



European Commission United Nations Development Programme International IDEA

In collaboration with

**International Organization for Migration
Canadian International Development Agency
Organization of American States**

Joint Workshop on Effective Electoral Assistance

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Embracing Appropriate Technology***

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Organized within:



In collaboration with:



CIDA
Canadian International Development Agency



IOM
International Organization for Migration



OAS
Organization of American States



Presentation

Learning Outcomes

Methodology

Appropriate Technology Debate

Key Point and Challenges

Should and Should NOT

Areas of Implementation

Focus and Activities

Technology and Market Forces Drives History?

Best Practises and the Future



Learning Outcomes

- ☐ **Chapter 3 – Training Manual**
- ☐ **Appreciate the appropriate use of technological innovation in electoral operations**
- ☐ **Become familiar with voter registration exercises and related challenges**
- ☐ **Understand possible synergies with other exercises**
- ☐ **Become familiar with biometric voter registration kits and electronic voting machines**



Methodology

- ☐ Overview and Introduction on technology, voter registration and electronic voting
- ☐ Presentation and practical demonstrations from case studies in voter registration and E-Voting
- ☐ DRC, Togo, Conakry, Benin, Zambia, Malawi
- ☐ Ghana, Angola
- ☐ Brazil, India, Venezuela,
- ☐ Working Groups on Voter Registration and Electronic Voting



Appropriate Technology

- ❑ The term *appropriate technology* came into some prominence during the 1973 energy crisis and the environmental movement of the 1970s.
- ❑ The term is typically used in two ways:
 - ❑ utilizing the most effective technology to address the needs of developing areas,
 - ❑ and using socially and environmentally acceptable technologies in industrialized nations



Appropriate Technology

- ☐ In practice, appropriate technology is often something described as using the simplest level of technology that can effectively achieve the intended purpose in a particular location.
- ☐ the term *appropriate technology* can also take a different meaning, often referring to engineering that takes special consideration of its social and environmental ramifications.



Information and Communication Technologies for Development (ICT4D)

Following the principles and approach of the Appropriate Technology, we need to look at another general term referring to the application of Information and Communication Technologies (ICTs) within the field of socio-economic development

ICTs can be applied either in the direct sense, where their use directly benefits the disadvantaged population in some manner, or in an indirect sense, where the ICTs assist governments supported by aid organizations or non-governmental organizations in order to improve socio-economic conditions in a given country.



ICT4D projects

- ❑ **Infrastructure:** providing suitable computer hardware, operating systems, software, and connectivity to the internet. These would include the affordability of software and hardware, the ability to share software.
- ❑ **Capacity building and training in ICT:** installing, maintaining, and developing hardware and software, digital literacy
- ❑ **Digital content and services:** (e-learning, e-health, e-business/e-commerce)
- ❑ **Regulation of the ICT Sector and digital rights:** Universal Access vs. monopolistic structures, Intellectual Property Rights, privacy, security, and digital identity.



Appropriate ICTs

- ❑ **Mobile telephony** is appropriate technology, as it greatly reduces the **infrastructure** required to achieve widespread coverage.
- ❑ Free or very inexpensive **web** and **email** services using cooperative computer networks that run wireless **ad hoc networks**.
- ❑ **Satellite Internet access** can provide high speed connectivity to remote locations, however these are more expensive than wire-based or terrestrial wireless systems. Other cheaper solutions can be **Wimax**, **SAT3PLAY** and forms of **packet radio**.



Technological Innovation and Effective Electoral Assistance Focus

- ☐ **Quality and appropriateness of the methodological, operational and technological choices to be adopted for implementation on an electoral cycle**
- ☐ **Perceived not any longer as isolated event but as a process.**
- ☐ **Past imperfections and limited results should be seen as an additional motive to support electoral processes investing more in the institutions that administer the elections in a good governance perspective**
- ☐ **Importance of international/domestic observation missions, evaluations, post election seminar and peer review mechanisms.**
- ☐ **Importance of the synergies between election observation and electoral assistance**



Approach

□ Any effort to make electoral assistance more effective must tackle the issue of the increasing use of technology in the electoral process.

□ Cross Cutting Issue







Elections and Technology - Key Point

While the principles of elections largely remain the same

**Information
Communication
Technology**

has in the past 25 years dramatically changed the operational methodology for elections



Challenge

What kind of technology is suitable for a particular electoral process?

☐ **Challenge: how to ensure a sustainable, appropriate, cost effective and transparent use of technology in post-conflict elections and in fragile or emerging democracies?**

☐ **No fixed solution that can be applicable everywhere, but different ones for every context. General rule:**

☐ **The level of technological upgrades suitable for a given country should always be directly related to the trust and independence enjoyed by the EMB, as this is the element that will in the end determine their acceptance by the public opinion.**



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“Should”

Technology should be:

- **implemented in time before an electoral event**
- **legally supported**
- **operationally appropriate**
- **cost effective**
- **transparent and add to integrity**
- **sustainable**



“Not”

Technology should NOT be:

- **driven by vendor or donor interests**
- **considered a proof of “development”**
- **suppress more important needs**



Areas of Implementation

Geographic Information Systems (GIS)

- ☐ Boundary delimitation
- ☐ Operational planning
- ☐ Public information
- ☐ Results analysis by public & contestants
- ☐ Integration with other institutions



Areas of Implementation

Regulation of Parties and Candidates

- ☐ Registration of parties
- ☐ Campaign finance controls and information
- ☐ Candidate nomination and verification
 - ☐ Better and more precise ballots
- ☐ Voter education about contestants



Areas of Implementation

- ☐ **Public Outreach**
- ☐ **Web sites**
- ☐ **Mass emailing**
- ☐ **Mass SMS**
- ☐ **Call Centers of EMBs**
- ☐ **Better TV spots through animation**



Areas of Implementation

Results Aggregation

- ☐ Results are data entered manually, or through OMR, locally and then electronically transferred and tabulated centrally
- ☐ Faster, more precise & more auditable results
- ☐ Cost effective modernisation



Areas of Implementation

Internal Administration

- ☐ Organisational modernisation
- ☐ Budget/finance, human resource systems
- ☐ Procurement, inventory, transport
- ☐ Internal communication
 - ☐ Distributed email
 - ☐ Secure intranets
- ☐ Customisation & training, training, training



Areas of Implementation

Voter Registration





Areas of Implementation

Voter Registration

- ☐ **An accurate and accepted voter registry is pivotal to a credible electoral process**
- ☐ **Capture more data, faster and more precise**
- ☐ **Capture biometric data: picture & fingerprint**
 - ☐ **Avoid double registration**
- ☐ **Centralisation: detect fraud**
- ☐ **Planning: more effective allocation to polling locations**
- ☐ **Synergy with civil registry**
- ☐ **Risks: sustainability, manipulation, trust**

Biometric Voter Registrations Kits: DRC, Togo, Nigeria, Conakry, Haiti, Senegal, Angola, Mozambique...



- ☐ The “Automated Fingerprint Identification System” automatically checks one or many unknown fingerprints against a national database of known prints.
- ☐ The intended purpose is to prevent multiple enrolment in an election
- ☐ Long Time required for aggregation of data and double entry control in DRC, Togo, Nigeria, Haiti and Angola via AFIS
- ☐ Postponement of elections in Haiti, DRC, Angola and Togo
- ☐ Funded by State Budgets or Cofunded



Areas of Implementation Electronic Voting





Areas of Implementation

Electronic Voting

Opportunities:

- ☐ Longer term cost reduction
- ☐ Results faster and more reliable
- ☐ Better access for disabled
- ☐ Mobility of voters
- ☐ Facilitate out-of-country voting
- ☐ Higher turn-out through ease of voting



Areas of Implementation

Electronic Voting

- ☐ **Risks:**
- ☐ **Sustainability**
 - ☐ **Training**
- ☐ **“Vendor dictatorship”**
- ☐ **Lack of trust, ease of central manipulation**
 - ☐ **Transparency is key**



The Future of Electoral Technology?

- ☐ Synergies between civil and voter registration?
- ☐ Digital identities with biometric identification, digital certificates?
- ☐ Polling stations disappear replaced by internet voting and/or voting via mobile phone?
- ☐ Individualised voter education via internet?
- ☐ Direct/digital democracy



The Future ?

Digital Camera

The digital camera is embedded onto the unit's Official Panel and may be used to capture a voter's digital photograph during registration.

Local Capture of Information

The application contained can capture data manually inserted in the Vanguard. This data can be, voters information, as well as Voting results.

Transmission of Data

The kit is capable of transmitting all data and results from distributed locations to a central site.

Color Touch-screen

A touch-sensitive, full-color LCD screen displays easy-to-use controls for PenCom officials to use to incorporate or edit data

Signature Pad

The signature capture device may be used to capture a user's signature in electronic format during registration or authentication

Printer

The attached printer can be used to print a voter registration card

Fingerprint Reader

The main fingerprint capture device may be used to capture a fingerprint in digital form during registration or authentication.





Biometrics. an Appropriate Technology?

- ☐ Political Factors, Sept 11 2001, Fight Against Terrorism, interests in population databases
- ☐ Nature of Vendors and Service Providers being large conglomerate working also with defense sector
- ☐ End of Production of Polaroid 35 mm Camera
- ☐ Technological Developments
- ☐ Business Opportunities
- ☐ Accuracy and/or Perception of Accuracy of Biometrics...
- ☐ Easy Concept of Biometrics and AFIS
- ☐ Inclusion in Legal Frameworks, DRC and Togo
- ☐ Changing funding scenarios, Angola, Nigeria, Mozambique...
- ☐ Vendor Driven? Supply Driven?



Five years of EC - UNDP Experiences

- ☐ Challenges of the biometric voter registration in the DRC electoral processes
- ☐ South-South Cooperation
DRC-Togo
- ☐ Bangladesh, Conakry, Mozambique, Nigeria, Haiti, Tanzania, Benin...
- ☐ Work of the Joint Task





Technology and Market forces drive History?

- ☐ **Luddist Approach versus Advertisement Approach**
- ☐ **Joint Study on ICTs Civil/Voter Registration and Data Base Transmissions within the Global Training Platform**
- ☐ **EC, UNDP, IDEA, CIDA, IOM, OAS and...ACE**
- ☐ **Focus on civil/voter registration and transmission of electoral data**
- ☐ **Comparative assessment**
- ☐ **Auditing procedure**
- ☐ **Conduct an analysis of most appropriate manner of procuring these technologies and the related specialized services**

There are numbers of key critical issues that are thoroughly analysed in order to equip EMBs, development partners, practitioners and governments with support tools that could be used when considering both the advantages and the limitations of technological innovations applied to civil voter registration and other electoral activities. These include:

- ★ The level of politicisation and public confidence enjoyed by the public administration and EMBs
- ★ The average level of computer literacy of national civil servants
- ★ The development of the ICTs and other infrastructure needed to support such projects
- ★ Long-term sustainability of the hardware and software applications to be introduced
- ★ Storage (and maintenance) of the material
- ★ Selection criteria of the service providers
- ★ Level of security and data protection features to be introduced
- ★ Synergies and cooperation between different ministries and state agencies
- ★ Overall costs (both immediate “up-front” costs, as well as, longer-term costs), and who would cover them
- ★ Role of private companies signing Build Operate Transfer direct agreements with relevant

The study intends to deliver the following results:

- ⇒ Provide electoral assistance providers with an objective overview of option and models available for introducing technology in an electoral process
- ⇒ Undertake a comparative review of ICTs use in civil and voter registration, especially the sustainability and effective use of biometrics-recognition systems in the voter registration activities for 4 case studies to be selected among the following countries: South Africa, Nigeria, Togo, Brazil, Portugal, Cabo Verde, Senegal, Mozambique, DRC, Madagascar, Botswana, Haiti, Venezuela, Zambia, Liberia, Sierra Leone, Bosnia
- ⇒ Analyse possible synergies between civil registration, voter registration, census and other statistical services
- ⇒ Conduct an overall review of ICT use in other electoral activities, including electronic voting and electronic tabulation of results
- ⇒ Assess citizens/voter confidence in civil registration and electoral process which uses ICT and its potential enhancement
- ⇒ Evaluate the transparency of such processes and their potential applications to deter and defuse the occurrence of electoral fraud and malpractice
- ⇒ Make considerations on use of ICT in the civil and voter registration process and to comment on the appropriateness and cost-effectiveness of ICT systems currently being promoted in EC-UNDP's assistance recipient countries
- ⇒ Conduct an analysis of most appropriate manner of procuring these technologies and the related specialised services
- ⇒ Assess the general perception and understanding of ICT use by political parties
- ⇒ Analyse the impact of the transition from low-tech to ICT system on the consolidation of democracy
- ⇒ Assess the main operational problems in the identification, formulation and implementing phases of EC-UNDP support to civil and voter registration
- ⇒ Provide clear guidance and orientations on how to support civil/voter registration processes.



Appropriate Satellite Technology in Support of African Electoral Cycles

☐ Governments of Belgium, Luxembourg and Italy that are funding an industrial consortium coordinated by the ESA.

☐ DRC Independent Electoral Commission partner and beneficiary of the Pilot Project

☐ The EC, UNDP, IDEA and the IEC DRC collaborate in the production of the E-Learning content of the Effective Electoral Assistance module and E-Learning module adapted to the Congolese Electoral Administration context.

☐ The general objective is the testing of a particularly cost effective and sustainable satellite technology for data transmission in an African context targeting training and electoral data transmission.



- ☐ The system promises to provide a 2-way affordable internet connection over satellite between the end user and the service provider's data centre.
- ☐ This internet connection can be used to provide video and audio content to the user or can provide the user with large bandwidth Internet access (browsing, email, etc).
- ☐ Value added services, such as pay TV or VOIP telephony, can be built on top of the SAT3PLAY platform.
- ☐ It promises to reduce costs and sustainability of actions in training and data transmissions in the electoral and public administration sectors.



Appropriate Technology?

- ☐ Continuous and increasingly fast developments in ICTs applications available for electoral purposes
- ☐ EC/UNDP are receiving many request from Governments and EMBs for support to civil and voter registration and digitalization of results aggregation processes
- ☐ Factors to be reckoned with by all EMBs, donors, practioners and electoral assistance providers
- ☐ ICTs has already dramatically changed the way elections are conducted in the western world.
- ☐ Unrealistic not to accept that this process will go on and affect more and more emerging democracies and post conflict countries in a leapfrog manner
- ☐ We need to do our job and equip ourselves better...



Technology and Market forces do not drive History alone...

change is induced by social needs expressed in new political demands, affected by new technical possibilities and by development in S&T exerted by changes in the political panorama in a given moment.

Hence advances in technology and market forces are not to be conceived as the mayor forces of change in the election sector in the past decades, somewhat they shaped new situations for competing political and economic forces.



Best Practises

- ☐ Feasibility Studies
- ☐ Study Tours
- ☐ Technical Specifications drafted considering comparative experiences adapted to the country's needs
- ☐ Software and Hardware to be adapted to the country's electoral laws and practices
- ☐ Gradual Introduction at least 16-12 months prior to Election Day
- ☐ Divide the country on different operational areas in view of rationalizing the resources
- ☐ Accent on human resources, training, on site assistance from services providers
- ☐ Cost Effectiveness and Sustainability
- ☐ Pilot Tests, Validation Tests, Mock Registration
- ☐ Civic Voter Education aimed at increasing all stakeholders' trust in the technology
- ☐ Plan synergies with civil registry and voter registration, ID for police etc..
- ☐ Consider to extend the length of the operations





Sustainability Issues

- ☐ Technology might reduce costs and improve sustainability
- ☐ It opens up risks for governments, donors and assistance providers to become hostages of the vendors
- ☐ Cost-effectiveness depends on the re-usability of the hardware for other elections or public administration purposes
- ☐ Technological changes are not accompanied by adequate training and voter education efforts



Concluding remarks

- ☐ Complexity of solutions
- ☐ Standards compliance
- ☐ Capacity building of EMB
- ☐ Project Management in the Introduction of Technology
- ☐ Sustainability

