible to citizens, so they could check the presence or absence of their names, as well as any errors in the listing. This enabled citizens to take necessary steps to ensure that their names and correct details were entered in the list, thereby making them eligible to cast their vote in various elections.[59] This comprehensive list of information includes election information, candidate data analysis, laws and rules, voter information, political groups, all election results, reports of political parties, candidate profiles and discussion groups.[60] The VoteBD website has a dynamic module where these candidate profiles are entered and converted into a simple comparative format so that an ordinary citizen can immediately gauge which candidate is the more suitable one.[61]

Impact/Achievements

- The strong democratic governance initiatives of Shujan were featured in the 26 December 2006 issue of Time Magazine.
- In the General Elections of 2008. The volunteers tracked and collected information on candidates for 299 seats (information from affidavits, tax returns, etc.) and published them in a consolidated form on VoteBD website. This information is also disseminated offline to various constituencies.
- There were a lot of complaints regarding the voter list as they were not properly updated. In 2007, the website developed a database and uploaded the entire list with 75 million names onto the VoteBD website to increase transparency in the voter list. It was the first initiative of this nature in Bangladesh.

58. www.shujan.org.
59. Ray, A, (2010), 'Vote BD', The Technology for Transparency Network ,
60. www.votebd.org.
61. Ray, A, (2010), 'Vote BD', The Technology for Transparency Network ,

- It is claimed that there is growing awareness due to the updated information about information of candidates. There have even been court rulings, which are resulting in candidatures being rejected on the basis of non-disclosure of relevant information. Revealing the data about candidates has become institutionalized, creating an environment conducive for citizens to make informed decisions when they cast their votes.
- VoteBD by Shujan also received formal recognition in 2008 by winning the ManthanAwards in Delhi.[62]

Golos – Russia (National and Individuals)

Golos, (http://www.golosinfo.org) founded on July 5th 2013, is another path breaking movement for protecting voter rights by volunteer citizens of the Russian Federations. The movement was backed by active participants of Association "GOLOS", which since the year 2000 has been active in civil monitoring of elections all over the country, and whose activity was stopped due to unprecedented pressure. Golos has stated goals including:

- Helping citizens enforce their voter rights, in particular, their right to control the elections and referendums;
- Helping development of Russian elections and referendums as the highest direct expression of the people's power;
- Helping development of a democratic rule of law society in Russia by raising the level of transparency, openness and lawfulness of elections of bodies of state government and local governments;
- Consolidating civil forces on the basis of the goal to conduct elections and referendums in strict accordance with the law.

One of the key features of Golos is its use of technology known as 'SMS-CIK'. It is a service of civil parallel vote count as a response to numerous counts of rewriting polling station protocols at the parliamentary elections of 2011 and was first tested at the presidential elections of 2012. "SMS-CIK" allows observers to quickly convey the information from the final protocol to the service right after receiving a copy. Text messages are processed in real time and information on the results of voting at a polling station become available on the website (www.sms-cik.org) before members of the election committee give the protocol to the territorial election committee. The service "SMS-CIK" is meant to fight the so-called "night falsification," i.e. rewriting of protocols on the way to the territorial committee and in the territorial committee. Observers in territorial

62. Ray, A, (2010), 'Vote BD', The Technology for Transparency Network ,

committees can monitor information from the service and compare numbers with the committees that arrive.

Impact/Achievements

- The service "SMS-CIK" was successfully used in over 150 election campaigns such as in Moscow Mayor Elections on September 8th, 2013, where information from the service was presented in a joint project of the observer alliance, "People's Election Committee" on TV Rain and in Novaya Gazeta.
- There are 92 thousand precinct committees with 916 thousand members. However, no opportunity existed to analyze their structure and activity as these committees were formed for a short term for specific elections. However, the Golos movement by citizens has created a nationwide database of election committees called "WikiUIKi" (www.wikiuiki.org) with the goal of raising transparency and openness in the work of election committees. It offers tools to collect public information on election committees and eases communication between citizens who are interested in fair elections. For the first time in Russia's modern history, the citizens have an opportunity, in the course of the five-year term of precinct election committees — through the federal elections of 2016 and 2018 — to record the quality of committees work, collect and publish public information about their members, precinct territories, polling station addresses and results of elections.

Digital Volunteerism as a Watchdog for Government's Transparency & Accountability

This section will explore examples and case studies where digital volunteerism enabled innovative initiatives have allowed volunteers to keep a check on governments to ensure transparency and accountability.

The Ujima Project (Global & Regional)[63]

The Ujima Project was a unique initiative launched by four volunteer journalists, Ron Nixon, Sally Stapelton, Steve Miller and Mark Horvitz in 2009. Based on the idea of creating an investigative reporting resource for journalists, The Ujima Project, named after a Kiswahili word for "collective responsibility," aimed at promoting transparency by opening up various public information datasets to enable a deeper understanding of policy, expose corruption and/or shed light on various governmental and NGO

63. Kaonga, v (2010b), 'The Ujima Project', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/ujima-project (accessed 01.12.2017).

expenditures. It is an investigative reporting resource for journalists. Since very few developing countries have freedom of information laws, getting information about international aid and money coming in their countries and information about spending of these funds is very limited.[64] The Ujima Project was envisaged to develop a collection of databases, documents and other information regarding governments, amount and sources of funding. It is an initiative that attempts to bring transparency to the workings and spending of governments, multinational non-governmental organizations and business enterprise in countries, starting from Africa.[65]

The four volunteers mentioned above compiled and collected online data from US and European governmental databases, including data about USAID spending, lobbyists hired by foreign governments and organizations to influence US foreign policy, information on health spending by the Global Fund and also included data from the UK Department for International Development and the African Development Bank.

The Ujima Project's goal is to help make this information available to citizens, particularly journalists in Africa.[66] The unique revolutionary idea of this initiative was that the governments' records on aid, budget and expenditure should be open and easily accessible. Categorized as "reverse transparency," the idea is an ideal example of e-volunteering that can lead to less corruption, a robust civil society and good governance.

By creating a database about international aid and funding, the project also aimed at highlighting lobbying and contracting around aid world. Categorized as the "…new era of document-and database-driven journalism," the information would assist activists and citizens fighting for honest and open government with evidence in their hands.

Some of the key outcomes and outputs of the Ujima Project are listed below:

- Kenyan Press hailed the Ujima Project as an anti-corruption tool, that lets people see what their governments do with their money.
- By 2010, 40 journalists in South Africa and Rwanda were trained about using the site as it was initially launched in these countries.
- If successful in sustaining the initiative, the Ujima Project has the potential to be replicated for countries in Eastern Europe, the Caribbean, South America, Latin America and Asia.[67]

64. IsiAfrica (2010), 'Ujima Project', Available at http://isiafrica.net/ujima-project/ (Accessed 30.11.2017).

65. IsiAfrica (2010), 'Ujima Project', Available at http://isiafrica.net/ujima-project/ (Accessed 30.11.2017).

66. Kaonga, v (2010b), 'The Ujima Project', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/ujima-project (accessed 01.12.2017).

67. Kaonga, v (2010b), 'The Ujima Project', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/ujima-project (accessed 01.12.2017).

Social Cops – India – Technology Volunteerism Taking Lead for Public Services

Pioneered by 3 young Indian volunteer technologists, Varun Banka, Harjoben Singh and Prukalpa Sankar, The Social Cops mobile phone application provides voice to citizens in soling public service issues ranging from fixing street lights and road safety measures to garbage collection. The application uses crowd sourced data for different projects, presents a simple, effective platform for volunteers to upload information, pictures, locations and descriptions.[68] The volunteers in the local communities (who work as per their own convenience), act as human sensors. They contribute by gathering information, crowd sourcing and sending the data to relevant government departments.

The impacts of this application include:

A third party contractor is responsible to pick up the garbage every day in Delhi. Before the launch of this app, it was claimed that 100% garbage was collected. Through the SMS service, local volunteer residents started reporting "red" (not collected), "yellow" (partially collected), and "green" (collected) reports for their bins. The gathered data was sent to the government as information to consult the third party contractor. As a result, the pick-up rate increased from as little as 26% (roughly 150,000 people) to 98% in one ward.[69]

In another initiative, volunteers collected data on streetlights and the aggregated data was presented to the mayor, who then allocated resources (around Rs. 20 million) to install new streetlights within two months.[70]

The Social Cop is still active in India and the number of volunteers who are participating in raising voice and highlighting public service issues are growing day by day.

Fair Play Alliance – Slovakia (National, Individual Volunteer)

Fair Play Alliance is a courageous initiative launched in 2002 by an individual volunteer, a former journalist, Zuzana Wienk who identified a lack of necessary laws, access to information and political will in Slovakia. Since then the goals of the initiative have been to:

68. Daftuar, S., (2014), 'From Complainers to Cops', The Hindu Times, 23 April 2014.Available at http://www.thehindu.com/features/metroplus/society/from-complainers-to-cops/article5940444.ece (Accessed 30.11. 2017).

69. Schiller, B., (2014), 'Using Citizens as Human Sensors to Improve Public Services', Fast Company & Inc. Available at https://www.fastcompany.com/40447437/will-virtual-reality-solve-your-conference-calls-night mares (Accessed 30.11. 2017).

70. The Times of India (2014), 'With data from grassroots, young guns expose govt's failures'. Available at https://timesofindia.indiatimes.com/city/delhi/With-data-from-grassroots-young-guns-expose-govts-failures/articleshow/34170160.cms (Accessed 30.11. 2017).

- Increase transparency of public affairs through publishing a huge searchable database containing all possible data flows of public money to private hands and personal background of public administration and political representation.
- Monitor and investigate leading to the public disclosure of concrete cases with the potential to create pressure on politicians and highlight serious problems that later on can serve as a start to public debates over systematic changes.
- Advocacy, campaigning and education or spreading of our know-how.[71]

By creating a special database, "datasnet" for politicians to submit their full financial reports and a dedicated ICT platform (i.e. http://www.fair-play.sk/), the team successfully monitored the expenditure of political parties before the parliamentary elections in 2002. This helped to detect corruption cases in defense of the right to information in the control of public procurement and the judiciary in monitoring and publishing of open data.

The web portal consists of a range of projects and activities including the information about money in politics, public contracts, grants, politicians' assets and liabilities, and dozens of other information about the management of Slovakia etc.

Impact/Achievements[72]

- In 2009, the founder volunteer journalist was nominated for US Secretary of State's International Woman of Courage Award.
- The websites have stirred public debate to create legitimacy for certain public requests (e.g. for a new law or for new standards on asset disclosure). They serve as important campaign tools (e.g. for on-line petitions); they help to activate, spread the news and build pressure that have later turned to legal steps (e.g. a request to EU to stop funding a certain project or the resignation of a minister or the initiation of criminal charges or legal initiatives).
- It led to the disclosure of a couple of cases of illegal or unethical financing of political parties. As a result, the laws on the financing of political parties as well as public procurement have been revised.

71. Gornicki, J (2010), 'Fair Play Alliance', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/fair-play-alliance (accessed 01.12.2017).

72. Gornicki, J (2010), 'Fair Play Alliance', The Technology for Transparency Network, Available at http://transparency.globalvoicesonline.org/project/fair-play-alliance (accessed 01.12.2017).

MorsiMeter – Volunteers-led Accountability[73]

Two local Egyptian young volunteers, Amr Sobhy and Abbas Adel came up with a digital initiative to make their government accountable for its commitments. Their product was, "MorsiMeter," a website that monitored the performance of the then elected Egyptian President, Mohamed Morsi by documenting his actual achievements in contrast to his campaign promises. These volunteers aimed to hold President Morsi accountable for his ambitious pledges in the areas of sanitation, security, food, fuel and traffic.

The performance of Morsi's first 100 days in government exhibited that 10 out of the 64 promises had been achieved in entirety. Interactive surveys further revealed that 39% people showed their satisfaction with the way Morsi was handling the affairs of the state.

The initiative has won various awards for accountability including World Summit Youth Award 2012.[74] The initiative was however, halted after the removal of Morsi from the government. It is still, however considered a model among volunteers-led technological initiatives to hold governments accountable.

Adote um Vereador – Brazil & A Quiénes Elegimos – Paraguay

This is yet another innovative intervention to hold politicians accountable in Brazil. Under this initiative, local volunteers report on the public life and activities of an "adopted' politician." They document his/her performance through various social media tools, such as blogs and Twitter This initiative is purely run by local volunteers with no involvement of the government.

Milton Jung, a renowned journalist appealed through his radio show, requesting citizens to write blogs aimed at monitoring the activities of the local alderman in the 2008 elections. By doing so, he hoped that the 8 million voters in Sao Paulo would have more control and influence over the work of the 55 elected aldermen.

Second local volunteer, Everton Zanella in 2009 created a wiki to list "adopt an alderman" bloggers and raise awareness about their work. The site, Adote um Vereador, is now maintained by a huge number of volunteers who had contributed 278 articles at last count.[75] It contains: 1) information about the individuals who created blogs to hold aldermen

73. (MorsiMeter, 2012).

74. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany.

75. Ribeiro, M, M (2010), 'Adote Um Veredor', Open Society Institute. Available at http://transparency.globalvoicesonline.org/project/adote-um-vereador (Accessed 30.11. 2017).

accountable; 2) a map of the 32 cities with "adopt an alderman" bloggers; 3) a step-by-step guide showing how citizens can become involved; 4) information about the responsibilities of aldermen and related news from Brazilian media.

In Paraguay a similar intervention, A Quiénes Elegimos (http://www.aquieneselegimos.org.py), offers information on political proposals and elected representatives in order to track the fulfillment of their election promises. The purpose of this initiative is to keep politicians accountable throughout their tenure.

Guatemala Visible- One Stop Initiative to ensure accountability & Transparency[76]

A group of young local volunteers in Guatemala formed "Guatemala Visible," an informative platform aggregating updates on the selection processes of the courts, the General Prosecutor, the Accountant General, the Public Defender and the Guatemalan Ombudsman (Avila, 2010). The initiative is operated and maintained by an estimated 60 volunteers who provide information. Donations are sought to keep the intervention alive. The purpose of Guatemala Visible is projected, "…to get citizens to open their eyes, watch the processes, and denounce corrupt officials." The intervention is credited with unveiling a secretive process whereby only politicians had access to certain information, and positions were granted without public scrutiny, ascertained by political affiliations rather than merit.[77]

Through this volunteer project, anyone can contribute with the goals of seeking transparency and strengthening the legislative institutions and its representatives. Moreover, it also helps to enhance citizen participation and their role as monitors of public officials and legislative activity. It gives citizens an informative and participatory platform where they can access neutral, non-partisan information and contribute as well.[78]

Digital Volunteerism and Civic Engagement and Access to Information to the Citizens

Participation of citizens often known as civic engagement is a key ingredient for democratic governance. This section will provide an overview of a few examples where volunteers have provided ICT enabled platforms to citizens for their participation and active engagement.

76. Avila, R (2010), 'Guatemala Visible', Open Society Institute. Available at http://transparency.globalvoicesonline.org/project/guatemala-visible (Accessed30.11. 2017).

77. Avila, R (2010), 'Guatemala Visible', Open Society Institute. Available at http://transparency.globalvoicesonline.org/project/guatemala-visible (Accessed30.11. 2017).

78. (http://guatemalavisible.net/).

CrowdVoice (Regional & Global)

The initiative was initially launched by young volunteers in Middle East during the Arab Spring as a regional platform to crowd source protests against governments. It has now become a global volunteers' based ICT tool to create a global voice.

CrowdVoice.org is a user-powered service that tracks voices of protest from around the world by crowdsourcing information where users create topics for current causes and demonstrations and use news, blogs, videos, photos and social media to generate content and raise their collective voice. It continues to raise awareness, especially about the many issues that go unnoticed by amplifying the citizens' voices. It also helps to quicken and organize the dissemination of assorted information and current news.

The electronic tool (i.e. www.crowdvoice.org) has 4 stages:

- **Amplify** – The electronic platform works to highlight, chronicle and share the world's most-deserving, yet under-reported stories as told by citizens etc.
- **Curate** – The platform archives and organizes a collection of crowd sourced videos, photos and reports complemented by mainstream media reports.
- **Educate** – Using interactive infographics, CrowdVoice works to break-down, source and contextualize the world's global movements in the most digestible way possible.
- **Engage** – Social media integration connects users, activists and organizations and initiates a dialogue about various issues.

Impact/Achievements

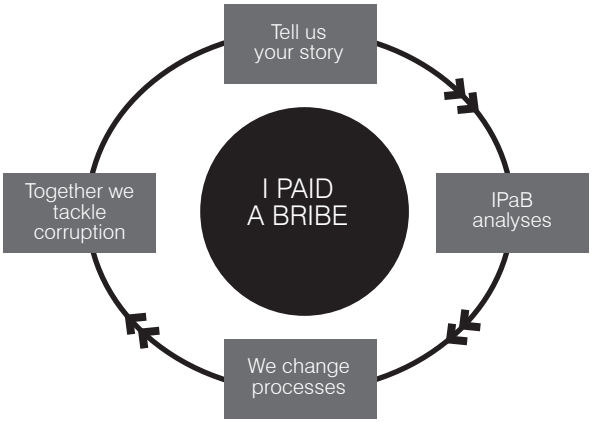
- Thousands of visitors frequented the site during Egyptian and Tunisian protests as well as the Syrian civil war. Visitors especially helped to curate content, including videos and photos from local sources.
- During the blackout of Libyan protests where journalists from the mainstream news outlets relied on YouTube videos and photos from local sources to accompany their reports, CrowdVoice served as an immensely useful tool.
- During the media blackout during Bahrain protests where journalists were not allowed near the protest areas, foreign journalists were not allowed into the country and bloggers were

arrested and interrogated; CrowdVoice collected an endless amount of resources that were then used by The Guardian, the LA Times and UN Dispatch.

- **Global Coverage**: Currently, activists across the world are covering national, regional and international protests against governments covering countries like Russia, China, Kenya, Australia, Mexico and Vietnam.

I Paid a Bribe- India (National Voluntary Effort against Corruption)[79]

I Paid a Bribe is another path-breaking ICT based civic engagement initiative and an exemplary partnership of NGO and citizens. The web portal was the brainwave of Ramesh and Swati Ramanathan, to volunteer founders of a not-for-profit organisation in Bangalore called Janaagraha which literally means "people power". Based on the voluntary contributions of citizens (in terms of their personal experiences related to bribery) and with the goal 'to build a snapshot of corruption scenario in India", the web portal encourages people not to put up with official abuse of power and to report their stories of bribery to "uncover the market price of corruption." People can report when they paid a bribe, when they didn't and when they were or weren't asked to pay one by submitting their story through a form, blogging about it or even posting a video. The reports posted on the website are aggregated and analysed. These analyses expose the more corrupt departments, loopholes used by officials to demand bribes, situations in which bribes are demanded and so on. After identifying situations and processes susceptible to corruption, Janaagraha approaches the departments and the government for action. Following flow chart explains the concept of the initiative.



79. Singh, M (2010), 'I Paid A Bribe: An Endeavor in India', Global Voices, 14 September 2010, Also Available at http://globalvoicesonline.org/2010/09/14/i-paid-a-bribe-an-endeavor-in-india/ (Accessed 30.11. 2017).

Impact/Achievements

- As per the website www.ipaidabribe.com , 147157 reports of bribes worth more than 28 billion Indian Rupees have been reported from across 1071 cities of India.

Slum TV – Youth Volunteers' led Community Based Organization in Kenya Slum TV Kenya is a very interesting youth volunteers' led initiative that highlights the importance of traditional digital tools like television. Three young volunteers from the Nairobi's' second largest slum called Mathare developed the innovate concept of 'Slum TV' to give youth of slums a voice and opportunity to redefine the image of slum dwellers.

Later, 15 more young volunteers became members of the initiative and then provided training to youngsters in the concerned community on subjects such as film-making, photography and blogging etc. The purpose of training was to develop skills among the young people so that they were in a position to use essential media tools in order to highlight their stories. Each month members gathered to decide the focus themes of their work and worked to develop stories that could be showcased in a public space with in Mathare. The initiative attracted an audience of nearly 500 people every month.

After the Kenya's post-election violence in 2007-2008, these young volunteers brought to light, the police brutality towards bystanders. It received a large amount of media attention and it was shown by the BBC and Aljazeera.[80] These volunteers through Slum TV were also able to highlight peace loving and helpful communities during the days of violence and political crisis in Kenya.

Digital Volunteerism & Public Service Delivery[81]

Virtual and digital volunteering are also assisting young volunteers across the world in the following two ways.

i) Partnering with governments to provide digital public services to communities.

ii) Developing their unique initiatives to provide public services to the communities.

Awan (2015) includes some interesting case studies in this regard.

MEDIC Initiative- Malawi (Awan, 2015)[82]

Two independent projects - Mobiles in Malawi, (using mobile technology

80. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany
81. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany
82. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany

for heath reports), and Mobilize MRS, (creating electronic medical records) - were merged together to form Frontline SMS: Medic at St. Gabriel's Hospital in rural Malawi. This initiative is a joined effort of two professional local volunteers Josh, Isaac, and International volunteer Nadim Mahmud (a Stanford medical student) who co-founded Frontline SMS: Medic. The hospital serves 250,000 people, spread throughout a catchment area of 100 miles in radius.[83]

The systems would have been of no use until 75 local community volunteers such as subsistence farmers chipped in as "Community Health Workers" and started using the technology in two ways which included patients' tracking and sending reports to the hospital through mobile technologies and structured data collection of patients.[84] The volunteers used this technology to communicate, coordinate patient care, and provide diagnostics. The overall role of local volunteers includes:

- Requests for Remote Patient Care - Volunteers text the hospital staff when immediate care is needed, and the Home-Based Care mobile unit subsequently visits the patient.
- Checking Drug Dosages - Volunteers in the field are provided with basic drug supplies (e.g. Panadol, Ferrous Sulfate, eye ointments etc.) for primary care. The CHWs now check drug dosages and uses within seconds. When Frontline SMS receives a text message with a drug name, it automatically responds to the health worker with that drug's information.
- Patients Update - Volunteers regularly update the hospital staff with regards to patient status, including reporting patient deaths. These messages have created a post-discharge connection to patients' well-being.
- Volunteer - Volunteer Communication and Group Mobilization to increase coordination activities.

Impact[85]

Volunteers' use of mobile technology helped in the following ways:

- It saved hospital staff 1200 hours of follow-up time in six months and over $3,000 in motorbike fuel.
- The capacity of the tuberculosis treatment program was doubled (up to 200 patients) where 100 patients started tuberculosis treatment after their symptoms were noticed by volunteers once they were reported by text messages.

83.Frontline SMS Medic, 2010.

84. Mahmud et al 2010.

85. Mahmud et al 2010.

- The volunteers' use of the SMS network brought the Home-Based Care unit to the homes of 130 patients who would not have otherwise received care.
- Volunteers' texting saved 21 antiretroviral therapy (ART) monitors 900 hours of travel time, eliminating the need to hand deliver paper reports.

Volunteers & ICT-Based Birth Registration in Kosovo[86]

According to a report, 8.3% of households in Kosovo fail to register at least one of their children (up to the age of 18), which deprives these children of the necessary health care and education facilities and protection from violence, trafficking and exploitation. However, the biggest challenge was that the Official Public Registrars in Kosovo do not currently have the resources to collect information despite of this technological solution. A method was therefore required that would allow for the easy, quick and paperless reporting of a child's birth. To tackle this issue, UNICEF and Government of Kosovo joined hands to create a Rapid SMS platform which is connected through an SMS gateway to the SMS center of a mobile operator, which will traffic all registration-based SMS to civil registration offices of the government so they could incorporate registration into databases. Local community volunteers were considered as ideal resource for the project as they can dedicate their time with the use of their mobile technology to identify unregistered children. In terms of specific role of volunteers in this e-governance initiative, volunteers have the task of identifying unregistered children. They visit the families living in remote rural areas or areas with minority groups as the most likely targeted families with unregistered children. Once an unregistered child is identified, volunteers send a notification via SMS to the civil registration office. Through the use of SMS based technology, the volunteers turn out to be a key factor in removing the geographical and logistical barriers and apart from being quick and accurate they also identify and alert authorities of an unregistered child.

Since its inception in 2012 until May 2013, 40 volunteers visited 25 municipalities which included 301 different locations where 658 families were identified with 1188 un-registered children. Volunteers then sent their notifications to the civil registration office.

86. Awan, O (2015), 'e-Governance & Volunteerism- A Fact Sheet', SWVR 2015, UNV: Germany

Volunteers & Disaster Management - A Revolution in ICTs Based Governance

Disaster management is one of the key public service areas for any government and the importance of ICTs in any disaster/crisis situation is well recognized. However, since 2010, volunteers have utilized micro-volunteerism to such an extent that a new paradigm of ICT-based governance of disaster management has emerged with the introduction of a new batch of volunteers working in 'Volunteer Technology Communities' (VTCs). This new path-breaking form of volunteerism involves 'technical experts—who are most often professionals with expertise in geographic information systems, database management, social media, and/or online campaigns. They then, apply their skills to some of the hardest elements of the disaster risk management process'.[87]

With the use of Web 2.0 technology, these volunteers worked inside communities such like Open Street Map and Ushahidi and thousands of volunteers responded to earthquakes in Haiti, Chile and during flood in Pakistan. Volunteers processed imagery, created detailed maps, and geo-located posts made by the affected population to a myriad of channels in social media, hence revolutionizing the governance of disaster situations.[88]

According to Global Facility for Disaster Reduction and Recover (GFDRR, 2011), there are following key Virtual Technological Communities that have been utilizing ICTs in governance of disaster situations.

Mapping Collaborations

International Network of Crisis Mappers is an informal group of mapping international professional volunteer. Their expertise is to establish the operational use of maps in times of crisis. The 'Crisis Mappers Network' was launched in October 2009 at the first International Conference on Crisis Mapping in Cleveland, Ohio (GFDDR,2011). During the Haiti Earthquake in 2011, volunteer-run crisis mapping ecosystems were used as the central mechanism for coordinating imagery and mapping activities.[89] It assisted the relief organizations to identify the locations with more urgent relief requirements through the use of web-based

87. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.
88. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.
89. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.

applications, participatory maps and crowd sourced event data.[90] During the Haiti disaster members shared latest aerial and satellite imagery, contributed their professional and technical expertise, and committed thousands of hours of volunteer labour. They processed over 9 Terabytes (TB) of raw imagery, integrated Open Street Map data with data from the UN's Virtual On-Site Operations Coordination Centre (OSSOC), and created workflows for machine translation of data. If someone requested help from the network; within less than an hour assistance would be offered. Thousands of emails, tweets, blog posts, and Skype chats directly helped facilitate the humanitarian response on the ground.[91]

Open Street Map (OSM) is an online application that allows international as well as local volunteers to collaborate on geographical data and download that data. It is often called the "Wikipedia of Maps". OSM was launched in 2004 as citizens thought that data from the UK Ordnance Survey was costly and came with restrictions on use. Citizens started collecting data through surveys with GPS units and OSM was born. Since then, OSM has evolved into a large community.[92] International Volunteers working in Haiti recovery work have achieved an unimaginable role of developing a street map of Haiti from scratch in only two weeks, where anticipated time to do a project with similar objectives should have taken about a year.[93] Soon after the earthquake, OSM contributors began tracing road information from pre-earthquake satellite imagery and within 24 hours, imagery providers began releasing raw imagery. Within the first month, information from 600 global volunteers, added information to the raw imagery and created geographic outputs like files for loading onto GPS units, various online maps etc. This information was also used by search and rescue teams, the UN, The World Bank and Pan American Health Organization to provide direct assistance.

The Global Earth Observation - Catastrophe Assessment Network (GEO-CAN) is a group of hundreds of international volunteer engineers and scientists who became an integral foundation developing damage assessment of Haiti earthquake through high resolution imagery.[94] The initiative is a collaborative effort of The World Bank, Global Facility for Disaster Reduction and Recovery. 'GEO-CAN quickly grew to over 600 international volunteers representing 131 private and academic institutions in 23 different countries. It was through these international understandings

90. Chan, J., C., (2012), 'The Role of Social Media in Crisis Preparedness, Response and Recovery', France: OECD.
91. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.
92. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.
93. Chan, J., C., (2012), 'The Role of Social Media in Crisis Preparedness, Response and Recovery', France: OECD.
94.GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.

and the dedication of time and resources by GEO-CAN affiliates that a comprehensive and scientifically rigorous damage assessment was achieved via this VTC.

Google Map Maker - It is an initiative launched by Google in May 2008 where volunteers provide a unique challenge to maps and local information to users in countries where there has never been any detailed digital map. It allows people to collaboratively create maps using different mapping tools. In Cyclone Nargis, Myanmar, where data accessibility was limited, 40 volunteers mapped 100,000 km of roads and 3,000 points of interest in just four days.[95]

Online and On-Site Contribution and Collaboration

Ushahidi is an open-source crowd sourcing crisis information platform, easily deployable to suit local needs. In the Haiti Earthquake (2010), volunteers used Ushahidi Haiti to crowd source data from people through social media tools and mobile text messages, which provided the basis for support coordination efforts for the humanitarian relief services (Chan, 2012). Ushahidi was deployed in the first two hours following the January 12 Haiti earthquake by Ushahidi, Inc.'s director of crisis mapping and strategic partnerships. The crisis-mapping team was formed of only regional volunteers from Fletcher School of Law and Diplomacy at Tufts University combed and through social media sources, including Twitter, Facebook, and blogs, and traditional media sources to identify relevant points of action on ground. Later, due to an outstanding collaborative effort between the volunteer team at Fletcher, FrontlineSMS, the U.S. State Department and Digicel, a system was set up that allowed people in Haiti to submit alerts directly through text message (SMS) using their mobile phones. Reports could be sent for free to the number 4636. Average 1000-2000 SMS were received which were later translated and they were sent through the internet to the Ushahidi-Haiti platform. As a result of this effort, 4636 project volunteers translated 25,186 SMS messages and numerous e-mail, web, and social media communications, resulting in 3,596 reports that were actionable and included enough relevant information to be mapped on Ushahidi. These reports were being used by organizations such as the U.S. Federal Emergency Management Agency (FEMA), UNOCHA, and the U.S. Agency for International Development, Marine Corps, on U.S. military and Coast Guard to expedite the speed of providing direct assistance exponentially.[96]

95. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.

96. Heinzelman , J & Waters, C (2011), 'Crowd Sourcing Crisis Information in Disaster Affected Haiti' Washington:USIP

Crisis Commons is an international network of professionals drawn together by a call to service. Members aggregate during crisis camps in different cities around the world and work collaboratively on online information sharing tools. Volunteers worked together to build tools, search and translate data and solve unique challenges brought forth by the crisis.[97] The first crisis camp was held in Washington D.C. as an open forum for an interdisciplinary group of international volunteers. Majority of them were practitioners. Since then, over 50 events have been held in direct response to earthquakes in Haiti, Chile and during floods in Pakistan, as well as during Gulf Coast oil spill.[98]

In Haiti, international volunteers came off with projects like

- A software solution to expand long distance Wi-Fi connectivity;
- Development of the first Kreyol mobile translation application;
- Establishment an online social network to connect the Haitian diaspora.[99]

97. Chan, J., C., (2012), 'The Role of Social Media in Crisis Preparedness, Response and Recovery', France: OECD.
98. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.
99. GFDRR (2011), 'Volunteer Technology Communities- Open Development', Washington: GFDRR.

Chapter 4 – Digital Governance in Pakistan: Overview of Federal and Provincial Governments' Initiatives

Digital tools have become key enablers for sustainable economic development and good governance in a given country. Implementation of comprehensive and collaborative digital policies and programs can play a pivotal role in achieving sustainable governance targets under national development agendas.

In Pakistan, a big step in this direction was the introduction of 3G and 4G/LTE technologies in 2014, serving as a bedrock for modernization of ICTs in the country.

Ever since, the traditional flow of information has increasingly changed having a huge impact on the relationship between citizens and the government. This digital revolution is now considered the fourth industrial revolution which is evolving at an exponential pace and transforming the entire system of governance and development in Pakistan. The launch of mobile broadband 3G/4G has turned out to be a game changer in terms of increasing access to the internet. Within a span of almost four years, 43 million subscribers have joined the world of mobile broadband in addition to the almost 139 million mobile subscribers.[100]

Government of Pakistan is a firm believer that sustainable and well-designed digital roadmap and related systematic and coherent development tools are key enablers for sustainable economic development and effective governance in Pakistan. The direction has been set in Pakistan's Vision 2025 road map whereby the Pakistani government has demonstrated its commitment to revolutionizing ICTs usage across the country. In particular, it aims to complete Pakistan's transition to a knowledge-based economy through innovation, education and value addition, while promoting efficient, sustainable and effective ICTs initiatives through the development of both industrial and academic resources.

Government of Pakistan has recently taken a leap towards the agenda of digital development by launching its 'Digital Pakistan' policy that is based on 'synergistic' and 'system approach.' Based on 17 comprehensive but focused pillars, the gist of the policy is based on creating a '…holistic digital system' with an aim to move away from piece-meal approach to a holistic technology strategy more focused on ICTs as a broad enabler of every sector of socio-economic development and governance.

100. PTA (2017), 'Annual Report'.

The cornerstone of the policy is its focus on 'digital inclusion' as an extensive, collaborative and nationwide effort to bridge the digital divide that exists between urban and rural areas. Governance agenda is of top priority so that the benefits of internet and digital technologies can be utilized to increase efficiency in public services, to enhance transparency & accountability and more importantly to encourage and increase citizen's participation. All of these attributes are vital for ensuring democratic governance. Various such initiatives in the area of digital health, digital education and digital participation are already operational, both at the federal and provincial levels.

Following is a sample of case studies whereby federal and provincial governments are utilizing digital tools for ensuring efficient public service delivery. transparency, accountability & citizens' participation/feedback.

A Compilation of Case Studies

Public Service Delivery

Benazir Income Support Programme[101]

Category: Public Services/Transparency- Social Security Programme

Launched/Implemented: Implemented

Background

Pakistan faced a serious need of an effective, long lasting and comprehensive social security program in a scenario of rapid food price inflation which saw food, grain and fuel prices reaching a 30-year high in 2008. Moreover, the global economic downturn in 2009 further decreased the welfare of the already vulnerable households.

To tackle this high priority need, Benazir Income Support Programme (BISP) and the National Cash Transfer Programme (NCTP) were launched in July 2008. The Benazir Income Support Program (BISP), a targeted unconditional cash transfer initiative was implemented by focusing on poor women with an immediate objective of providing means for consumption as well as to provide cushion to deal with the negative effects of slow economic growth.

BISP has a nationwide presence with headquarters in the Federal Capital Islamabad. There are 33 divisional offices and 385 Tehsil offices all across the country.

101. BISP (2017), 'Benazir Income Support Programme', Government of Pakistan. Available at www. http://bisp.gov.pk.

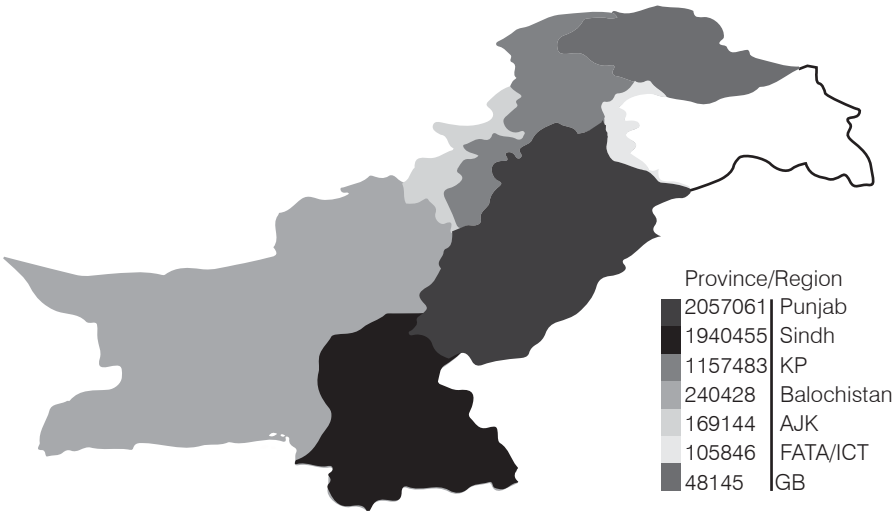
Objectives

- Enhance financial capacity of poor people and their dependent family members.
- Formulate and implement comprehensive policies and programmes to uplift the underprivileged and vulnerable people.
- Reduce poverty and promote equitable distribution of wealth especially for the low income groups.

Innovation/Use of Technology

The magnitude of disbursement of this unconditional cash transfer program in Pakistan was so gigantic that it demanded highly transparent, effective and efficient methods of disbursement. To highlight its scale, around 7.7 million eligible families were identified and as of 2016, 5.7 million families were active beneficiaries, using Poverty Scorecard method. The area wise figures show that 2.057 million beneficiaries are in Punjab, followed by 1.940 million in Sindh, 1.157 million in KP and 0.24 million in Balochistan.

Starting with the manual, Pakistan Post Money Order system, government has since adopted a series of innovative methodologies to considerably overcome the various challenges that it faced at the time of initiation. Effective use of technology has been an integral part of each of these interventions to ensure transparent and efficient disbursement of funds.



Smart Card Payment Dispersal System

Due to the intrinsic limitations of the Pakistan Post Money Order system, Smart Card payment mechanism was piloted in a few districts in 2010 as an alternative. The Benazir Smart Card (BSC) is an Automatic Teller Machine (ATM) card that allows the beneficiaries to collect their transferred installment from different franchises in the district. These franchises were authorized by BISP and provided with the required cash for payment to the beneficiary. The beneficiary was required to collect the payment personally from the franchise on identification through her CNIC. A receipt was also signed by the beneficiary.

Mobile Banking Payment Mechanism

BISP started delivering cash grants through mobile banking in December 2010 in five districts of Pakistan. Beneficiaries are provided a mobile set and a SIM card, and are informed of the availability of payment by an Interactive Voice Response (IVR) Service. The payment is then collected from a franchise using the Personal Identification Number (PIN) that is also sent via text message. The beneficiary is required to collect the payment personally from the franchise on identification through her CNIC. A receipt is also signed by the beneficiary.

Debit Card Payment Mechanism

In February 2012 BISP introduced a major changeover in its payment system, i.e. from money orders delivered by Pakistan Post to payments through Benazir Debit Cards (BDCs). This mode of payment is based on an ATM card which allows the beneficiary to withdraw payment installments through the ATM of a bank authorized by BISP. BISP transfers the funds to the bank who in turn distributes it to the beneficiaries. This is the latest mode of payment and is now being practiced in all the districts.

Biometric Verified System (BVS)

Based on the lessons learnt from the previously adopted methodologies, another user-friendly approach has been conceived, i.e. payment through biometric verification system (BVS). One of the most important measures is the change in the withdrawal instrument. In future, beneficiaries would withdraw money through biometric verification. The model is based on CNIC+BIOMETRIC+SIM CARD where POS/agents' location will use these three instruments to verify the beneficiary before disbursing the payment. After the initial pilot test, the most sophisticated and transparent model of BVS will be introduced at all touch points. The proposed model would have the following strengths:

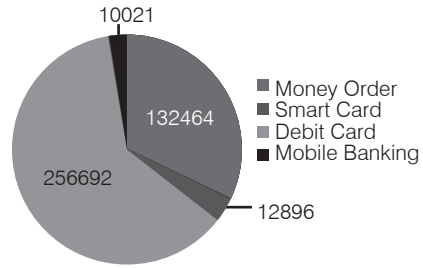
- It ensures personal presence of the beneficiary at the time of withdrawal of money contrary to the existing practice where the beneficiary herself is not the recipient of money in majority of the cases.
- Less complicated security tiers of withdrawal; only CNIC would be presented at POS by the beneficiary to verify her credentials before making payments.
- Beneficiary does not require high level of financial literacy for withdrawal of money as required for usage of debit card.
- SIM card will only be for the purpose of tagging with beneficiaries' accounts establishing direct communication linkages with the beneficiary to inform about the available balance in her account and other related communications as and when required.
- The proposed model will enhance transparency with minimum involvement of human factor as the transactions will be relying on systems, instead of human involvement.

Stakeholders: Government of Pakistan, NADRA, Telecom operators, Banks.

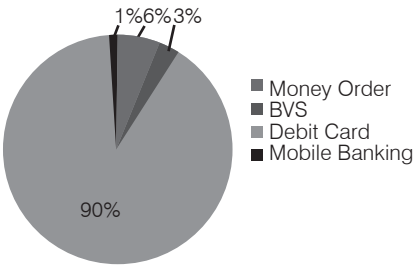
Beneficiaries: Citizens of Pakistan.

Impact:

- Rs. 412 billion have been disbursed to beneficiaries since its inception
- BISP's annual disbursement rose from 16 billion in FY 2008-09 to Rs.96.65 billion in FY 2015-16.



Total Disbursement through Different Methods -PKR Millions



Beneficiaries Using Different Methodologies

Virtual University

Category: Public Services- Access to Education

Launched/Implemented: Implemented

Background/Introduction:[102]

Virtual University, is Pakistan's first higher education institute based completely on modern Information and Communication Technologies. It was established by the government as a public sector, not-for-profit institution in 2002. To tackle the multi-dimensional barriers of access to education in Pakistan, this university was a path-breaking step to bridge the gap between tertiary education and the potential students. Using free-to-air satellite television broadcasts and the internet, the Virtual University allows students to follow its rigorous programs regardless of their physical locations. It thus, aims at alleviating the lack of capacity in the existing universities while simultaneously tackling the acute shortage of qualified professors in the country. By identifying the top instructors, regardless of their institutional affiliations, and requesting them to develop and deliver hand-crafted courses, the Virtual University aims at providing the very best courses to not only its own students but also to students of all other universities in the country.

The table below illustrates that the evolution of Virtual University over the last 14 years has been remarkable.

Important Milestones	Year
Federal charter granted by Government of Pakistan	Sep-02
Virtual University launches 2 free to air Educational Broadcast Television Channels (VUTV 1 & VUTV 2)	Mar-04
University adds 2 more channels to its Television Network (VUTV 3 & VUTV 4)	Aug-06
VU goes global - All video lecture placed on YouTube	Jun-08
Launch of a unique VU e-Examination System	Oct-08
Enrollment exceeds 50,000 students	Sep-09
Launch of VU Open Courseware website	Oct-11
VU Open Courseware website declared best website of the year	Apr-12
Deployment of VU Examination Software to NUST for conduct of Entry Test	Jun-12
Student enrollment crosses 100,000 mark	Oct-12
VU offers its educational resources to other universities free of cost	Nov-12
VU partners with University of the Punjab and Technical University Kaiserslautern, Germany to launch B.Ed. in Technical Education	Sep-14
Deployment of VU Learning Management System (VULMS) to Concordia Colleges	Sep-14

102. Virtual University Official Website, www.vu.edu.pk.

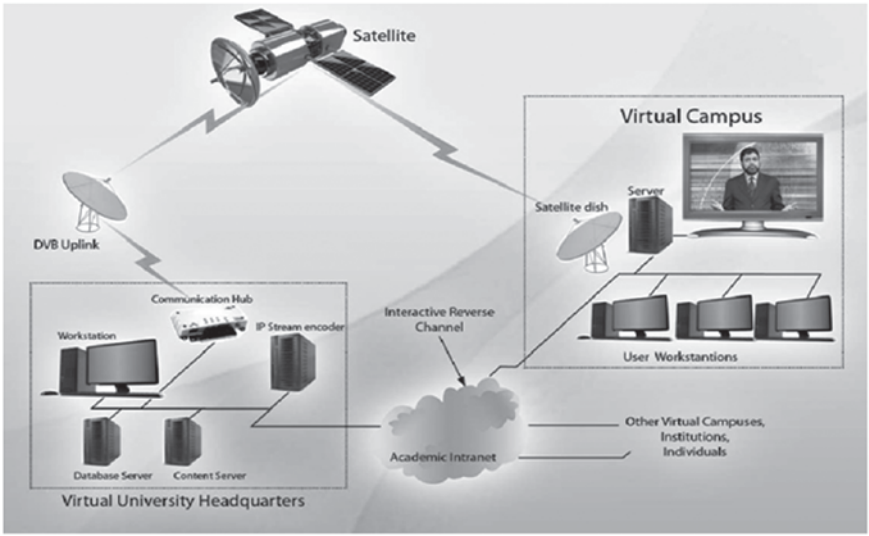
University starts Degree Programs in Life Sciences	Sep-14
Launch of VU Journal	Sep-14
Launch of Global Languages website	Nov-14
Initiation of Ph.D. Programs	Sep-15

Objectives

- To provide the highest quality of education and research opportunities to all aspiring students irrespective of their age, gender, religion, and geographical location by using modern ICTs with content developed by top experts of their respective fields.
- To train students to grow in their professional lives and inculcate an entrepreneurial mindset with high ethical and moral standards in order to become a productive part of the society.
- To provide the best working environment for faculty and staff to create a culture of research, innovation and cooperation.
- To promote the philosophy of knowledge sharing by providing free and unhindered access to all of its educational content.

Innovation/Use of Technology

The Virtual University uses a combination of video lectures, reading material, audio/video tutorials and on-line interaction (e-class rooms) for imparting knowledge.



The university's video lectures are developed by highly qualified faculty members or field experts in a complete digital environment and handcrafted at its own fully equipped recording studios. These lectures are then delivered through Virtual University's Learning Management System (VULMS) and its four free-to-air Television Channels (VTV1-4). Complete student-teacher interaction and support is provided through VULMS while semester examinations are conducted in a formal, proctored environment at designated examination centers throughout the country.[103]

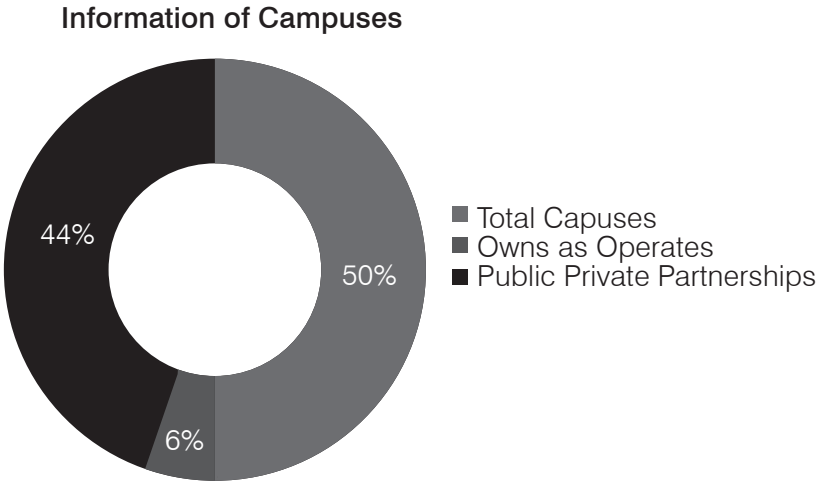
Stakeholders:

Virtual University holds a federal charter from the Government of Pakistan and gets a federal recognition from the Higher Education Commission, Pakistan.

Beneficiaries: Students and professionals who cannot get access to physical mode of education due to multiple barriers

Impact: Since its inception, VU has expanded its outreach to over one hundred cities of Pakistan, and established 206 campuses. Moreover, 182 public-private partnerships have been created. As of 2018 the overseas students' enrolment has crossed the 2000 students' milestone while overall student enrolment has crossed 125,000.

As of 2018 the overseas students' enrolment has crossed the 2000 students' milestone while overall student enrolment has crossed 125,000.[104]



103. Virtual University, 'Mode of Education', http://www.vu.edu.pk/pages/HowVuWorks.aspx.
104. SUPARCO, (2016), ' Virtual University of Pakistan', Available at http://www.suparco.gov.pk/downloadables/nsc19.pdf.

e-Sahulat Service[105]

- Category: Public Services-e-Payments
- Launched/Implemented: Implemented

Background/Introduction

Historically, citizens of Pakistan had been following traditional manual methods for processing their bills, fees and other payments while accessing various government services. It goes without saying that the manual methods were time consuming and made way for various barriers and limitations for the masses.

Due to the advent of ICTs and the exponential digital growth in Pakistan, NADRA introduced the innovative 'one-stop' platform for citizens that provided various services to the citizens of Pakistan with the help of technologies. All Electric Distribution Companies (DISCOS) of WAPDA, Karachi Electric (KE), Sui Gas Companies, Telecom Operators and most of Water and Sanitation Boards are now using the services of e-Sahulat in collection of their utility bills. Similar bill payment services through e-Sahulat are also being offered to companies which require to pay bills centrally.

The key services include:

- ✔ Bill Payments
- ✔ Money Transfer (Domestic Remittances)
- ✔ Disbursement of funds (Government e-Services)
- ✔ Citizens' Verification
- ✔ Fee Collection
- ✔ Donation Collection
- ✔ Other services

105. Nadra (2017), 'e=Sahulat Program', Available at https://e-sahulat.nadra.gov.pk/index.html.

Objectives

- To provide citizens a 'one-stop' facility to access various e-payment services.
- To facilitate citizens in processing various types of government and utility bills, fees and other payments.
- To assist government in transparent and efficient disbursement of pension and zakat funds.

Innovation/Use of Technology

In a first of its kind 'e-payment' solution, NADRA has developed its own E-Commerce platform designed to provide online payment and collection facility for the general public and organizations through various outlets. These outlets have been installed at public places through its franchise network and are connected to NADRA's National Data Warehouse through secure internet connections. High level encryption ensures protection of an individual's data being transmitted to the warehouse for verification. This system offers a convenient, low-cost alternative to bill payments and other electronic transactions while enhancing customer convenience.

The following preferences and features have been incorporated in the application to ensure transactional & system security.

- Personalized security settings for transactions as per user requirement.
- Development on ISO 8583 standards.
- Biometric & Personal Identification Number level security.
- Hopping encryption algorithm for every transaction.

Bill Payment-Key Features

- **Pay everywhere, anywhere:** Citizens have the choice of easily paying bills through the vast network of e-Sahulat.
- **24/7 availability:** e-Sahulat services are available 24/7 so citizens can pay bills at any time of the day or night, 7 days a week from all e-Sahulat franchises.
- **Guaranteed secure process:** All bill payments are fully secure and protected. Citizens receive an electronic receipt of the successful payment of their bill authenticating their transaction.

Process:

- Citizens bring their utility bill and the due cash amount to pay the utility bill at any e-Sahulat franchise.
- They ask the respective franchisee to pay utility bill using the e-Sahulat application.
- They provide the franchise with their mobile phone number (if they have one) so as to receive a confirmatory message regarding the payment of the bill. In case they do not have a mobile phone, they check for the confirmation message on the agent's mobile phone.
- Once the payment has been processed successfully, they receive an electronic receipt of the successful payment of their bill authenticating their transaction.

Branchless Banking-Domestic Remittances-Key Features

- Any person with a valid NADRA CNIC can send money or receive money.
- An instant SMS message is sent to both the sender and the receiver on sending/receiving money.
- Sending/receiving can be done from thousands of e-Sahulat outlets all over Pakistan.

Process:

Sending Money:

The sender needs to bring and provide the following for a money transfer:

- Their original and valid NADRA CNIC along with 1 Photocopy of the CNIC (Mandatory).
- Receiving person's valid NADRA CNIC Number (Mandatory).
- Their own mobile phone number (optional) and the receiver's mobile phone number(optional).
- During sending, the sender will be asked to enter a 5-digit secret pass-code on the e-Sahulat franchisee/agent's system. This pass-code should not be told to the franchise/agent and only communicated to the receiver via any type of communicational mode.
- If the mobile phone numbers of both the sender and receiver are provided, they will both receive confirmation SMS messages containing the relevant transaction information.

Receiving Money:

The receiver needs to bring and provide the following for money transfer:

- Their original and valid NADRA CNIC along with 1 Photocopy of the CNIC (Mandatory).
- They must know the Transaction ID and the 5-digit secret pass-code (communicated by the sender).

Key Stakeholders: NADRA, All Electric Distribution Companies (DISCOS) of WAPDA, Karachi Electric (KE), Sui Gas Companies, Telecom Operators and most of Water and Sanitation Boards etc.

Key Beneficiaries: Citizens of Pakistan

Impact

- With over 11,000 locations spread across the country, this project is processing on average 7 million transactions a month.
- e-Sahulat currently maintains 23% of the utility bill market share and is the largest single billing aggregator in the country.
- e-Sahulat remained the platform of choice for the Sind government for disbursement of Zakat in the remotest of areas. In the fiscal year 2013 - 14 over Rs. 800 million were distributed among the Zakat beneficiaries.
- After clearance of 81 thousand applicants (beneficiaries) from NADRA database, NADRA Tehnologies Ltd. (NTL) successfully completed biometric enrolment of 75,000 beneficiaries with the collaboration of Zakat and Usher department, Sindh.
- NTL has successfully disbursed the EOBI pension and Guzara Allowance Zakat disbursement to thousands of beneficiaries with online biometric matching to avoid the duplication of payment and more importantly with proof of life.

e-Stamping[106]

- Category: Transparency/ Public Services
- Launched/Implemented: Implemented

Background:[107]

There are two types of stamps: Judicial and non-judicial, used for collecting stamp duty under Stamp Act 1899. Judicial Stamps are used in relation to the administration of justice in courts and non-judicial stamps are used on documents related to the transfer of property, commercial agreements etc. The non-judicial stamp papers above Rs. 1,000 are

106. Punjab Board of Revenue (2016), 'e-Stamping' https://es.punjab.gov.pk/eStampCitizenPortal/ChallanFormView/HomePage#.
107. PITB (2016), 'e-Stamping' Available at https://www.pitb.gov.pk/stamping.

referred to as high-value stamp papers. These stamp papers are only issued by the treasury offices of the district. Almost 95.89% of revenue under stamp duty is collected from these high value stamps. In this manual system, issuance of high value non-judicial as well as judicial stamp papers begins with the assignment of a number, head of account on form 32-A by treasury office and deposition of stamp fee along with all the taxes through Challan Form 32-A either in the State Bank or at National Bank. The original challan after due payment is handed over to treasury officials. Scroll/Payment information is received by the treasury offices in 24 to 48 hours. The buyer or his agent receives the stamp paper after two to three days from the treasury office.

Government of Punjab with the help of Punjab Information Technology Board (PITB) has automated this over 100-years-old-system and e-stamping mechanism was introduced.

Objectives

- To prevent paper and process related fraudulent practices, leakage of government revenues and to store information in electronic form.
- To build a central database to make ease of the verification process.

Innovation & Use of Technology

The e-stamping system is online and any person desirous of purchasing high value non-judicial/judicial stamp papers can access the system by a simple internet connection. The value of stamp duty is calculated on the basis of data provided by the buyer (area of the land, location, covered area, commercial/residential etc.) and DC valuation tables built into the system. The names of the buyer, seller and the person through whom stamps are being purchased are entered into the system along with their CNIC numbers.

After online verification, the requisite Challan form 32-A is generated based on the provided data, which then is signed by the citizen and the payment is submitted. The buyer of the stamp paper can go to the nearest designated bank branches. On payment of stamp duty the bank counter prints the e-stamp certificates on a specially designed legal sized paper. This stamp paper then is submitted to the sub-registrar/ housing society/authority/ land developers, as in whatever the case may be. These authorities verify the e-Stamp paper, thereby, eliminating chances of fake stamps. After utilization of the stamp paper, the database marks a red

strike against the paper which restricts reuse of same stamp paper.

The system has also empowered the common man to verify the authenticity and value of the e-stamp paper by sending the inbuilt number through SMS on 8100.

Key Features

- Online Generation of Challan 32-A
- Pay CVT, Registration and Comparison Fee
- Calculate DC Rate
- Re-Print Challan 32-A
- Pay Deficiency and Penalty
- Verification through WEB / SMS
- Extensive Reporting
- Reconciliation with Banks

Stakeholders: Punjab Board of Revenue, PITB, Government of Punjab, Bank of Punjab.

Beneficiaries: Citizens

Impact[108]

- The service covers 36 districts and 144 tehsils of Punjab.
- The duration of receiving stamp papers has reduced from three days to fifteen minutes.
- Within 6 months of its launch:
- The e-stamping project generated more than Rs. 11 billion
- 571,740 people visited the website
- 5, 16,723 vouchers were paid
- 4, 17,963 e-Stamp papers were issued

108. Pakistan Today (2016), 'PITB's flagship e-Stamping crosses Rs11b proceeds', Available at http://www.pakistantoday.com.pk/2016/12/28/pitbs-flagship-e-stamping-crosses-rs11b-proceeds/.

KADO- Creating Livelihood Opportunities for Youth of Gilgit Baltistan[109]

Launched/Implemented: Launched

Background/Introduction

Gilgit Baltistan (GB) is one of the less accessible provinces in Pakistan. It is connected to the rest of the country by flight services and the only road link (Karakoram Highway). In addition, poor road conditions and long distance makes travelling difficult. As a result, it is difficult for products produced in GB to access the market in an effective and efficient manner. To further complicate matters, the remoteness of GB as well as constant security issues lead to limited possibilities for internet access, which isolates the inhabitants even more from the outside world. Due to these lack of opportunities and market access, people in GB continue to be marginalized.

With this as the background, Karakorum Area Development Organization (KADO) has joined hands with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to facilitate the youth of the region to minimize their miseries. KADO i-Tech project entitled as "Enhancing Employability of Marginalized Segments in GB through IT". It is being implemented with the financial assistance of the Technical and Vocational Education and Training (TVET) Reform Support Program as part of its Fund for Innovative Training (FIT) component. The TVET Reform Support Program is co-financed by the European Union, the Embassy of the Kingdom of the Netherlands and the Federal Republic of Germany and administered by GIZ.

Objectives

- To provide youth of GB region opportunities to access market and livelihood opportunities.
- Use of Technology/Innovation.

The internet has rewritten the rules of business. Gone are the days when people were required to physically go to work to gratify their financial needs. With this paradigm shift, the opportunities for people with expertise in information technology have never been greater. With thousands of jobs available on the internet, citizens can now work from home and earn a decent income. For that they just need the skills, a computer and internet connectivity.

109. KADO (2016), KADO i-Tech'.

Through this project, KADO has established modern i-Tech training centers in eight locations (including one mobile unit) in GB, with the aim to provide skill based short trainings in information technology, freelancing and alternate energy solution for youth between the age limit of 18 to 38 years and marginalized segments of the society (female, physically challenged, poor and disaster effected).

Free Skill-Based ICTs Training Programs for Online Earning include;

1. Graphics/Web Designing
2. E-Marketing (SEO/SMM, Data Entry/Digitization/E-marketing)
3. Online Resource Mobilization/Content Writing
4. Programming
5. Online Accounting and Finance
6. Forex Trading
7. Call Center
8. IT for Entrepreneurs
9. Solar Energy Solutions
10. Laptop and Desktop Repair and Maintenance

Due to the remoteness and non-availability of internet services at several locations in GB, the project is providing fast and reliable Internet connectivity to the public through satellite internet downlink (VSAT) in the centers. i-Tech training centers are powered by renewable/alternative energy sources, such as solar power and hydroelectricity and power efficient IT equipment including laptops for trainees.

By and large, the focus of the project is to uplift the economic conditions of the trainees by imparting to them the skills of making money through online activities/freelancing and through the provision of alternate energy solutions. Each of the interactive courses is taught by real world professionals and covers an array of important topics aimed to hone their skills which are in demand on the internet based job market. The trainers not only seek to strengthen the skills of the trainees, but also acquaint them with hunting real opportunities.

Trainees who successfully complete training programs are entitled to receive nationally accredited certification. KADO has made arrangements with financial institutions so that ICT trainees are provided micro level loans to enable them to purchase their own laptop and power back up (solar panel).

Beneficiaries: Citizens of GB, Specially youth

Impact

- As many as 3000 beneficiaries will be trained in various ICT courses with special focus on women, and link them with online earning opportunities to enable them to earn their livelihood by selling their skills on the internet based job market.
- To get hands on experience in the field, 100 youth will be sent to online earning companies working in down cities as "interns" for one month each with stipend to facilitate their boarding and lodging.
- Seven Business Incubation Centers will be setup with each training centers to facilitate the graduated trainees to start their earnings after the trainings.

Transparency & Accountability

Smart Monitoring of Schools

Category: Transparency & Accountability

Launched/Implemented: Implemented

Background/Introduction:

Improving access to education in Pakistan continues to remain the topmost priority for both the government and donor agencies. However, despite billions being poured into projects within the sector, the expected impact has not been achieved as the literacy rate continues to stagnate at 60%. Over the years, an understanding has evolved that lack of effective oversight plays a major part in the failure of interventions within the education sector. In order to combat this, all 4 major provinces have initiated different projects to enhance the monitoring of schools.

Punjab

In December 2010, Punjab initiated the Schools Reform Roadmap which had 10 action areas.[110] However, the most unique aspect of the roadmap was the revitalization of the Program Monitoring and Implementation Unit in order to effectively monitor the progress on reforms.

110. 'School Reform Roadmap' https://schools.punjab.gov.pk/schoolroadmap.

Sindh

In 2015, the Sindh Education and Literacy Department introduced a scheme to monitor teacher presence and school infrastructure. The scheme includes two phases. In the first, the data of the government school teachers was collected. In the second, monitors will visit schools in each district on a monthly basis.

Khyber Pakhtunkhwa

In 2013, Khyber Pakhtunkhwa established a separate Independent Monitoring Unit (IMU) for the monitoring and data collection of the schools. Monitors were hired to visit schools and collect data about the absent teachers, student-teacher ratio, missing facilities in the schools, enrolment and dropout rate of students, physical environment of schools' buildings, etc.

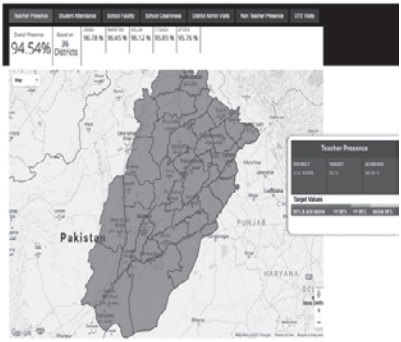
Balochistan

The Government of Balochistan introduced the Education Management Information System (EMIS) for the purpose of better planning as well as effective management of educational services across the province of Baluchistan.[111] Under EMIS, various activities are carried out which not only focus on data management but also on capacity building of education department officials and on use of EMIS for planning and management.

Use of Innovation/Technology:

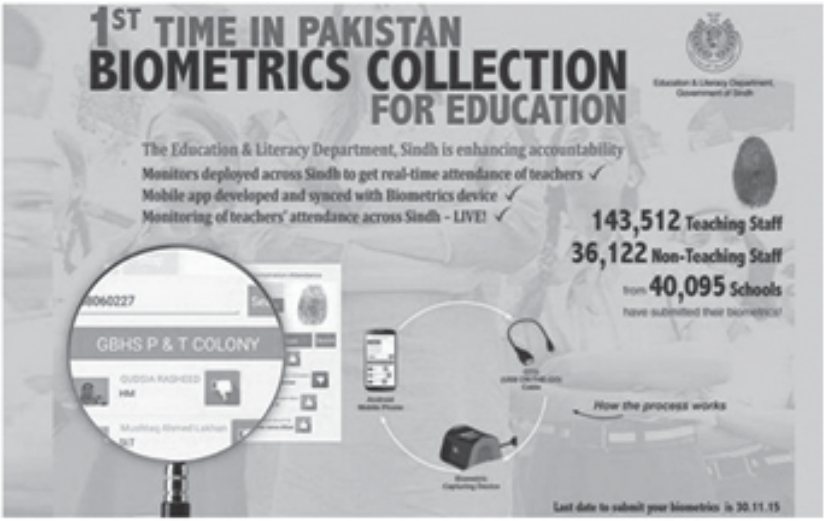
In Punjab, the unit is responsible for data collection and its analysis. The data is collected by a separate cadre of 900 District Monitoring Officers and one of the monitoring tools available with these DMOs is a tablet app. Six basic indicators, including teacher and student attendance, school facilities, cleanliness and district administration visits are fed into the app. The app also geo-tags entries with a time stamp and monitors are required to take pictures of themselves on the spot.[112] Once the data is collected, it is analyzed and uploaded on the Programme Monitoring and Implementation Unit (PMIU) website. The website provides links to heat maps, annual performances and monthly indicators. One can select any city from the heat map. The data for a city is separated on the basis of districts and tehsils. A tabular chart shows the various statistics collected and individual statistics of the various public schools listed on the website that can be viewed.

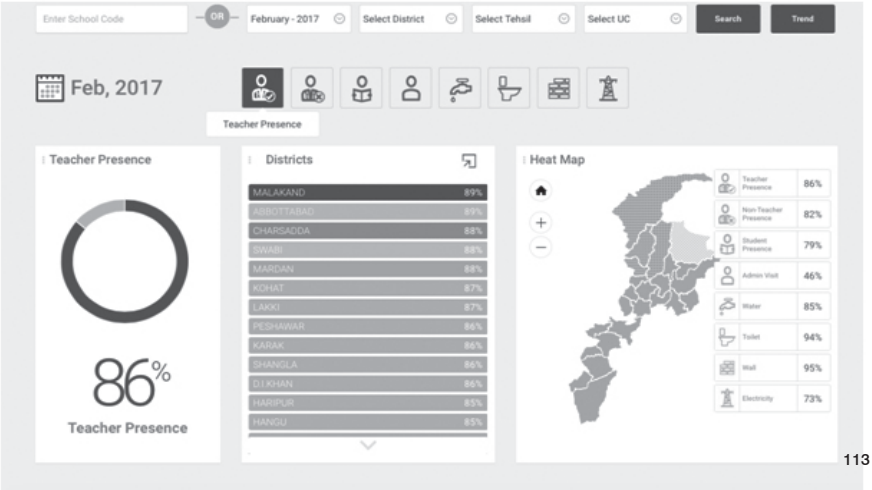
111. http://emis.gob.pk/Uploads/EMIS%20Policy-Draft%202.pdf.
112. https://www.pitb.gov.pk/schools_smart_way.



In Sindh, the biometric data of teachers was verified in the first phase. 225 monitors were appointed in April 2016 for phase 2. These monitors visit schools in 15 districts every month to check if they are open, if teachers are present, and if the facilities are available. The monitors use a fingerprint based biometric and photo system supported by GPS coordinates. The data they enter is transmitted in real time to a centralized dashboard. Moreover, an android application, "Sindh School Management System," has also been formed by the monitoring and evaluation department which is accessible to all the monitors to access data such as the number of schools, enrolments and facilities.

In KP, monitors have been hired by the Independent Monitoring Unit. They are equipped with smartphones through GPS in order to record information about each school, primary or secondary, across the province every month. Data is collected about 11 key education indicators by answering a questionnaire in a customized android application. The data is uploaded on the IMU dashboard in real-time and the access to the dashboard has been given to all district education staff and to members of the provincial education department.





113

In Baluchistan, Education Management Information System(EMIS) is easily accessible by the general public online. It not only enables citizens to map schools in a specific district of Baluchistan but also helps to find school-wise reports from each district. The school-wise reports include information such as gender ratio, total enrolment, student teacher ratio and the current functional status of the school.

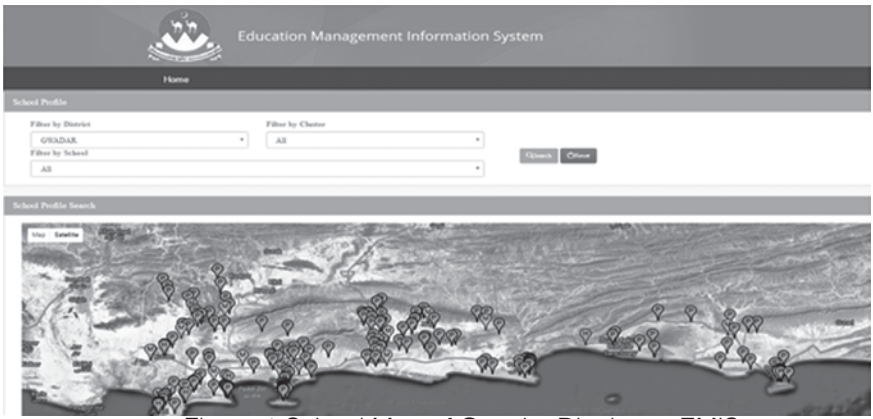
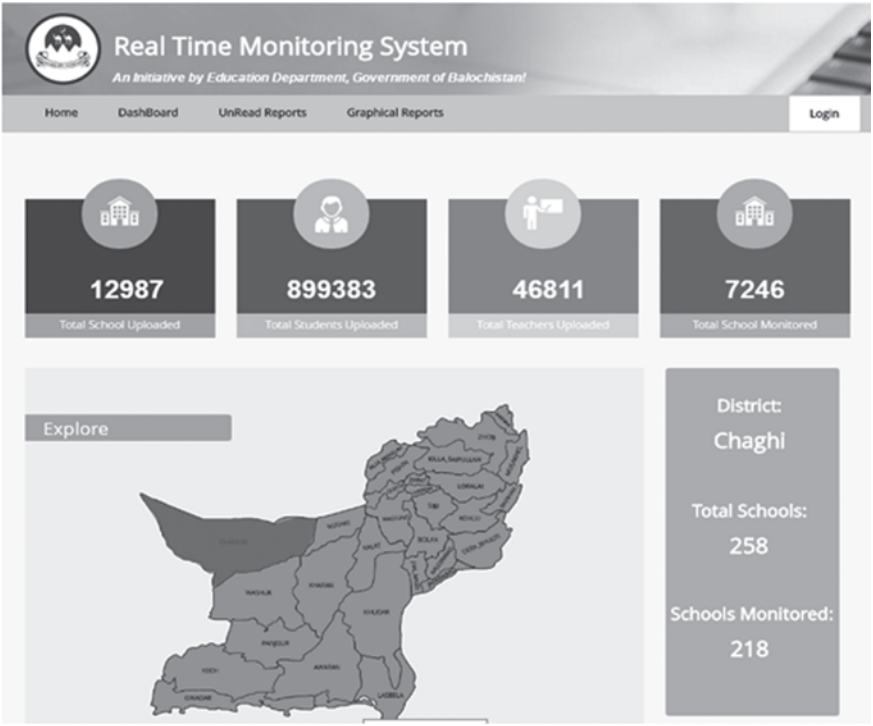


Figure 1 School Map of Gwadar District on EMIS

Moreover, under EMIS, there is the Real Time School Monitoring Initiative, which provides rapid insight into the educational inputs and outcomes to the education managers. A summary of district-wise data can be accessed by general public at the official website of EMIS.

113. http://54.84.180.194:8080/NewIMUSite/index.aspx.

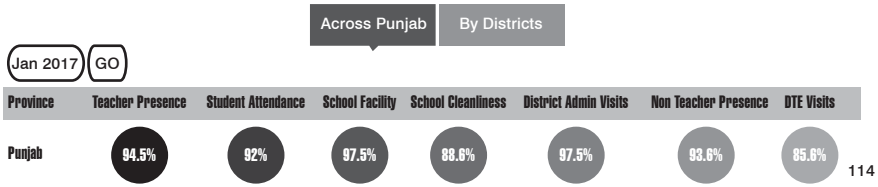


Stakeholders: Provincial Education Departments

Beneficiaries: Students

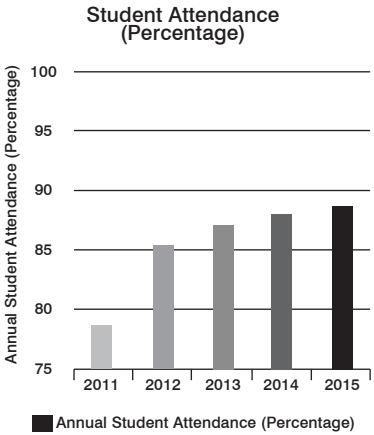
Impact:

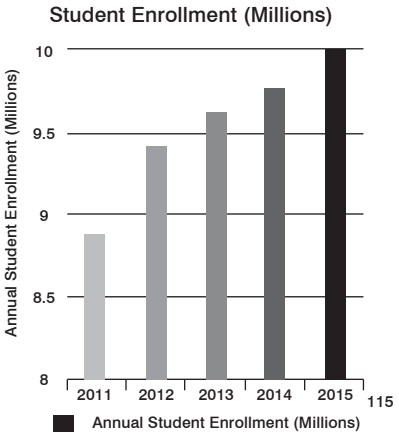
- In Punjab, progress on implementation of education sector reforms can be tracked from this data. The current status of 7 indicators can be tracked, both overall and district wise, thus, aiding policy makers in formulating targeted interventions.



114

Moreover, the monitoring system has increased student attendance and student enrollment as can be seen below. This positive trend is replicated in the other indicators as well.

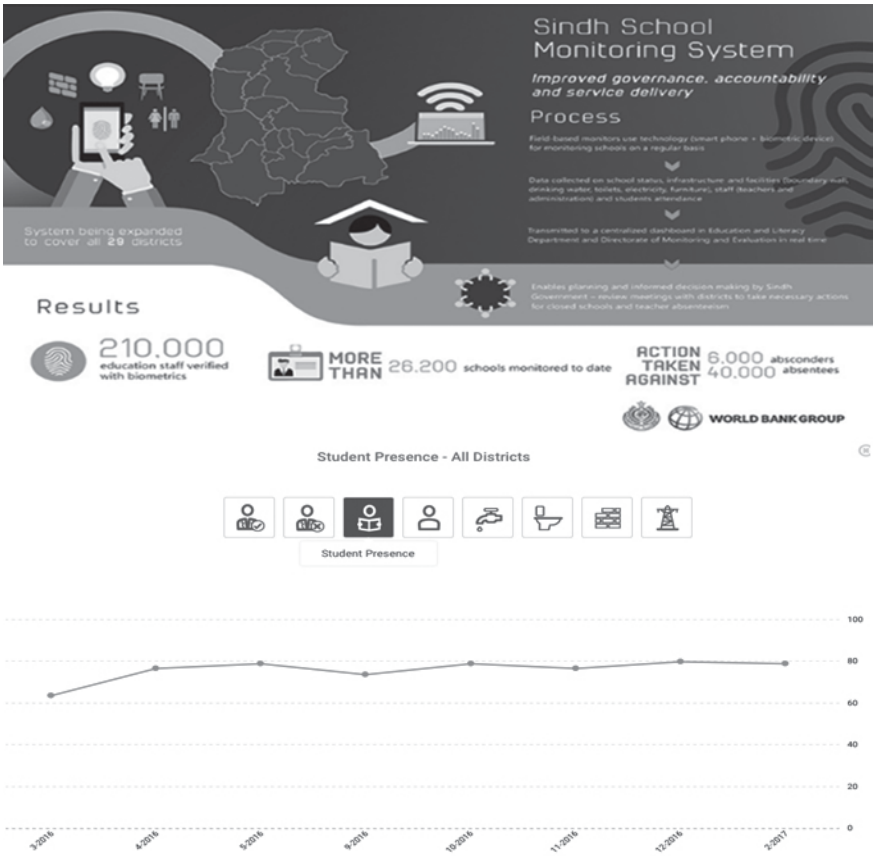




115

- In Sindh, within the first phase alone salaries for 3,000 teachers who did not show up for verification were stopped.[116] Moreover, it is estimated that to date, disciplinary action has been initiated against 40,000 absent teachers and 6,000 absconders.[117]

114. Programme Monitoring and Implementation Unit' http://open.punjab.gov.pk/schools/home/monthly_indicators
115. Programme Monitoring and Implementation Unit' http://open.punjab.gov.pk/schools/home/dashboard_home
116. Ibid http://www.dawn.com/news/1270168
117. http://www.worldbank.org/en/news/feature/2017/02/13/smart-solutions-to-improve-pakistans-education



- Within KP, positive trends can be seen within several indicators, with student presence being just one example. In the month of February 2015, it was estimated that teacher absenteeism was 16%[118] whereas in February 2017 it was estimated to be 14%. Similarly, in February 2015, it was estimated that toilet facility was not available in 11% of the schools; this decreased to 6% in February 2017. This positive trend is uniform for all the 8 indicators monitored by the Independent Monitoring Unit.

118. http://ese.kp.gov.pk/page/independentmonitoringunitimu/page_type/citizen#sthash.xAUaWXrN.dpuf.

- In Baluchistan, EMIS has equipped policymakers with the data and information needed to plan more effectively and to formulate targeted interventions, such as in the case of enrolment campaigns where EMIS is being used to identify districts in which enrollment targets are not met.

Title: Innovation In Health Monitoring
Category: Transparency & Accountability
Launched/Implemented: Implemented

Background:

Despite vigorous efforts to make health system efficient in Pakistan, it has faced various types of challenges.

In the recent year, Pakistan especially Punjab and in particular Lahore has been hit by vector-borne diseases. In 2011, Lahore witnessed the biggest epidemic of Dengue Fever in the world. Other than Dengue epidemic, the geographical boundary is often hit by flood, which results in spreading water borne diseases such as typhoid fever, cholera, leptospirosis and Hepatitis A.

Similarly, acquisition to health facilities is a basic human right yet a general perception prevails that a large segment of the Pakistanis are denied of this necessity owing to the sheer lack of monitoring and adequate check and balance on the working efficacy of the hospitals and the staff. Majority of the population both, rural and poor is unable to afford private healthcare.

In the midst of the obvious issues stated thereof; the insufficient equipment, inadequate facilitates, non-performance of the doctors, poor staff management and patient's response at the hospitals go unaccounted for.

To tackle these intrinsic challenges, health sciences over the last couple of decades have depended more and more on IT centric initiatives to consolidate citizens' information for meaningful usage and informed decision making. Government of Punjab has also taken many innovative steps to tackle these challenges.

Objectives:

- ✔ To utilize the ICTs in real time tracking of vector borne diseases such as Dengue.
- ✔ To utilize innovative ICTs in disease surveillance to ensure emergency response and preparedness by connecting the system with all the

stakeholders to respond to any alarming situation in a coordinated manner.

- ✔ To develop and offer a technology based framework for monitoring emergencies, PAEDs, OB/GYN wards in District Head Quarters (DHQs) and Tehsil Head Quarters (THQs) across Punjab.

Innovation/Use of Technology

Dengue Activity Tracking System[119]

Government of Punjab decided to proactively gear up against the spread of Dengue by taking precautionary measures to stop the prevalence of dengue carrier larvae and mosquito through anti-dengue activities. For this purpose, all departments operational under Government of Punjab joined hands to combat Dengue. Punjab IT Board (PITB) devised monitoring mechanism named as "Dengue Activity Tracking System" to log all field activities related to prevention and eradication of dengue, in real time. It was launched in March 2012 and is successfully operational till date.

The monitoring mechanism of "Dengue Activity Tracking System" is based on real time reporting on portal through GPS enabled android based mobile application. The android mobile application covers multiple activities ranging from larviciding, dengue patient tagging, OVI traps, adult mosquitos, dewatering, fishseed, debris removal, (surveillance of) graveyards, junkyards, workshops, schools, abandoned buildings, nurseries, pools and others.

Each official in the field is equipped with an android phone. These field officials take geo-tagged photographs while performing their designated tasks related to dengue surveillance. Field officials are also mandated to identify larvae breeding hotspots and remove them accordingly. Two separate photographs are submitted highlighting "before" and "after" scenarios. Data stream as submitted via android based mobile application gets plotted on Google maps in real time as the mobile application captures latitude and longitude along with photographs.

The Key Features of Initiatives are:

- Data captured on the move.
- Verification via GPS coordinates.
- Real time data entry into central server.
- Consolidated Online Dashboards, accessible by all stakeholders involved.
- Spatial-temporal analysis (SaTScan) to identify intersecting areas

119. PITB (2016)' , 'Dengue Activity Tracking System', Available at https://www.pitb.gov.pk/dats.

with dengue larvae breeding hotspots and dengue patients.

- Built in early disease detection/warning system with geographical illustrations.

Disease Surveillance System (DSS)[120]

Non availability of historical data in an organized manner represents challenge for early detection of any future outbreaks. Thus limiting the capability of government for early preparedness and emergency response. Government of Punjab with the help of PITB, has taken following measures in this regard.

- To start with, Teaching Hospitals, Tehsil Headquarters (THQs) and District Headquarters (DHQs) are manned with dedicated data entry operators, who are responsible to report cases as per the predefined templates. Each data entry operator is equipped with a laptop and internet dongle or any other means of internet connectivity.
- The data entry interface is exposed to government hospitals via secured usernames and passwords.
- Moreover disease wheels are provided to BHUs and RHCs across Punjab which is used to report disease cases via SMS.
- DSS uses SatScan and Early Aberration Reporting System (EARS) as used by the Centre of Disease Control and Prevention in United States. Targetted to ensure emergency response and preparedness, the system connects all the stakeholders to respond to any alarming situation in a coordinated manner.

Key Features:

- Case detection, case registration, case confirmation and case supervision.

120. PITB (2016), 'Disease Surveillance System (DSS)', Available at https://www.pitb.gov.pk/dss.

- Data analysis and interpretation.
- Representation on GIS Maps.
- Timely escalation and intimations.
- District/Tehsil and UC wise disease widespread trends.
- Dispersion of disease over time, space or space and time.
- Time periodic disease surveillance for early detection of disease outbreaks.

Hospital Watch[121]

In order to address the growing dissatisfaction with the existing health services and the demand for better healthcare, a mobile application "Hospital Watch," has been developed by PITB. It offers a framework for monitoring Emergencies, PAEDs, OB/GYN wards in 21 District Head Quarters (DHQs) and 101 Tehsil Head Quarters (THQs) across Punjab. The Hospital Watch application aims at providing quality healthcare to the citizens of the province.

Prime users of this application are District Coordination Officers (DCOs), Executive District Officers Health (EDOHs), Assistant Commissioners (ACs), Director General (DG) Office (Health), Medical Superintendents (MS) and the Members of Provisional Assembly (MPAs). The MS, however, has to use the application twice a day for at least 20 days in a calendar month. Whereas, EDOH has to visit each health facility in a relevant district at least once per month.

Android-Based Application

Based on the android platform, Hospital Watch mobile application has been installed on concerned officials' smartphones.

Real Time Data

The data submitted by users through Hospital Watch is recorded in real-time on the dashboard and automatically analyzed for use by managers at various levels.

121. PITB (2016), ' Hospital Watch', Available at https://www.pitb.gov.pk/hospitalwatch.

Process

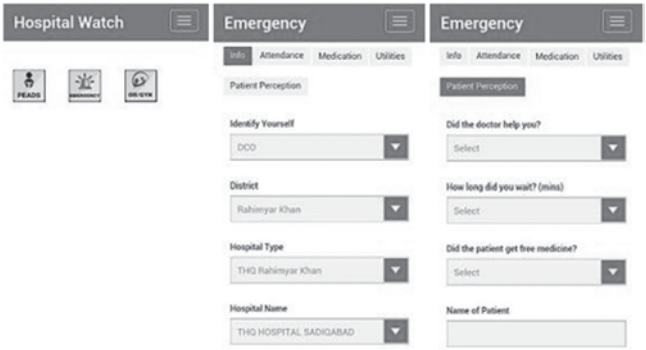
The reports can be conveniently submitted through the application in the following way:

- Fill the required fields in forms of Hospital Watch android based application.
- Submit the reports.

An internet connection is, however, necessary for report submission. In case an internet connection is not readily available, the task and data will be saved in the 'unsent' box and could be sent later as the connection retrieves.

Benefits

- Compliance of relevant/ responsible officers.
- Real time data pertaining to attendance, medication, utilities and patient's perception.
- Timely reports and responsiveness of the officers can be used as a yardstick to gauge performance for evaluation and promotion.
- It is expected that the information gathered through the application will become a powerful tool for the management of district, tehsil and central level officials.



Stakeholders: Government of Punjab, PITB

Beneficiaries: Citizens of Punjab, District Head Quarters and Tehsil Head Quarters, District Coordination Officers (DCOs), Executive District Officers Health (EDOHs), Assistant Commissioners (ACs), Director General (DG) Office (Health), Medical Superintendents (MS) and the Members of Provisional Assembly (MPAs).

Impact

- Successfully operational Punjab wide.
- Implemented the systems at Islamabad Capital Territory (ICT).
- Spanning over more than 25 departments and 36 districts of Government of Punjab.
- More than 1900 smart phones in circulation with entomologists, CDC supervisors, environment inspectors, vaccinators, and other officials.
- More than 2800 mobile users added in database.
- 39,688 HOTSPOTs (e.g. Tyre Shops, Junkyards, Graveyards, Factories etc.) added to system for weekly surveillance by four major Districts (Lahore, Rawalpindi, Sheikhupura and Faisalabad).
- 50,000 houses got geo-tagged as Patient HOTSPOTs for weekly surveillance via Dengue Tracking System.
- More than 6.0 Million anti-dengue surveillance activities via android mobiles since its launch.
- 145 Hospitals have been equipped with Data Entry Operators for patient reporting via “Dengue Patient Reporting System”.
- The Disease Surveillance System (DSS) is live in 145 government hospitals (teaching hospitals, DHQs and THQs) throughout Punjab. It involves more than 25 departments, More than 6 million patient records and 550+ users.
- The Hospital Watch application was launched on April 15, 2015

across Punjab. It generated more than 51000 activities till December 03, 2015 with an average activities received per day (223)

Hospital Management Information System at Abbas Institute of Medical Sciences, Muzaffarabad, AJK[122]

Category: Public Service & Transparency

Launched/Implemented: Launched

Background/Introduction

Hospital Management Information System (HIMS) has been proven as a successful model for efficient and effective processes of health care systems. Historically, it is difficult to efficiently handle the data and information workload manually in AIMS Hospital in Muzaffarabad, AJK. Government of AJK with the help of AJK IT Board has implemented the HMIS project and the results of which will be of immense benefit to AIMS Hospital. HMIS will assist the staff of AIMS Hospital, in managing and monitoring the complete activities of the hospital. Computerization will allow the hospital management to analyze the problems quickly and take corrective action in time. The computerization will change the nature of the work of the officers. They will be spending more time in analyzing information than on collecting and processing it.

122. AJ&K It Board (2016), Hospital Management Information System at Abbas Institute of Medical Sciences, Muzaffarabad, AJK, http://www.itb.ajk.gov.pk/hms.php

Objectives

- To fully computerize the Abbas Institute of Medical Sciences to ensure the reliability, security, quality of services and to improvement in patient treatment system and its records.
- Up-gradation/Purchase of computing/networking hardware, licensed software internet access for medical research purposes.
- To connect all the units of hospital in a network and to keep record of all the data.
- To provide research facilities to doctors.
- To facilitate managers in decision-making and to maintain online Decision Support System.
- Availability and provision of online doctor's appointments, duty schedules, OPD information to public.
- Facilitation in online clinical opinion for patients, doctors' discussion forums on various clinical issues.
- Computerization of Patient / Clinical Information System and making all Patient records online to identified users.
- HMIS will be highly beneficial for the students of medical colleges who want to research as it will provide accurate statistics about all the diseases in different demographics.

Use of Technology/Innovation

The project is located in Muzaffarabad AIMS Hospital. Under the said project the IT equipment (servers, computers, printers etc.) are provided along with the establishment of network infrastructure for connectivity of all the blocks of the hospital through fiber optics. Similarly, AIMS hospital will manage their records electronically which will be beneficial in finding the patient treatment history and administration record. The said project will address the re-engineering and automation requirements of the following main areas.

- Patient Registration
- Doctor Consultation
- Admission Discharge
- Pharmacy Management
- Laboratory Management
- Budget Management
- Accounts Management
- Stores Management
- Human Resource Management

- Store and Inventory
- Hospital Website

Potential Impact/benefit

Benefits to Management and Doctors

- Hospital staff would be able to give more attention to patients due to time saved in retrieving reports and results.
- Reduced human errors.
- Interaction between doctors and patients will improve.
- Less support & maintainability.
- Reduces professional isolation, provides collaborative consultation avenues, clinical education.
- Access patient's information from any workstation.
- Reduce wastage of time spent on most of the inquiries.

Financial Benefits

- Reduced paper work.
- Reduced costs.
- Per patient cost can be easily calculated including the cost of medicine, lab test, radiology and others.
- Based on the collected historical data forecasting can be used to prepare budget.
- Cost of management and the burden of patient's information on the institution will be reduced.

Benefits to Patient

- Quality of patients' care will improv due to close monitoring.
- Research facilities will improved and the students doing the research will be able to access the required information.
- Quality of care will increase by technology-enabled consultative decision-making data.
- Centralized data.
- More integrity of information.
- Build up historical data that aids with various decisions.
- Accuracy/reliability of data will increase.
- System will be able to generate different reports in a short time.
- Easy access of patients' history.

Citizens' Participation

Title: Right To Information Services Portal, Government of KPK

Category: Citizens' Participation/ Accountability & Transparency

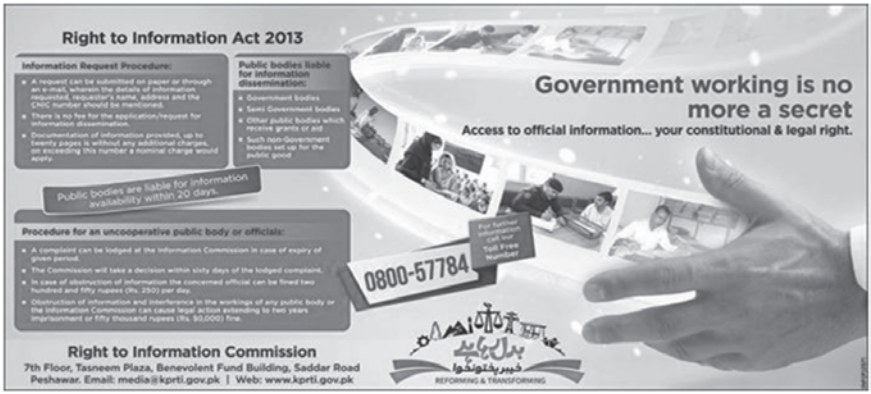
Launched/Implemented: Implemented

Background

In any democratic process, access to information is a right of every citizen. It also ensures transparency and accountability in the government processes, policies and strategies. In a path breaking effort that was acknowledged at the national and international levels, Khyber Pakhtunkhwa government aimed to address these components of democratic governance through its Right to Information (RTI) Act and related processes. The Khyber Pakhtunkhwa (KP) Right to Information Act 2013 was passed by the provincial legislature with the objective to ensure the access of citizens to information in government departments and thus, create a transparent and corruption free environment conducive for the growth of democracy.

The primary responsibility of the RTI Commission is to ensure that the request of the citizens is processed in time by the public bodies. If the citizens file any complaint against a public body, the Commission, after hearing the citizen and the public body takes a decision.

The RTI Commission is also tasked with creating awareness and to ensure that the public bodies pro-actively display their records so that the citizens seldom visit the public offices. The commission is required by law to lay before the provincial assembly an annual report regarding all the public bodies in respect of the implementation of RTI Law in the province.



Objective

- To safeguard the constitutional right of citizens to access information of public importance.
- To establish a sense of citizenship, both in the general public and public organizations, in the true spirit of democracy.
- To enable citizens to cope with the challenges of democratic culture

and its emerging issues.

Innovation/Use of Technology

A dedicated web portal has been developed and launched to facilitate citizens for the process of submitting applications with reference to the Right to Information (http://erti.kp.gov.pk/).

Citizens visit the website and follow the simple process below to submit their application.

1. Press submit RTI link and fill in all the necessary information and submit. Citizen will receive an E-mail containing a tracking number.
2. Citizen can go to track RTI link and use tracking number here to track progress.
3. Citizen concerned gets the desired information from Public Information Officer (PIO). If not satisfied you can register a compliant.

Stakeholders: Department ST & IT, Directorate of Information Technology Beneficiaries: Citizen of KP, FATA/ PATA.

Impact

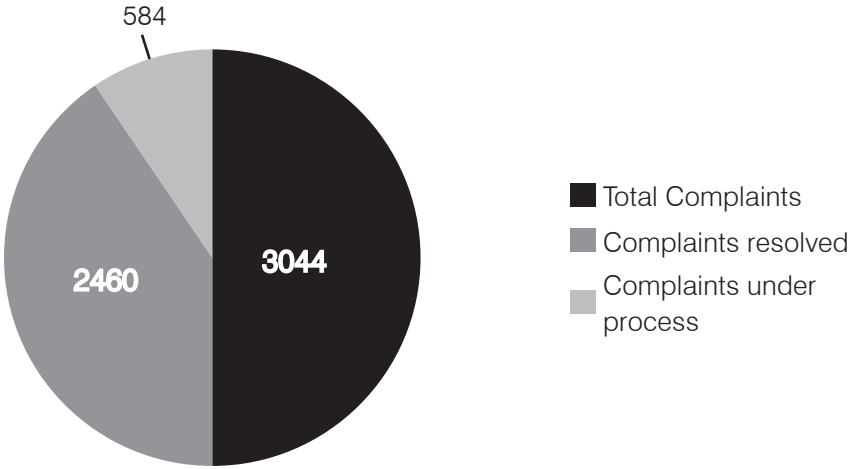
Number of complaints through the RTI web portal:

Processing Requests	Pending Requests	Responded Requests	Rejected Requests
124	866	94	1

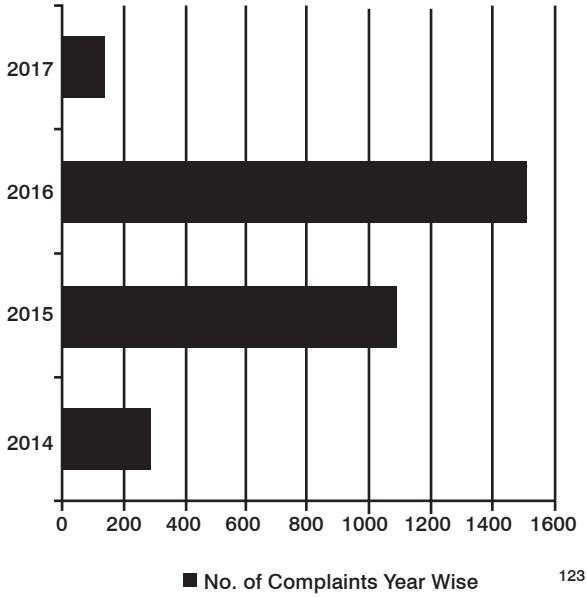
Complaints	Escalated Requests
182	1316

Total number of Complaints	3044
Total No. of Complaints resolved	2460
Total No. of Complaints under-process	584

Total number of Complaints



Complaints Status 2014	Complaints Status 2015	Complaints Status 2016	Complaints Status 2017
290	1091	1520	133



[123]

123. http://www.kprti.gov.pk/page.php?PageId=47&MenuId=11.

KPK Grievances Redressal System

Category: Citizen's participation

Launched/Implemented: Launched

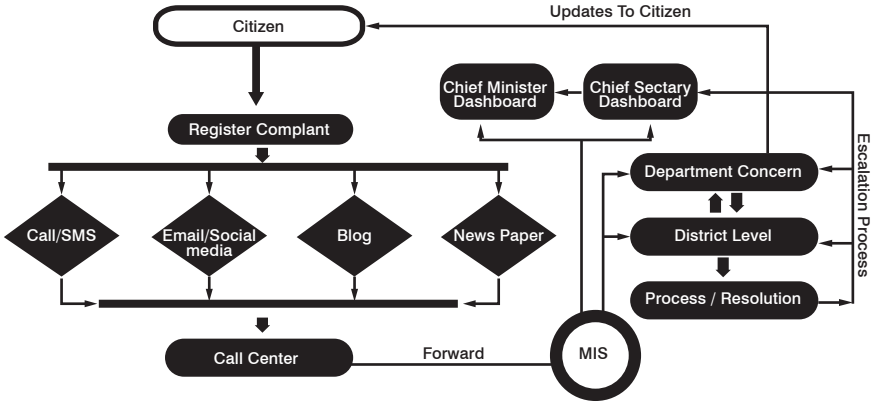
Background/Introduction:[124]

Citizen's feedback through any mechanism is an important component for a democratic government. The Government of Khyber Pakhtunkhwa wants to interact with the people of the province to eliminate corruption, injustice, inequality and anti-social elements. In this regard the Government of Khyber Pakhtunkhwa has established Grievance Redressal Systems (GRS) cell through which common people can register their complains/grievances and suggestions so that KP government can solve citizens' problems with citizens' own help and support. There is no restriction and age limit for citizens and complaints can be registered at any time and on any matter for the betterment of the system.

This service has been implemented in Elementary and Secondary Education KP. In second phase the system would be extended to other government departments.

Innovation/Use of technology

The dedicated web portal as well as different technologies are either planned or implemented to seek citizens' feedback and grievances about public services.



124. http://science_technology_dep.kp.gov.pk/page/grievancesredressalsystem_1/page_type/citizen.

Web Portal

Citizens can visit the dedicated web portal (http://complaint.kp.gov.pk/create_complaint.php?action=New) .All complaints are recorded and forwarded to the concerned provincial department and compliance report is given to the secretary of the department (or further up if required) within specified number days of its receipt after verification.

The citizens/complainants are regularly updated on the work in progress on his/her complaint to call or SMS until Redressal/closure.

1. Citizens can go to GRS link and create new complaint; fill the GRS form, mention personal detail and complaint detail and submit it. Citizens will receive an e-mail containing Tracking Number.
2. Citizens can go to track GRS link and use tracking number here to track complaint progress.
3. Citizens can also suggest regarding GRS system so that government can improve the service.

Register Complaint via Phone 0800-33-800

The complaint can be lodged by calling through fixed phone lines or mobile phones on a toll-free number, i.e. 0800-33-800, which is available 24x7. The complainant has the option to register his/her complaint in Urdu/Pashto/English by pressing 1, 2 and 3 options respectively. On registration of complaint, the complainant gets a complaint tracking number through SMS which can be used to track the resolution status of complaint.

Complaint via SMS (Planned)

It has been planned that the complaint registration process would also be available through SMS via any cellular network of Pakistan. The complainant would have the option to initiate his/her complaint process by sending SMS to a short code number.

Register Complaint via Fax (091-9212876)
A complainant has the traditional option to send a hard copy of their complaint along with their personal details to the fax number: 091-9212876.

Complaint via Email (complaint@kp.gov.pk)
Complainants are able to send their complaints via email to the email address complaint@kp.gov.pk detailing their complaint and various aspects of it such as nature, location, extent alongside their personal details.

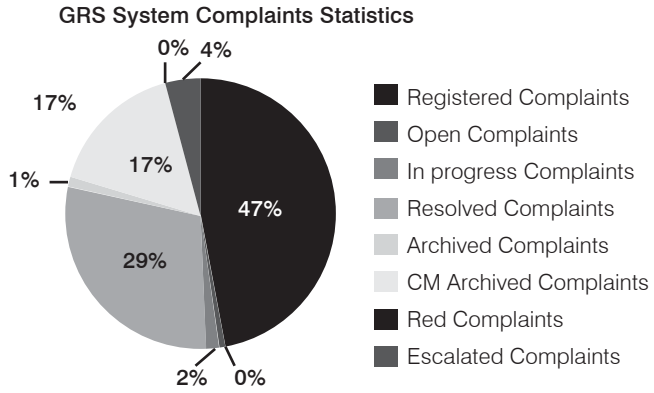
Stakeholders: Department of ST&IT, Directorate of Information Technology Khyber Pakhtunkhwa (e-Governance cell).

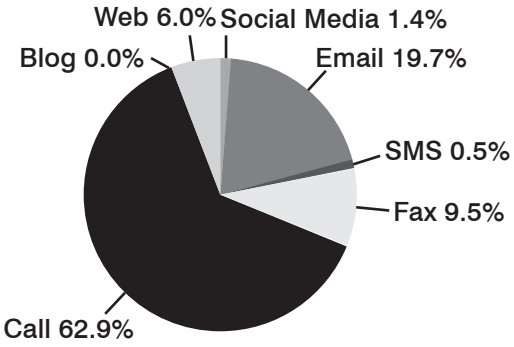
Beneficiaries: Citizens

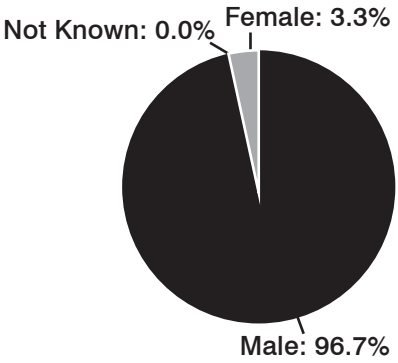
Impact
As per the last updated figure on website, 4278 various kinds of Complaints registered on GRS system till 2015. And 2305 compliant resolved so far.

Registered Complaints	Open Complaints	In progress Complaints	Resolved Complaints	Archived Complaints
4278	72	183	2305	18

CM Archived Complaints	Red Complaints	Escalated Complaints
1511	174	67


GRS System Complaints Statistics
0%
4%
17%
17%
1%
47%
29%
2%
0%
Registered Complaints
Open Complaints
In progress Complaints
Resolved Complaints
Archived Complaints
CM Archived Complaints
Red Complaints
Escalated Complaints


Web 6.0%
Social Media 1.4%
Blog 0.0%
Email 19.7%
SMS 0.5%
Fax 9.5%
Call 62.9%


Not Known: 0.0%
Female: 3.3%
Male: 96.7%

Chapter 5 – Youth/Civil Society, Volunteerism and Digital Governance in Pakistan

The initial chapters in the book have clearly indicated that digital governance has enabled efficient service delivery, enhanced accountability, transparency and citizens' participation. As Chapter 2 and 3 highlighted the role of youth and civil volunteerism in digital governance, it is heartening to note that youth and civil society of Pakistan is not far behind in this regard. Both are playing a role of public watchdogs as well as that of collaborative partners of the government, youth and civil society in Pakistan are utilizing digital tools to contribute towards democratic governance.

On the basis of secondary research and observations recorded during the Focused Group Discussion (FGD), a snapshot of some of these voluntary and non-for-profit initiatives is provided in the following examples.

Public Services

Teletaleem (T2)

Background/Introduction[125]

Teletaleem (T2), a social enterprise that was incorporated in early 2010. It is leveraging ICT to connect users with quality learning opportunities across all boundaries. T2's services portfolio, strengthened by years of practitioners' input, relevant interventions and validations, is able to serve all education segments – from primary to tertiary and from teacher education to technical education and training, with a good mix of users in urban and rural settings.

Innovation/Use of Technology

T2 ONLINE ACADEMY[126]

T2 Online Academy (OA) has been set-up to provide online tutoring services over the web, locally and globally. OA connects various categories of learners with required tutoring options, hosting live tutors and related content. The Academy hosts a mix of open content and purpose-built instructional videos with integrated assessments, to offer a self-paced learning service model.

T2's Advanced Learning Environment (ALE) supports virtual classrooms, equipped with all the teaching aids necessary to enable online interaction, including audio/video sharing, session archiving and playback,

125. http://teletaleem.com/?q=node/134.
126. http://teletaleem.com/?q=node/135.

blackboard, document sharing and text chat.

ILM-ON-WHEELS[127]

Ilm-on-Wheels program was based on Teletaleem Learning Boost methodology of effective and sustainable use of technology to deliver teaching-learning practices at the grassroots level.

The program uses a satellite (VSAT) equipped, self-contained van, called School Garee (i.e. School Car), containing computer servers, android tablets, a power-generator, UPS and routers to bring technology to any school. A primary reason for using this self-contained van was that most locations lack basic infrastructure like electricity, internet connectivity and Information Technology (IT) skills.

WIKI-ASSESSMENT[128]

Wiki-Assessment adapts the Unified Theory of Acceptance and Use of Technology (UTAUT) model of Information Technology (IT) adoption to educational crowd-sourcing applications.[129] An online question bank, which can be used to maintain questions for generating exams. The system can contain questions from any subject/grade/language.

Technology Used:

The service uses a web-based system, teachers can sign-up on the portal and contribute a question targeting a student's specific learning outcome. The service also offers a SMS based exam request.

127. http://teletaleem.com/?q=node/215.
128. http://teletaleem.com/?q=node/226.
129. http://www.teletaleem.com/?q=node/155.

Web link: http://wiki.teletaaleem.com/

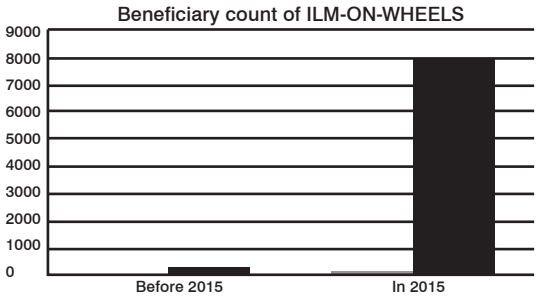
KEY FEATURES:[130]

- Online access to assessment reports by education managers have been compiled student-wise, and school wise.
- This ICT-enabled service delivery is:
  - ✔ Scalable and sustainable;
- Continuous, offering automated student assessment and teacher evaluation;
  - ✔ Provides just-in-time trainings delivered incrementally and closest to a teacher's place of duty.
  - ✔ Has inspired strong community action going beyond school premises and timings.

Impact/Benefit

- T2 has worked with about 1200 schools, impacting 200,000 children, on various interventions, generating Rs. 100 million in revenue in FY2014-15.
- The beneficiary count of ILM-ON-WHEELS increased from 10 teachers and 300 students in earlier phase to 86 teachers and 8,000+students in the extension phase, completed in April 2015.
- Approximately 1600 teachers benefited from WIKI-ASSESSMENT project which was implemented in almost 60 cities of Pakistan. Once adopted by Directorate of Staff Development the number of beneficiaries will drastically increase to more than 100 thousand primary teachers in Punjab and about 4 million primary school students as indirect beneficiaries of this system[131].

130. http://teletaleem.com/?q=node/135.
131. http://teletaleem.com/?q=node/226.



DoctHers

DoctHERS is a novel, digital healthcare platform that connects female doctors to health consumers in real-time while leveraging online technology. DoctHERs transcends socio-cultural barriers that restrict women healthcare professionals to their homes by connecting them to the market.

Impact

After impacting over 25,000 lives through its network of 8 telemedicine centers across Pakistan - 6 in Karachi, 3 in KP and 1 in Punjab, in February 2017, doctHERs strategically pivoted from the Community Health Model to focus on target populations affiliated with the Corporate Sector including underserved/uninsured stakeholders in Corporate Value Chains (smallholder suppliers, distributors, retailers, etc).

Peshawar 2.0

Peshawar 2.0 is a citizen-led movement to rebuild the city of Peshawar through innovation and entrepreneurship in and at the interface of technology and design. Peshawar 2.0 is a social enterprise aimed at building a start-up community in Peshawar, the capital city of Khyber Pukhtunkhwa province.

Impact

They strive to re-build and rebrand their city through innovation and entrepreneurship in the broader realm of science, technology, art and design. They do this by empowering the youth to be self-sufficient individuals that are able to give back to Peshawar, Pakistan and the world. They do this to make the city cleaner, smarter, more livable, prosperous and full of opportunity for all.

Accountability & Transparency

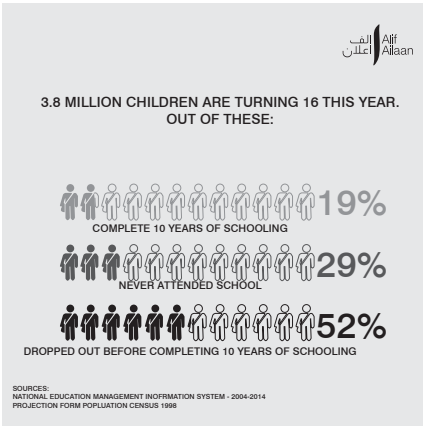
Alif Ailaan

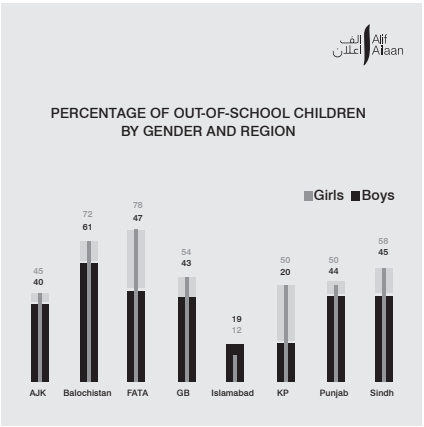
Background/Introduction[132]

Pakistan today faces an education crisis of unprecedented proportions:

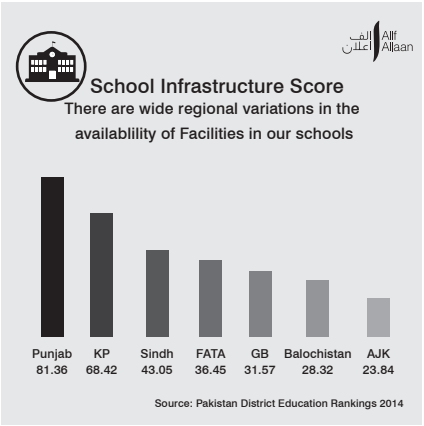
- There are 24 million boys and girls out of school—that's nearly half of all the children in Pakistan.
- Of those children who do go to school, the vast majority receive education of poor quality.
- On any given day, 11% of teachers are absent from the classroom.
- Corporal punishment is widespread and remains unchecked.
- Budget allocations for education are insufficient and funds that are available are not spent effectively.

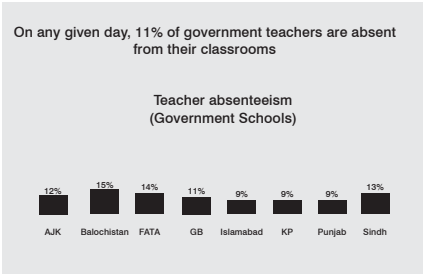
To address the emergency in the country and to propel the government to step-up its efforts towards a literate Pakistan, Alif Ailaan, a natiowide campaign was launched in February 2013. It aimed to make education a top priority for every citizen of Pakistan and one of its objective was to ensure that every child in this country—rich or poor, boy or girl, whether they live in a village or a big city—is in school. The campaign works with politicians, education officials, teachers, parents and communities and civil society organizations to make sure children are enroled in school, that they stay in schools and that they receive good quality education.[133]





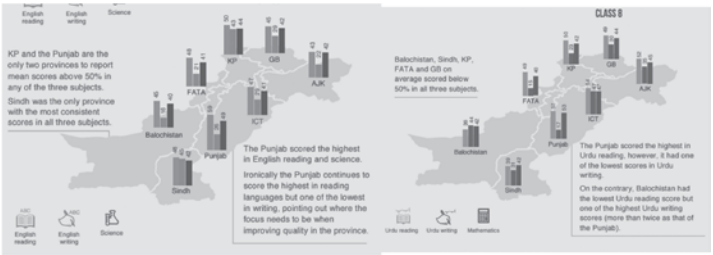
132. http://www.alifailaan.pk/pakistan_education_crisis
133. http://www.alifailaan.pk/frequently_ask_questions.

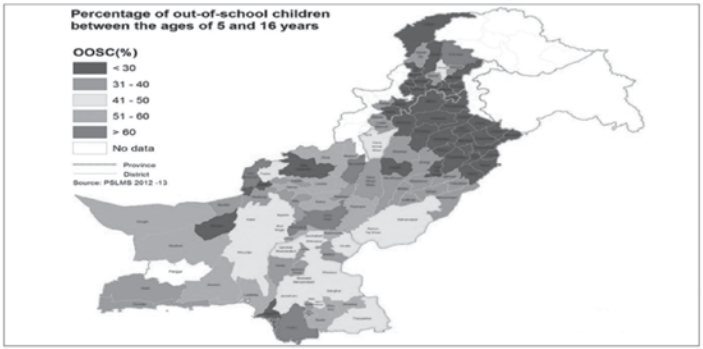




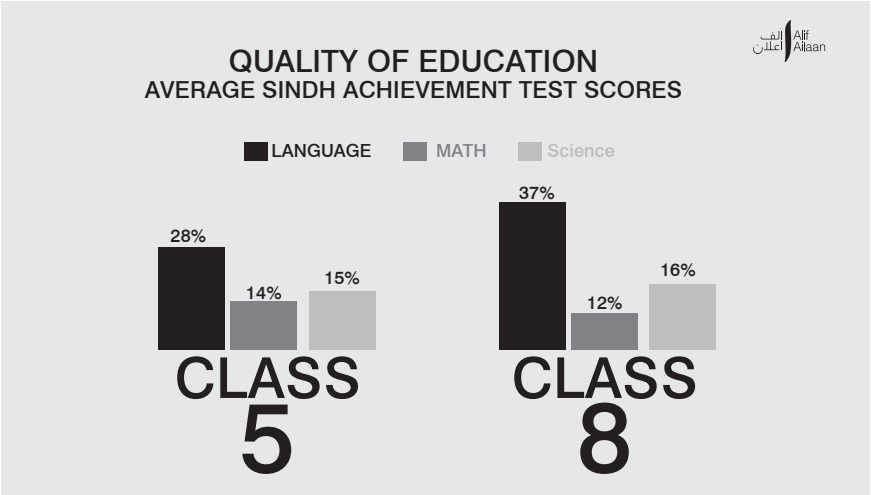
Objectives[134]

- To create and sustain political will and support for education in Pakistan.
- To propel the federal and provincial governments to fulfill their obligation under Article 25-A of the Constitution, which pledges free and compulsory education for every child between the age of 5 and 16 years.





134. http://www.alifailaan.pk/what_does_alif_ailaan_want



Impact

In a unique and innovative way to advocate for education and provide monitoring and evaluation mechanism, Alif Ailaan has pioneered various score cards, such as education score and school infrastructure scores.

Education Score

In 2016 and for the fourth consecutive year, Islamabad has ranked highest amongst all provinces and regions in the country. In second and third place are Azad Jammu and Kashmir (AJK) and Punjab, respectively. This remained similar to last year. Gilgit-Baltistan remained steady at fourth position third time in a row, although its Education Score did increase by three points.

Khyber Pakhtunkhwa (KP) and Sindh remained at the same ranks they were last year, with KP at the fifth rank and Sindh at the sixth. However, both provinces suffered a decline in their Education Scores of almost two points each. Federally Administered Tribal Areas (FATA) and Balochistan round up the bottom of the rankings at rank seven and eight respectively.

Overall, Pakistan's Education Score fell from last year (by 4.05 points) after consecutive years of modest improvement mainly because of a drop in the retention score (from 67 to 59).

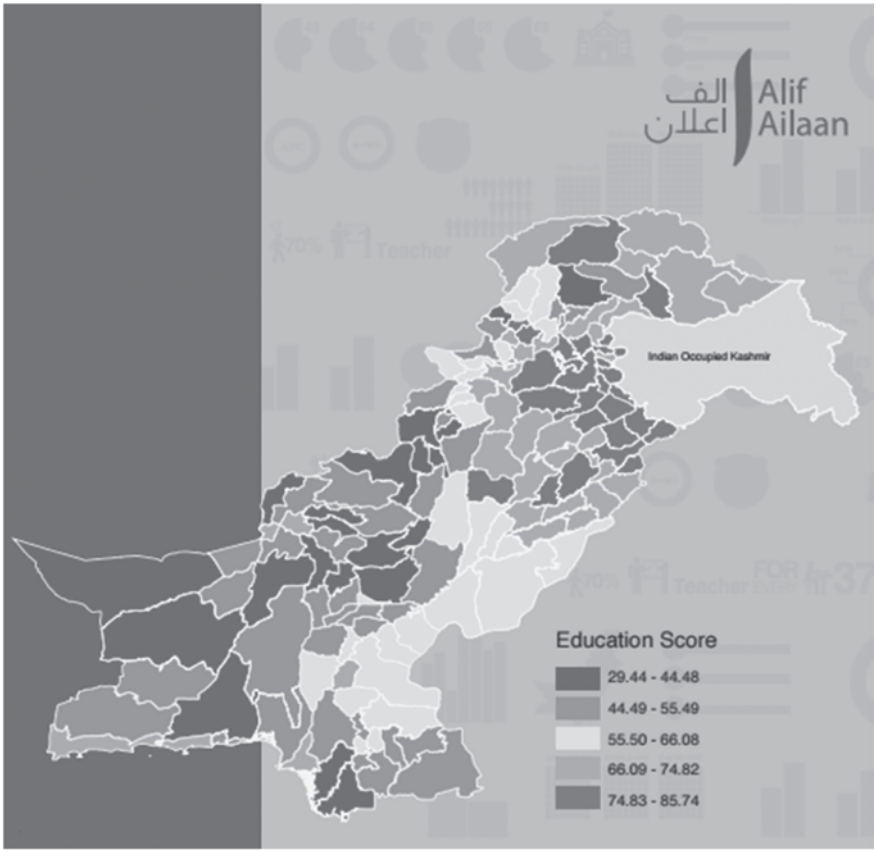
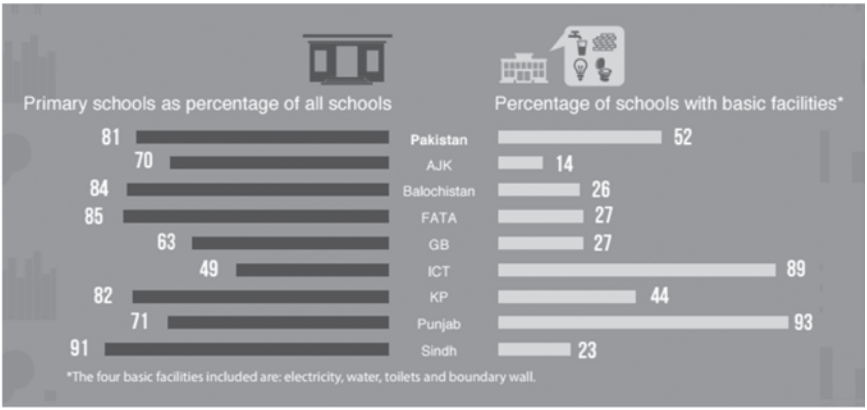


Table 1: Provincial and national Education Scores (primary school)

Rank		Change	Province/ Region	Education Score	Enrolment Score	Learning Score	Retention Score	Gender Parity Score
2016	2015		2016					
1	1	↔	ICT	85.74	89.52	71.13	87.50	94.82
2	2	↔	AJK	81.68	73.42	66.60	92.00	94.70
3	3	↔	Punjab	73.56	70.33	62.73	66.00	95.18
4	4	↔	GB	73.21	58.55	60.30	87.00	86.99
-	-	-	Pakistan	66.54	64.40	54.78	59.00	87.98
5	5	↔	KP	65.32	70.85	49.48	65.00	75.96
6	6	↔	Sindh	60.44	60.87	41.25	50.00	89.65
7	8	↑	FATA	54.05	62.10	50.80	31.00	72.30
8	7	↓	Balochistan	51.04	55.56	42.68	28.00	77.93



School Infrastructure Score

The School Infrastructure Score of Pakistan is 60.17, down from 62.22 last year. Punjab is ranked highest followed by Islamabad Capital Territoty (ICT) and KP. AJK is ranked at the bottom of School Infrastructure rankings. Five of the eight regions' scores are less than 50: AJK, Balochistan, FATA, GB and Sindh.

The top 22 districts are all from Punjab, with KP breaking in at the 23rd rank with District Mardan. The lowest ranked district is Dera Bugatti at 146th rank. Only 24 of the 146 ranked districts scored more than 90 in School Infrastructure Score

OPENParliament.pk

Background/Introduction[135]:

Open Parliament is a voluntary initiative of Trust for Democratic Education and Accountability-Free and Fair Election Network (TDEA-FAFEN) to bridge the gap between citizens and their elected representatives for an informed public discourse. The key objective of this portal is to provide prompt, accurate and objective information of the parliamentary proceedings to the citizens.

The backbone of this portal is Citizen Parliamentary Observation through which TDEA-FAFEN collects and demonstrates all types of parliamentary data in the shape of sitting of the sessions and individual member performance scorecards. This portal is not only providing statistical information but also documents substantive issues raised in the parliament.

135. http://openparliament.pk/.

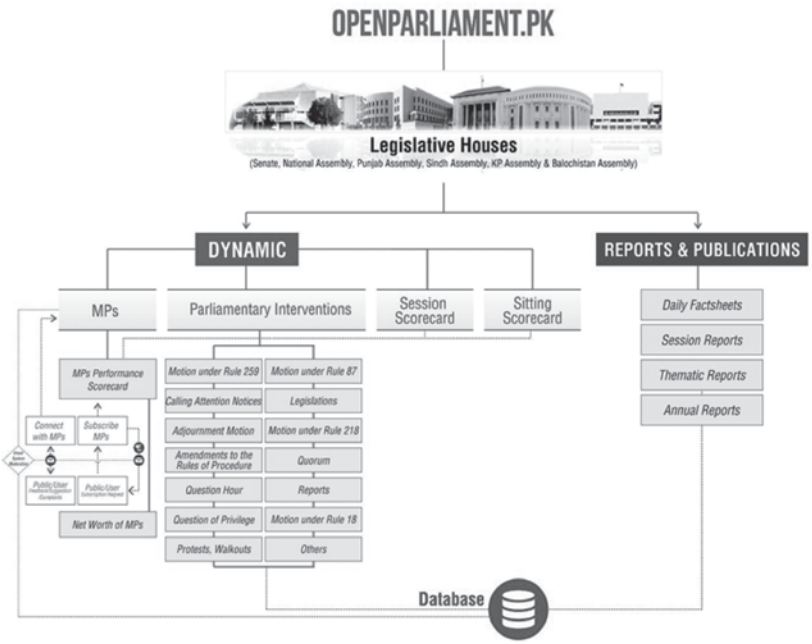
One window presentation of this portal enables citizens to get legislative documents, nomination papers and statement of assets and liabilities of each member of the parliament (National Assembly and Senate) and provincial assemblies. "Parliamentaroscopy", section of the portal helps to search thematic issue as per user's requirment. Moreover, the information on the legislative process and rules of procedure is also available on this portal.[136]

The Key Products Includes:

- **Reports**
  - Daily Factsheets
  - Session Reports
  - Thematic Reports
  - Annual Reports
- **Scorecards**
  - Member Scorecards
  - Sitting Scorecards
  - Session Scorecards
- **Parliamentary Documents**
  - Bills
  - Acts
  - Statement of Assets and Liabilities
  - Nomination Forms
- Public Petitions for Assemblies
- Direct Contact with Parliamentarians

136. http://openparliament.pk/parliamentroscopy/.

Innovation/Flowchart



Stakeholders:

- Parliamentarians (Senators, MNAs and MPAs)
- Civil Society Organizations
- Researchers and Academia
- Assemblies' Secretariats
- Donor Agencies
- Citizens
- Media

Impact

- Open Parliament was launched in February 2015. Since then it has been accessed by more than 42 thousands individuals, mostly from Pakistan.
- There have been more than 131,501 page views.
- About 70% of the users belong to the age group of 25–44 years.
- ProPakistani.pk (top IT blog in Pakistan) appreciated the Open Parliament initiative.
- A number of journalists and media outlets consult Open Parliament portal to get authentic data on parliamentary proceedings.

Election Pakistan Web Portal (https://electionpakistan.com/)

Category: Accountability & Transparency

Background/Introduction[137]:

Election Pakistan is an initiative of TDEA-FAFEN to archive and document the electoral history of Pakistan. The portal contains statistical analysis of election results since 1970.

The basis of the election results are official election records of the Election Commission of Pakistan. The portal also showcases TDEA-FAFEN's election related reports and proposed electoral reforms. The backbone of these reports and proposed reforms is the citizen-led election observation process through which TDEA-FAFEN is able to observe, collect data on and document violations of election laws, regulations and codes of conduct. The objective of this portal is to provide trustworthy information repository and an independent election information source.

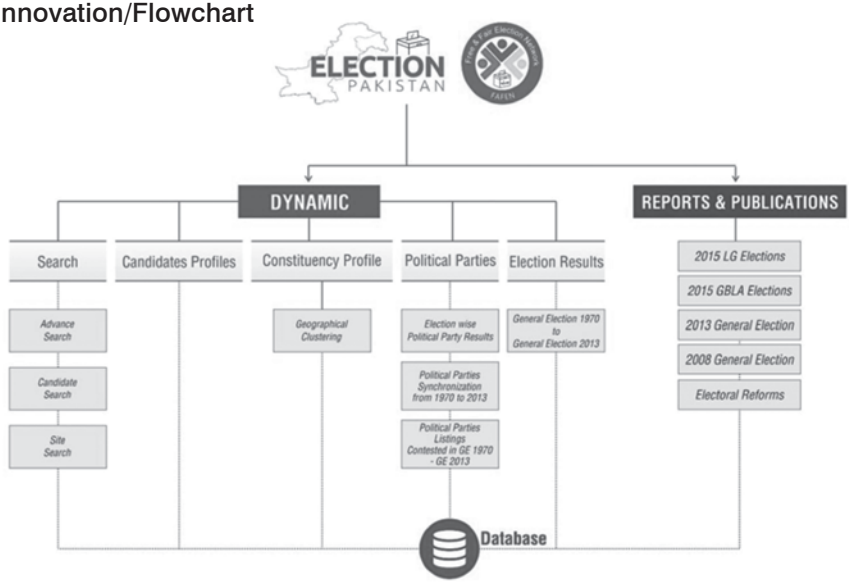
The Key Products include:

- **Election Results**
  - ✔ National Assembly elections data from 1970 to 2013,
  - ✔ Provincial Assemblies elections data from 2002 to 2013,
  - ✔ Party-wise election results,
  - ✔ Profiles of national and provincial constituencies,
  - ✔ Geographical clustering analysis of political parties to describe the clusters political history since 1970,
  - ✔ Electoral history of all contesting candidates,[138]
  - ✔ Advanced electoral data search option.

137. http://electionpakistan.org/electionpakistan/
138. All candidates who contested General Elections in 2002, 2008 and 2013

- **Reports**
  - ✔ Pre-election observation reports
  - ✔ Election day observation reports
  - ✔ Electoral violence reports
  - ✔ Election Tribunals' performance reports
- **Political Parties Details**
  - ✔ Lists and profiles of political parties to-date[139]
  - ✔ Electoral history of all the political parties
- **Proposals for Electoral Reforms**

Innovation/Flowchart



139. Data from 1970 to 1997 has been taken from Election Compendium compiled by Punjab Lok Sujag and Free and Fair Election Network with the support of Christian World Services.

Stakeholders:

- International and Domestic Election Observers
- Election Commission of Pakistan
- Civil Society Organizations
- Researcher and Academia
- Election Candidates
- Donor Agencies
- Political Parties
- Citizens
- Media

Impact

Election Pakistan database was established initially in 2012 but was revamped in 2017 in anticipation of the 2018 elections in Pakistan. The new interface of the portal has received a very positive feedback from various stakeholders and is considered the most comprehensive electoral portal in the country.[140]

Fix-It

#Fixit is a non-political platform to address the local issues faced by the common citizens of Pakistan.

Impact

By 2016 and in a short period of one year since its inception, Fixit has successfully gathered 1400 volunteers.[141] Without any political support, the initiative has identified issues faced by average citizens and has exhibited significant success in having these issues addressed. Some of the key achievements include:

140. Fafen Rolls Out 'most Comprehensive' Election Portal in Pakistan https://tribune.com.pk/story/1659891/1-fafen-rolls-comprehensive-election-portal/ .
141. Shadman, A (2017) ' #FixIt: This is What Pakistan's Viral Civic Campaign Has Achieved in 1 Year, https://propakistani.pk/2017/01/06/fixit-pakistans-first-viral-civic-campaign-achieved-1-year/ .

- Fixed over 33,000 manhole caps.
- To make the city green again, FixIt campaigners planted over 12,000 trees.
- Fixit introduced 'Deewar-e-Meherbani' in Karachi which allowed people to get clothes free of cost.
- Fixit has installed 35+ 'Mezban Fridges' all over the country which allow people to get food daily free of cost. These fridges were donated by Javed Afridi.
- More than 35 trash bins have been installed in populous areas. Volunteers clean up the trash bins on daily basis.
- Fixit worked to resolve water shortage issues in several areas by sponsoring 17 water bores. People in these areas can now access clean drinking water.
- The movement's office serves free food to more than 200 people every day.
- The campaigners have painted dozens of walls and flyovers to remove wall chalking in Karachi and Hyderabad.
- Fixit members protested against the dismal state of University Road (Karachi) which finally led to its reconstruction.

Citizens' Participation

Bolo Jawan

Bolo Jawan is a citizen-led news and analysis portal managed by Pakistan Youth Change Advocates (PYCA). It aims to enhance plurality and diversity of Pakistani media by providing young people with a platform to voice their opinions on diverse range of subjects.[142]

Impact:

At present it is an interactive website that features written and video content but by the end of 2018 Bolo Jawan will also be adding an online radio feature to broadcast live and recorded radio programmes for national and international listeners. The website attracts over 50,000 page views each month and its content has been shared by national celebrities such as human rights activist, Ziauddin Yousafzai, senior politician Afrasiab Khattak, actress and activist, Nadia Jamil, actor, Fahad Mustafa and singer, Ali Hamza. Malala Yousafzai has also appeared for an exclusive interview on BoloJawan.com's web-series, "Candidly Yours."

142. http://bolojawan.com/ .

The website has become a source for young people across Pakistan to voice their concerns about issues ranging from extremism, minority rights, Pakistan's relations with the outside world as well as to raise awareness about social issues such as mental health disorders, climate change, child marriages, women rights and Pakistan's on-going education emergency.

Code for Pakistan[143]

Through the creation of open source technology to address civic needs, Code for Pakistan initiative aims to transform civic life by increasing civic engagement, encouraging the opening of government data and supporting innovation in the public domain. They are building a non-partisan civic innovation ecosystem to improve quality of life across Pakistan.

Code for Pakistan believes that digital technology, when used correctly, can both improve governance and open new channels for citizens to more meaningfully engage in the public sphere and have a positive impact on their communities.

The concept of volunteerism is at the very core of this initiative as most of the professionals working with Code for Pakistan are volunteers. They have established Civic Innovation Labs (CIL) across Pakistan which are based on volunteers from both technical and creative backgrounds. Currently they have 4 fully functioning Civic Innovation Labs in Karachi, Peshawar, Islamabad and Rawalpindi. CIL members meet regularly to collaborate with government, non-profits and media organizations on technology, data, policy and design projects that strengthen their communities. Each lab is led by a Lab Organizer who is responsible for building the community and maintaining the relationship between the Lab and the local partners. Lab members meet at least once a month; most CILs meet with greater frequency and have a range of monthly programming. All labs are connected through an online forum in order to share stories and support each other's work. Labs are also closely connected to Code for America's international Brigade Network.
Aside from these Civic Innovation Labs, Code for Pakistan has established a very active volunteer base of like-minded coders, developers, data analysts, tech experts and people from various other backgrounds across Pakistan and abroad. They collaborate with members of the civil society and various other national and international campaigns and NGOs that are enthusiastically working to develop

143. Information gathered from Code of Pakistan representatives during FGD

sustainable web and mobile based Open Source Solutions around the themes that improve the lives of citizens in Pakistan.

Impact

Code for Pakistan has created successful partnerships with organizations like Alif Ailaan, Media Matters for Democracy (MMFD), World Bank, National Technology Fund and Ignite. Some of their key milestones and initiatives include the following:

- Code for Pakistan collaborated with Alif Ailaan for a Mathathon, country-wide initiative involving university students and government school students to gamify mathematics.
- In collaboration with MMFD, Code for Pakistan launched 'Muavin' and 'Muhafiz'. Muavin is an application that seeks to explore community based solutions towards online harassment whereas Muhafiz is the first ever-digital solution for media safety in Pakistan. It is a digital safety net that seeks to streamline the documentation of threats to media workers, crowd source safety related information (safety advisories) and act as a gateway allowing journalists to seek help in emergency and to connect with national and international media rights groups working for journalists' safety.
- Code for Pakistan through its partnership with ICT developed an Open Data Portal and a Mobile Application to connect the citizens of Islamabad with the administration. The aim of this initiative is to drive civic innovation in the areas under ICT Administration, enhance government's capacity to use digital tools and improve service delivery to citizens.

Youth Spirit Organization

This youth-led volunteer initiative is focused on raising awareness about the importance of education (especially women's education), child labour, plantation, voluntary work, health (with focus on Polio and HIV/AIDS) and human rights.

While Youth Spirit Organization makes use of capacity building as its primary tool, digital media too, is extensively used to spread widespread awareness.

Impact

The Facebook page of Youth Spirit Organization has a growing community of followers with scores of young people joining the movement each

month. Through its social media presence, YSO has been successfully urging young Pakistanis to become mindful about voicing their opinions on important socio-political matters and providing them with the required knowledge to initiate healthy public discourse.

Soul Sisters Pakistan

Soul Sisters Pakistan is a digital space created by social entrepreneur, Kanwal Anes Ahmed for Pakistani women to express their insightful experiences and seek the support of other women to help resolve their issues. A sort of online support group, Soul Sisters currently has over 100,000 subscribers on Facebook and its content incites immense positive engagement.

Impact:

Soul Sisters Pakistan through its online presence has successfully created an online information and entertainment community by women and for women. Soul Sisters Pakistan is creating a space for Pakistani women to introduce their diverse, warm-hearted, funny, strong and insightful personalities to the rest of the world.

Apart from this, Soul Sisters also engages in video blogging and panel discussions to raise awareness about important issues such as child sexual abuse and domestic violence.

Conclusions & A Proposed Framework for Youth Volunteerism and Digital Governance in Pakistan

This initiative has provided an overview as well as in-depth discussion on the contemporary field of digital governance, youth volunteerism in the digital era and the role of youth volunteerism in digital governance.

Chapter I provided an introductory analysis of digital governance, its evolution and components. A working definition was also coined that provided the basis for the discussion in the consequent chapters. A framework was also provided that highlighted various components of digital governance such as national policies, stakeholders, technical aspects etc. Various case studies highlighting the use of digital tools for efficient service delivery, accountability and transparency and citizens' participation were also discussed.

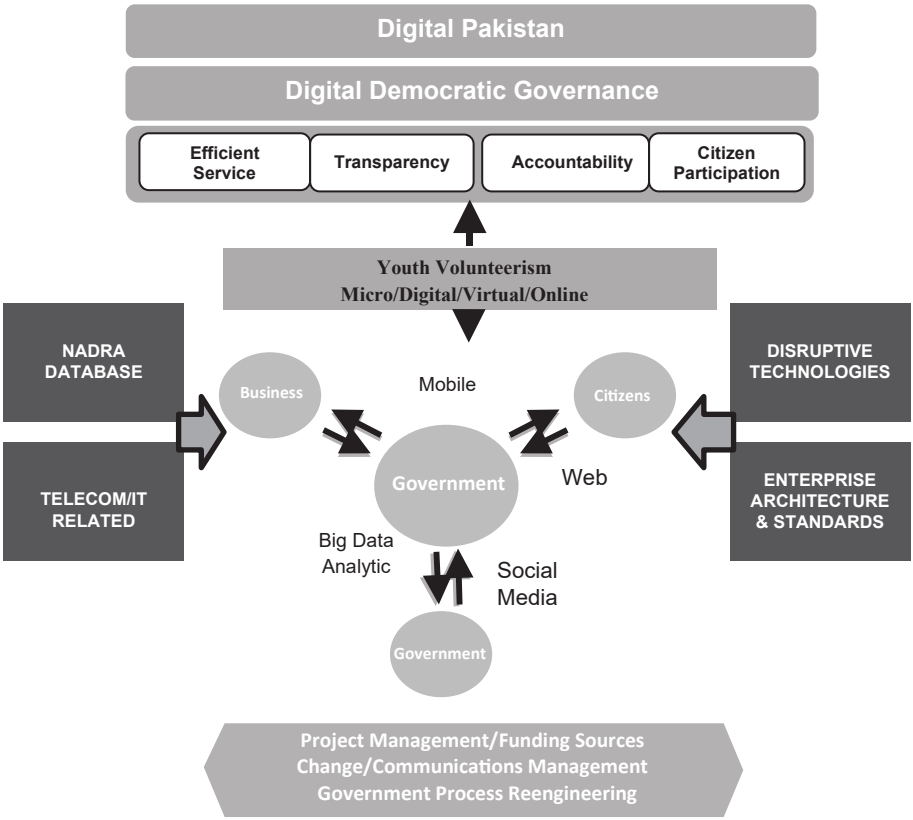
Chapter 2 comprehensively delved upon the concept of youth volunteerism in general and youth volunteerism in the digital era in particular. The concept and benefits of micro/digital/virtual volunteerism were also analyzed.

Linked with the first two chapters, Chapter 3 comprehensively explained how youth volunteerism fits into the digital governance framework that was discussed in Chapter 1. Again, the chapter was supplemented by international case studies to highlight how youth volunteers are utilizing digital tools to play their roles as public watchdogs as well as governments' partners to uphold principles of democratic governance.

Chapters 4 and 5 were focused on linking the concepts and international best practices of digital governance and youth volunteerism with the local context of Pakistan. Chapter 4 highlighted that digital governance is one of the key pillars of the recently adopted digital policy agenda in Pakistan. A list of ongoing case studies was also provided whereby federal and provincial governments are adopting digital tools for democratic governance.

Chapter 5 provided a snapshot of various digital initiatives through which youth volunteers and the civil society of Pakistan are using innovative digital tools and solutions to contribute in the overall goals of democratic governance.

On the basis of the digital governance and youth volunteerism framework, concepts, discussions and findings of these chapters, the following generic framework is proposed to ensure an inclusive, well targeted and holistic journey of digital governance for efficient, effective and sustainable democracy in Pakistan.



While adopting this framework, the following aspects should be considered:

- Linked with the Digital Pakistan Policy or any other relevant policy, a national level, inclusive and consensus oriented digital governance framework should be adopted by the government that can provide an overarching guideline for the agenda of digital governance in the country.
- Role of the entire eco-system that includes government, private sector, academia and civil society should be acknowledged and formally included in the framework.
- All existing and new government and volunteerism based digital initiatives for democratic governance should be mapped under

the key principles of service delivery, accountability and transparency and citizens' participation.

- The role of existing and potential youth volunteerism, both as public watchdogs as well as government's partners should be acknowledged, technically (and where possible, financially) supported and up-scaled.

To conclude, despite the potential of digital governance and digital youth volunteerism for democratic governance discussed above, it is imperative to highlight that these are tools, facilitators and enablers to trigger improvements within. They are, thus, a means to an end and not an end in themselves.

Existence of governance structures and processes are prerequisites before any digital governance intervention. Various other external factors are vital to work in parallel if not as pre-requisites to make any digital governance intervention effective. Political responsiveness and support of political leadership at national and sub-national (local) levels, as well as coordination within and across multiple levels of government and organizational partnerships are vital in this regard. This connectedness is essential to jointly develop digitization strategies that cut across agencies and levels of government, envisaging and putting in place joint financing mechanisms and creating the common ownership and shared commitment needed for sustainable results.

Nevertheless, the most important rule of democratic governance to remember is that it is the outcome of the interaction of government, the public service and citizens throughout the political process, policy development, programme design and service delivery and commitment to governance issues. A good governance model must therefore precede the development of digital governance agenda. Incorporating youth volunteers and civil society in this partnership will act as a catalyst to achieve target goals of both the digital governance agenda as well as national democratic goals.

About the Author

Omer Ahmed Awan is an international development and governance expert with an experience of more than 13 years in the thematic areas of e/m/digital governance, ICT4D and technical areas of RBM and M&E. He has provided his services for various reputed national and international organizations including the Commonwealth Headquarters, UNDP, ADB and Pakistan Telecommunication Authority (PTA) etc. During his tenure at the Commonwealth Headquarters, Mr. Awan served as Programme Officer & Acting Advisor in the Governance & Institutional Development Department and was responsible for multiple regional, country and organizational level technical assistance programmes in the areas of public administration innovation, e/m-Governance and ICT4 Development. He has also worked as Quality Assessment expert for UNDP's regional and country programmes in the thematic areas of democratic governance and DRR. He has led various trainings and projects in the fields of ICT4D, e/m-Governance and ICTs4Women Entrepreneurship across the world. Besides given key notes in various international conferences on ICT4D & e/m-Governance, he has also published various articles and authored a book.

Pakistan Youth Change Advocates is a civil society organization working to promote development and good governance through youth participation.

PYCA was established with the long term vision for Pakistan where the value of education, good governance and ultimately human life and well-being reigns supreme.

The organization's core mission is to inform and inspire the youth to improve their quality of life by promoting the principles of tolerance, good governance and respect for human rights.

With a deep foot-print across 20 districts of the country, PYCA has reached out to over 30,000 Pakistanis through interventions focusing on effective use of Information and Communication Technologies (ICTs), education and promotion of greater pluralism in Pakistani media.

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