

## **Innovative applications and strategy For the Empowerment of People with ICTs**

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### **1. E-democracy is the key for the future action**

As for the term “E-democracy”, many definitions focus on the usage of ICT into political process and public decisions based on needs of citizens. As the idea of e-democracy is continuously improved, my approach to e-democracy as a phenomenon resulting from the usage of ICT as a tool is to enhance democratic system of governance. There is no doubt that both technology and innovation are quite important, but the focus must be the governance system with accountability and transparency. Some of the major challenges that e-democracy faces include the issues such as availability, accessibility, affordability and usability, especially in low income countries.

Also, other challenges on e-democracy are the information security policies for ensuring an appropriate handling in protection of personal data and information from the users and political commitment with e-democracy as well as its engagement from citizens. E-democracy projects and initiatives are increasing. They can be national scope projects or local ones. Valuable lessons can be obtained from them. The advantage for a local scope is that small projects can be used as pilot projects to evaluate the benefits and convenience for major ones. From the side of citizens, e-democracy practices include the cases such as online petitions for the government, e-discussion forums, social media and politician’ web pages. Government portals are focusing on supplying their citizens with services, adding applications such as open data, e-procurement and digital inclusion, in an attempt to facilitate the relationship between citizens and government. One of the most known experiences of e-democracy is the one related to e-voting. In Japan we have experienced e-voting in some of local elections and from this national election in July, a full scale of internet campaigning has started. In the end, e-participation will be easier if e-democracy will become matured in the society.

### **2. Emerging Role of ICT for empowerment of people**

The emerging role of ICT as a tool for e-participation is to enable people empowerment. The main achievements and Points required are as follows:

1. In today’s world there are about 4 billion people who use mobile or/and Internet.
2. Use of mobile communication technology became the world most common way of

transmitting voice, data and services for business development. This mobile usability is especially active in developing countries.

3. Smart phones with ability to share video, voice and pictures at a time especially during political and business events become more significant.
4. Use of Internet has also played an important role in education especially in universities where training for e-participation and online courses has been started.
5. In case of handicapped people, ICT can make it easy to access the information for them.
6. In gender, women show interest in social networking sites as well as the young generation.
7. Online political communication has increased. For example the Arab spring in 2011 has continued up to now and similar movements have appeared in some places in the world.

The above seven points are the issues achieved. And the following is Points should be to achieve as still under process:

- 1) As for access to the Internet, especially deployment of broadband is an issue in developing countries.
- 2) Firm commitment by political leaders is vital to promote people participation.
- 3) Decentralization of Governmental institutions so as to bring the public decision is making as close to people as possible.
- 4) Use of ICT in rural areas can solve the economic growth. User friendly interface for aged people is also the key for ICT solution.
- 5) Incorporating the ICTs training in education system: Like installation of software, creation of websites, storing of data, etc.
- 6) Sharing and proper usage of contents: point is How to prevent criminals of misuse of the information available in the internet

### **3. Strategy and Initiative for innovation**

The search for appropriate measurement to exploit ICTs to benefit people is increasingly being discussed in relation to Information society paradigm, according to which the creation, distribution, diffusion, use, integration and manipulation of information by the means of ICTs is the driving force behind transformation and development of a society. In information society ICT infuse every aspect of life from business to government providing new and powerful tools, which enable more (1) Convenient, (2) friendly, (3) transparent,(4) inexpensive, and (5) faster communication and transactions between the parties.

ICTs have potential to considerably support the independent life style of the people, as communication and transactions don't require physical presence any longer, while active participation in politics and in other decision-making processes can be easily accessed. Potential benefits of ICTs for the people refer to

- 1 improved skills,
- 2 increased employability;
- 3 better health awareness and
- 4 online access to health services;
- 5 increased quality of life;
- 6 strengthened community cohesion and trust;
- 7 Better access to information and engagement in public issues.

Aside from services addressing health and safety concerns, the people have a natural desire for participation in civil, economic, political as well as social activities, for being active members of the society, and for having their importance to the society tangibly confirmed.

Democratic political participation must involve the means to be informed, the mechanisms to take part in the decision-making and the ability to contribute and influence the policy agenda. There can be a one-way relationship in which government produces and delivers information for use by citizens, a two-way relationship in which citizens provide feedback to the issues submitted by the government for consultation, and a relationship based on partnership with the government in which citizens actively engage in defining the process and content of policy-making .

In Japan, formal tools for enabling citizens to engage with their government have been limited. The main means for soliciting citizen comments is the public comments system, which the government established in 2005. Though the public comments system does not have legal binding, each government must, under the basic law on reform of the governments, use the public comments system to provide a public opportunity for participation in the process of political decision-making. However, this system to date has not proved to be effective in encouraging citizens' input. In particular, it has been found that:

- 1) solicitation for comments comes late;
- 2) comments induce little change;
- 3) public comments receive little attention; and
- 4) Business groups send a bulk of the comments, while the citizens' use is low.

Despite the means of introducing public comments being mostly limited to feedback options available at public Web sites, such as e-mails to the governor, mayor, or public

relations section, there are some examples of more sophisticated mechanisms of e-participation. The best examples include Fujisawa City and Mitaka City, which implemented a system for adopting proposals from [e-forums]. The e-forum of Fujisawa, being the first e-forum in Japan, served as a means for discussion of the overall city administration. An e-Forum established in the city Mitaka aimed to collect citizens' views about what policy goals should be set within the new master plan of the city. This e-forum involved e-symposium and e-community carte.

[E-symposium] is organized to discuss the principal policy goals identified based on prior conducted surveys. The animated recording and minutes of the symposium are distributed via the Internet so that those citizens who cannot attend the symposium but are interested in the subject can see the content of discussion and make comments if they wish.

[E-community carte] is aimed at collecting on-site information relevant to urban policy, such as dangerous crossings and industrial wastes, etc. All these views and information that were collected through an e-forum are examined by policy-makers, who attempt to incorporate these responses into the final revised master plan.

Aside from low contributions in the form of opinion posting and making proposals based on discussions, both projects don't reach a key objective of e-participation, namely of inviting previously non-engaged citizens to express their views. Those users of e-forums who did contribute to the discussion are the citizens who have already been active in various community activities. This has a direct consequence for the social inclusion issue as the main idea of using of ICT is to reach the wider audience supporting those who would not typically access the Internet and take advantage of the large amount of information available. This requires provision of relevant information in a format that is both more accessible and more understandable for less experienced users.

This brings us to the problem of accessibility of Web sites and offered applications, including those serving as a means of e-participation. In Japan, elderly people are a segment with the lowest usage of PCs and internet, lagging behind their younger counterparts. The generational gap for internet usage, so called digital divide is wider than for mobile communication usage as the use of PCs demands a fair amount of knowledge or "digital skills" lacked by older people.

#### **4. E-government and Social media**

To address urgent need and enable social and political integration of people, the governments should ensure a genuine access to data and bring citizens closer to administration, service delivery, decision and policy-making. The vision of the future

society system is based on the paradigm shift with convergence of five priority phenomena in Japan - "Informatization", "Aging", "Environment friendly", "Urbanization" and "Globalization".

In the light of fast-approaching and almost global phenomena of e-participation, the Japan has made great progress in terms of developing policies aimed at promoting ICT applications and accessibility of ICTs to meet the needs of its citizens. Measurements aimed e-inclusion of the people addressed by the government in general policy areas as well as in specific legislation and regulations are beneficial for several fields. Implementation of accessibility policies has been especially beneficial to the development of mobile broadband and applications that address people's needs for human rights such as education, employment, health and safety.

Electronic dimension for provision of e-government services for people enabling their integration into decision-making to date remains unexploited. Although present e-Government framework stipulates development of ubiquitous government services for the elderly people, it lacks more concrete measures promoting their development. Additional channels such as interactive digital TV are also not yet utilized to achieve social and political integration of senior people. At the same time, the government services provided through PC-based access lack means for introducing public participation and civic engagement and lack accessibility features.

Thus, in spite of some good progress in the development of ICT enabled applications benefiting people, there is an urgent need to find effective measures for exploiting ICT for all the societal domains and promotion of commercialization of innovative solutions meeting all possible needs of the stakeholders such as civil society, NGO, academia and business sectors. In my class at the graduate School on ICT society, 300 students express their strong interest in SNS as powerful tool for influencing the public sector.

According to Andreas Kaplan and Michael Haenlein, they define social media as "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." Social media has substantially changed the way organizations, communities, and individuals communicate. Social media provides a powerful platform to help government communicate directly with people and be more visible on the Web. Social media will be more useful empowerment of people as a tool of e-participation. I believe that the best services to people through different ways like SNS and open data with a shared database.

## **5. Mobile-Participation for all**

The rate of mobile phone usage in Japan at the end of 2012 has almost reached 80% for the 60s age and over group. As for the mobile internet usage, 3G mobile internet usage reached 70%. Remarkably, diffusion of mobile internet usage is also continually advancing among all level of people.

Introduction of universally designed mobile phones was pioneered with Raku-Raku phone (easy use friendly to the senior) by NTT DoCoMo in 2001. Strategy with the Raku-Raku phone concept has been built on three fundamental characteristics—easy to read, easy to hear, easy to operate. Such as text reading, and a voice-activated call feature based on recognition technology. As for accessibility of mobile web content for the elderly and disabled people as well as Web content in general, in spite of policy initiatives, these measurements are found to have little impact. While it is mandatory for government national and municipal websites to follow accessibility standards, though there are some good examples of the web sites developed in compliance with the guidelines, most of them still lack a lot of functions important for elder users such as changing font size of the text.

Suggesting more efforts are required to improve government services both in terms of accessibility of Web content and of offering means for e-participation. On this regard, UNESCO UNITWIN Program on Emergency Preparedness and Responses (Disaster education) as my chairmanship implies the importance of e-participation in community activities under disaster.

## ***6. ICT applications for super-aged society***

Demographic change phenomenon characterized by a rapidly aging population will cause serious social, economic and political issues. According to UN estimations the global population of older persons is growing at a rate of 2.6 per cent per year, which is more than twice faster than the growth of the population as a whole. Developing countries in spite of relatively low percentage of elderly people at the moment are aging at a faster pace than developed countries and thus will have less time to adjust to the consequences of population aging.

Prospects and consequences of demographic challenges are being viewed in the aging societies in the contexts of replacement migration and employment protection policies, necessary changes to be done in pension regimes and health care systems, and the potential offered by information and communication technologies (ICTs) for enhancing quality of life through sustaining independent living and providing opportunities for greater democratic and societal engagement of the senior population.

Exploring opportunities for the elderly in the area of ICT receives a lot of concern in Japan which became the fastest-aging society in 2005 when the ratio of elderly people came to 20 % (now 25%). There are now over 30 million older people, that is, ages 65 and over in Japan. In addition, there are at least 4 million children and adults with disabilities which constitute about 3-4 % of the country population.

Since it is hard to be aware of the onset of psychiatric disorders and the impact on everyday life increases as the symptoms progress over the long term, in many cases, people reach medical institutions only after a long delay since onset. This means that there are significant numbers of people in Japan that have yet to experience and benefit from e-health and other ICT enabled innovations and become real citizens of information society.

Recognizing potential of ICTs for benefiting people with special needs the Japanese governments at national and local levels are looking for the measurement to promote ICT based innovations for a growing number of older persons and persons with disabilities who are found to be willing and economically able to secure independent living. According to the recent study, Japanese senior people hold a half of all personal financial assets and also spend a half of national healthcare expenditures.

The consequences of aging process will continue to shape Japan's future. The challenges that Japan's fastest-aging society is confronting today will be soon faced by other countries given an increasing pace of aging worldwide. Considering the latter, this paper aims to explore effective measurement and strategies for promotion of ICT enabled innovations for people with special needs. This presentation begins by reviewing current public initiatives in the field of e-health and accessibility addressing challenges faced by Japan's rapidly aging society. The results of efforts in promotion of ICT solutions for its elderly population are then evaluated against availability of special infrastructure, devices and interfaces, and services and applications for senior people in Japan. This presentation concludes with an outline of proposed measurement for promotion of ICT based innovation for aging society and an outline of directions for future aging/disability-inclusive development.

## **7. Proposed actions for digital inclusion**

Recognizing remaining challenges, the government of Japan established a taskforce on ICT applications for Ageing Society under both Japanese Ministry of Internal Affairs and Communication and Local Authorities Systems Development Center (LASDEC) in 2010. The task force is chaired by myself and consists of 12 members representing academic and business communities, e-local governments, think tanks, lawyers, NGO working

with senior and disadvantaged people. The main aim of the task force is exploration of appropriate measures to exploit ICTs for social and economic benefit of people with special needs.

Taking an integrated approach, the taskforce aims at proposing a comprehensive, cross-cutting solution to the problems currently addressed separately, seeking out related solutions across the private and public sectors with the emphasis on industry-government-academia cooperation that already proved to be an effective partnership model for various kinds of ICT based innovations designed for people with special needs.

According to the taskforce by LASDEC on the vision ICT innovations for aging society let by myself as chair can cover and transform 12 main areas:

- 1) e-Government/e-Municipality: Improving the e- government and administrative services so that the elderly feel easy and comfortable to use them in terms;
- 2) Healthcare: Expanding efficient hospitals and healthcare systems by healthcare computerization;
- 3) New traffic systems: Development and diffusion of new elderly-friendly traffic systems (e-mobility) and smart city planning for active aging people;
- 4) Disaster prevention and reduction: Establishing disaster prevention networks, safe/secure remote supervision system by mobile and GPS services;
- 5) Elderly Housing: Promoting “Ubiquitous and Smart Homes” for the elderly and expanding ICT-based nursing homes program;
- 6) Life-long education: Encouraging senior citizens to participating in knowledge based society through distance and lifelong education as a part of e-participation/e-Inclusion;
- 7) Social participation: Promoting positive e-participation to civil society through volunteer activities; expanding the ICT-utilized social networks for the elderly and creating the community volunteering culture;
- 8) Pension system: Designing a new pension service system by ICT that friendly provides the elderly with the basis of its livelihood;
- 9) Pro-elderly employment: Creating a new pro-elderly employment systems and markets such as teleworking and 3-day /week work
- 10) Nursing care: Developing and distributing both low-cost nursing-care robots and consumer electronic products for the elderly;
- 11) Safe and Secure System;
- 12) Enabling the harmonization between Green New Deal and ICT for Aging society



Following the outcome of the taskforce I proposed several measurements as a next step for transformation of society to meet the needs of its biggest stakeholders.

As one of my recommendation, the government of Japan has started introducing new policies directed at promotion of ICT based innovations for elderly and People with disabilities. Since these are the very recent measurement, it is still difficult to judge about the results of introduced policies.

At the OECD-APEC joint workshop on ICT applications for the people with special needs held at Waseda University in September, 2012 under my chairmanship, it is recommended to establish an international commission that would monitor and analyze specific policy measures introduced by different governments and investigate experiences, case studies, good practices on ICT for ageing and disabled solutions disseminated by the governments.

As the consequences of e-participation process will continue to shape world's future it is absolutely necessary to establish [ICT for e-participation-Social Inclusion]– a new field of research that aims at integrating the five major paradigms mentioned above, and formulating the evaluation methodology on effectiveness of multifaceted solutions.

More efforts also need to be focused on provision of various assisting trainings on the use of ICT applications to resolve the obstacles and problems of the people arising from low trust and confidence in their own contribution on the sustainable communities.

Finally, I am sure that innovative strategies and sound initiatives of e-participation with empowerment of people will be quite important platform to the MDGs and future international development strategies and priorities for post-2015.