
ITU Asia-Pacific Regional Development Forum 2015

Development of cost effective e-health services in rural and remote areas for reducing operational and administrative cost in Bangladesh

21-22 August 2015

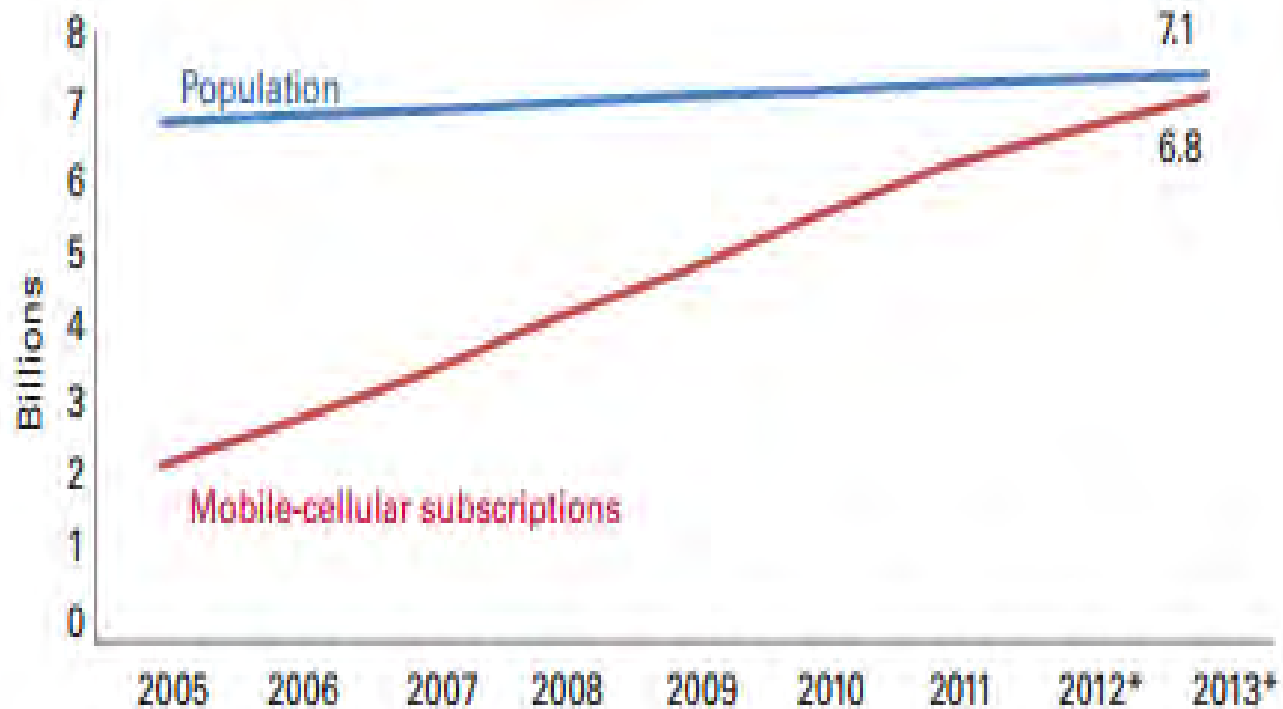
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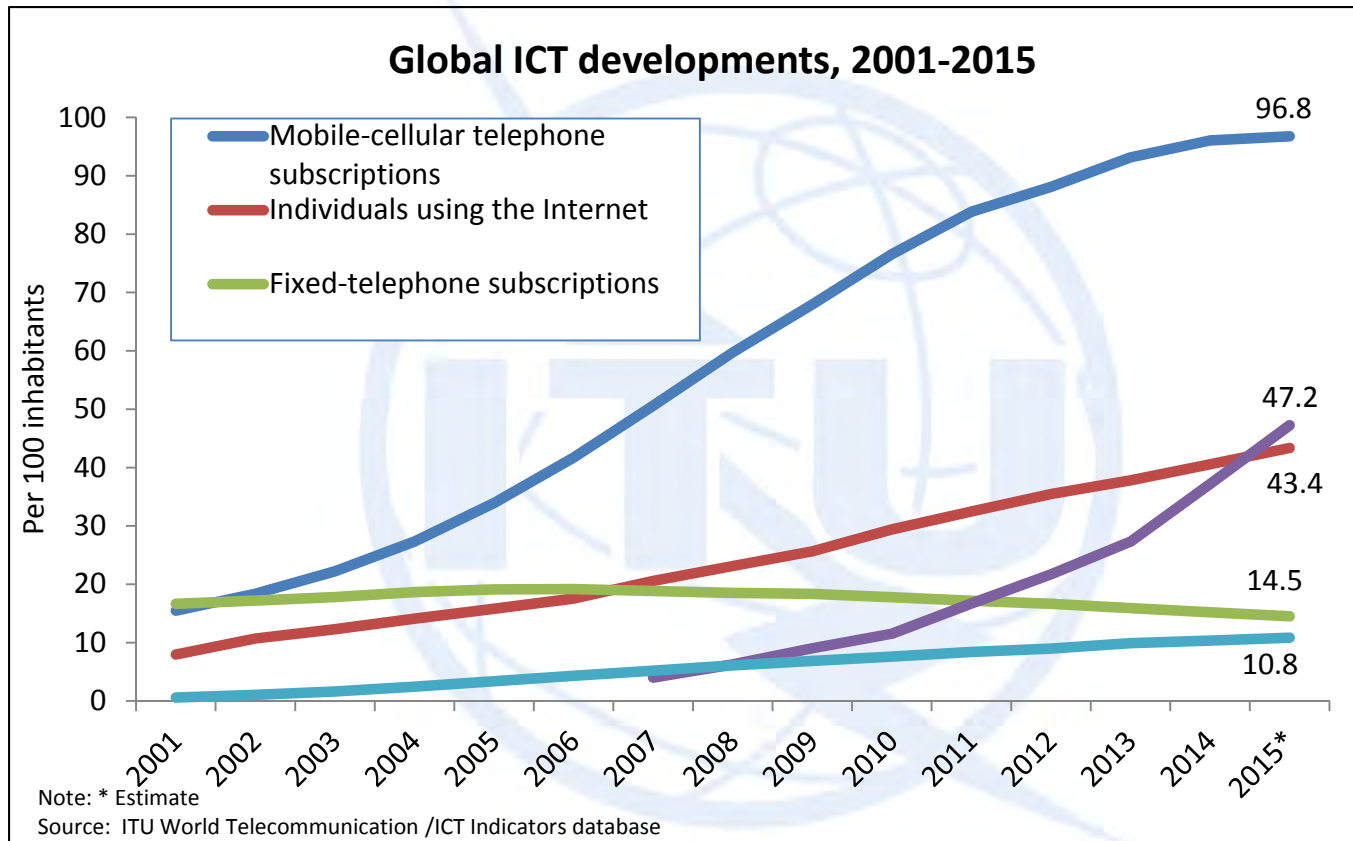
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Background

- ✓ A study was conducted for assessment of potential use and utilization of eHealth & mobile applications for health sector in Bangladesh in Feb 2015
- ✓ It was a collaborative study including Government, regulatory body, private sectors, telecoms, UN agencies, associations and community
- ✓ ITU has supported this study for strengthening the ehealth & mHealth applications, particularly research for cost effectiveness in Bangladesh
- ✓ Ethics Advanced Technology Ltd (EATL) was the researcher and developed proposal for effective utilization of ehealth and mobile apps services in rural/remote areas for reducing cost & increasing impact.

Global ICT Trends: 7 billions mark Changing Lives & Changing Behaviors





Bangladesh Facts And Reality



10th world ranking
Based on mobile user

120.350 Million
at the end of December 2014 (BTRC)



80% of population use mobile phone

Ref: BTRC, & Digital World 2015



& 97%
household user

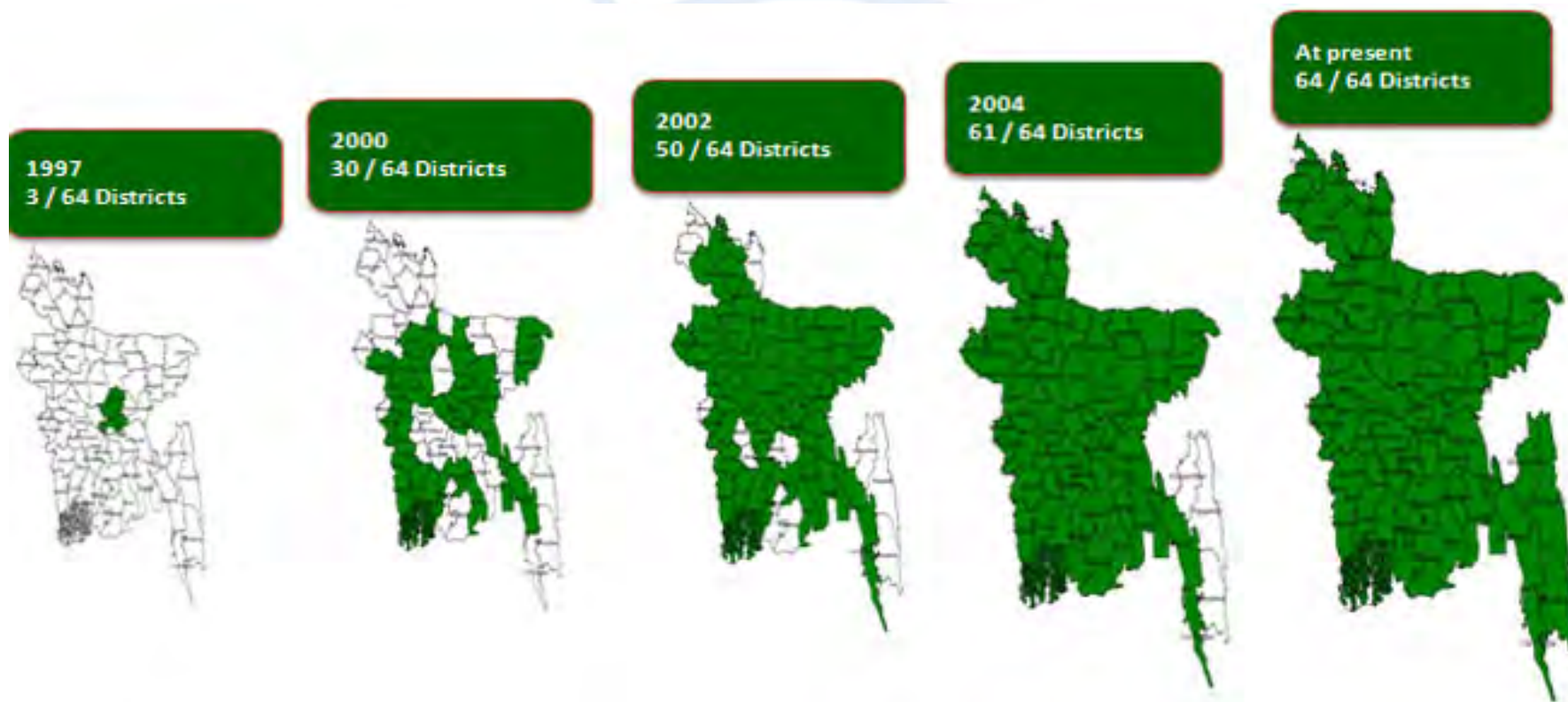


44 total internet user
Million

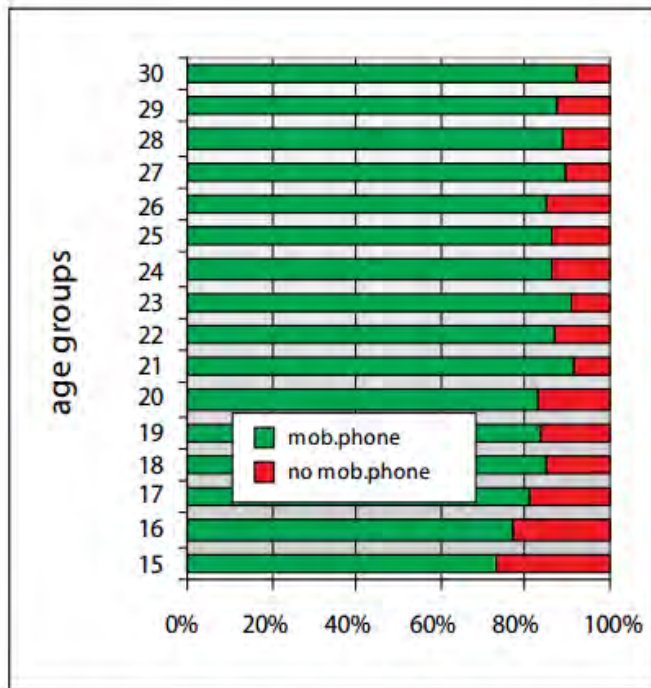


> 90%

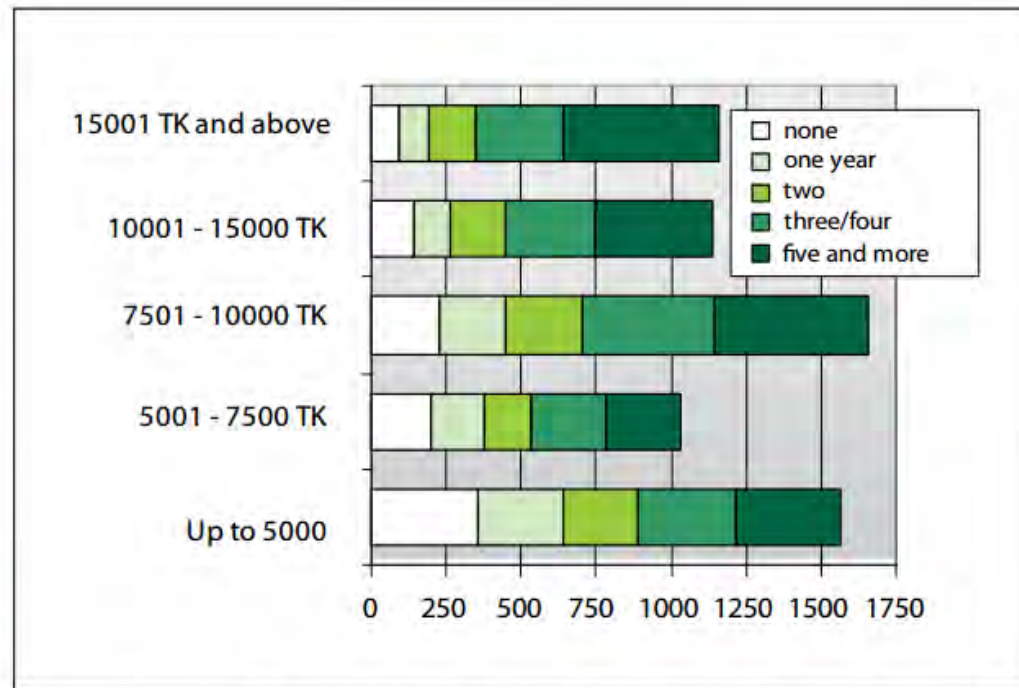
Evolution of Mobile growth in Bangladesh



Mobile Users among Young People



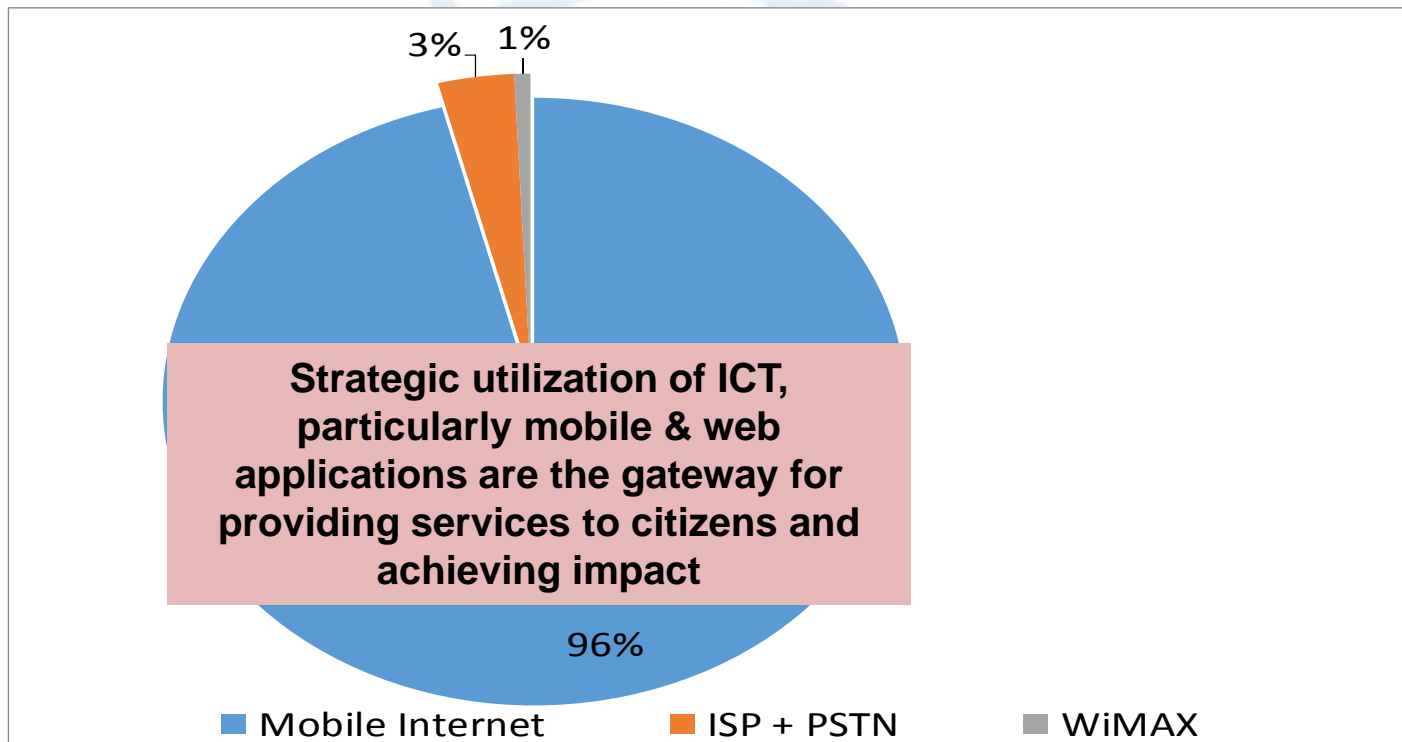
Availability of mobile phones (by age groups)



Histories of mobile phones (total number by income groups)

Sources: Bangladesh Youth Survey 2011

Internet subscribers in Bangladesh



Rationale

- Bangladesh has extensive networks of health system for delivering services at community level, however, high level of workforce positions are lying vacant,
- eHealth & mHealth can bridge the gap and create opportunity for effective health services.
- MOH has provided laptop and tablets to all health centers and frontline workers, therefore, there is exposure of using ICT, but training and capacity building is necessary.
- All health workers have mobile phones, so it is an opportunity for using eHealth & mobile apps for priority health issues.
- Collaboration with Government, private sector and NGOs can be developed depending on pilot plan and its scaling up in the future.

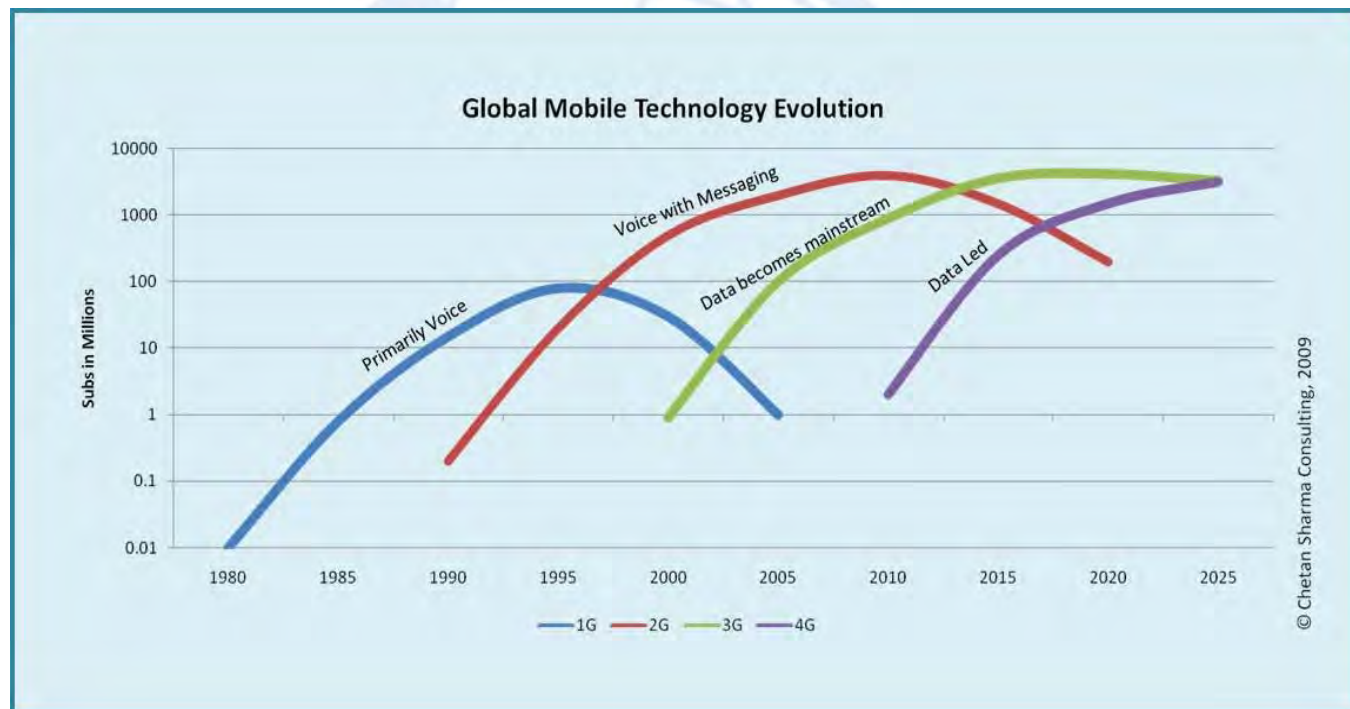
Objectives

Overall Objective: To assess and develop proposal on potential use of emerging mobile applications & eHealth opportunity for utilization of services by citizens.

Specific Objectives:

- Carry out an assessment of potential use of mobile applications in health sector;
- Undertake study of mHealth applications development trends, regulatory and technological challenges and opportunities;
- Analyze data and information gathered from the study and contribute towards formulating suitable policy recommendations;
- Draft a project proposal on prioritize mobile health applications to be researched, designed and developed by the department or relevant stakeholders and
- Submit a comprehensive assessment report and potential utilization of mobile application in health sector of Bangladesh

Global Mobile Technology Evolution



Key Observations & Challenges

- ✓ Mobile is the biggest digital channel
- ✓ 3G has started yet to reach all
- ✓ Limited mobile data/apps services but increasing ..
- ✓ Community center network: a great resource: Union Digital Center
- ✓ Mobile apps roadmap needs to conform to the existing guidelines and roadmaps
- ✓ ICT training and Capacity building is essential
- ✓ Internet Network capacity needs to be expanded for expansion of services
- ✓ eHealth & mHealth opportunities are clearly visible and some research needed
- ✓ Set of centralized databases can be leveraged across applications

Bangladesh Health System



About 600 hospitals

About 19,000 day-care facilities

About 100,000 health workforce



Bangladesh
(Pop. ~150
Divisions (7))

Pop. 23
Districts (64)

Pop. 2.5
Upazila (483)

Pop. 0.3
Unions (4,501)

Pop. 13,503
Villages

Pop. 13,503
Villages

Internet
connected
April 2009

Ongping



Utilization of eHealth & m-health applications

- ✓ **Education and awareness** (disease prevention, educational programmes, health promotion, community mobilization)
- ✓ **Point of Care Support and Diagnostics** (support in diagnostics, screening and clinical care)
- ✓ **Patient Monitoring** (treatment adherence support and appointment adherence)
- ✓ **Disease and Epidemic Outbreak Surveillance** (real-time tracking of cases of infectious disease)
- ✓ **Emergency Medical Resource** (emergency obstetric care, disaster management)
- ✓ **Health Information Systems** (supply chain management, procurement information)
- ✓ **Human Resources for Health** (distance training and continuous professional development)
- ✓ **Health Financing** (smart cards or vouchers using mobile payments)

Project Proposal on prioritize mobile applications for health

- Ethics Advanced Technology (EATL) has prioritized two mobile health applications as “Research Project” for its development, implementation and making contribution to the policy.

Overall Objective:

- To develop and test a mechanism with mobile apps for further improving Immunization/EPI coverage and nutrition services in rural areas of Bangladesh or reaching more with low cost. The plan is to develop apps then to piloting of these two mobile apps for scaling up of services for its impact.

Specific objectives

- Develop two mobile apps in android version, test it for utilization.
- Improve the services of neonatal & child health along with EPI service for reducing neonatal mortality rate
- Improve the services of nutrition and behavior change at community for reducing nutritional disorders and maternal mortality.
- Provide health education regarding vaccine preventable diseases, breastfeeding and nutrition.
- Test these apps for supporting eHealth for reducing operational & administrative cost
- Establish technology based partnership with the higher facilities i.e. Union Health and Family Welfare Centre (UH&FWC) and Upazila Health Complex (UHC).

Scope of Work

- **Food and Nutrition (in Bengali)**
- Different types of food and nutrition value
- Chart of balanced diet
- In the context of Bangladesh, chart of balanced diet in different times of the days, breakfast, lunch and dinner
- Information of vitamins, foods for the vitamins and benefits of the vitamins
- Essential food for the children and importance of breast feeding
- Essential food for pregnant women and senior citizens
- One screen for proper hand wash method with images
- Provide colorful images of the food

Vaccination (in Bengali)

- The app will provide the schedule of vaccination of an infant
- A parent will put the name and date of birth of his/her child; the app will give the estimated date of the vaccines.
- The app will notify the parent when the scheduled date is closer and reminds him
- When a vaccine is given, the parent can mark it and the app will wait for the next vaccination date
- The app will contain information for each of the vaccine and benefit of taking the vaccines
- The app will support multiple children and separately notify using the name of the children
- The app will also support vaccination information for the pregnant women.
- It will suggest possible TT vaccination dates when the date of last MC is given
- It will provide information and benefit for this vaccine

Impact of Research

- There will be significant impact on health system for utilization of mobile apps on priority issues for improving knowledge, understanding and coverage as well.
- Prevention of common diseases and illness for healthy life
- It will improve access and quality of health services at community level.
- Mobile apps will improve awareness among population and will create new ways of communication for behavior change
- New culture of information will be established at community and health system as well.
- eHealth system and mHealth will provide access in rural and remote areas
- Lower cost and bigger impact for health services in rural/remote areas

About EATL

- EATL is a **private enterprise and social change maker organization** focused in ICT since 1999
- We provide software and mobile communication technology based solutions, Digital Content Management, Automated Monitoring, Evaluation, Mobile apps & Reporting System
- Our strong collaboration with local and global partners, strategic relationship with Government and Regulatory bodies differentiate us from other ICT company in Bangladesh
- We have dedicated professional teams, partnership with Govt, NGOs, Universities and strong networks with the brightest talents for delivering high quality outputs.
- We work in collaboration, creative innovation for sustainable development

Conclusions

- It is an exciting **research proposal** for providing eHealth & mHealth services in rural and remote areas and test out its effectiveness and cost effectiveness.
- This proposal will complement existing health services with technology and business process.
- **EATL wide range of experiences** with multiple stakeholders, Government & donors in diversified **mHealth** solutions for supporting Universal *health coverage* & *MDGs*.
- We have collaborative effort with **Government, NGOs & private sector** for leveraging impact in Health.
- Have high quality **mixed skills professional team** including technical, business and development experts.
- We are looking for international partnership, resources and TA support for documenting this research for scaling up in Bangladesh.

ITU : I Thank U

