ROLE OF ICT IN HUMAN DEVELOPMENT

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Abstract:The present report is an expanded and critical study of the conditions and process of integrating the ICTs into the various sectors of social and economic development in Mozambique, in the context of the contribution they can make in the struggle against absolute poverty and, as a result, in the promotion of human development.

The National Health Service (SNS) covers only about 40% of the population and the level and quality of the services provided are still modest. Although funding and the shortage of skilled staff are part of the problem, archaic and inadequate communication procedures inside the system worsen the levels of performance. Furthermore, there has been little exploration of the potential of ICTs to overcome the weaknesses of the SNS, namely physical distances and the scarcity of medical and auxiliary staff, through remote diagnosis and medical and epidemiogical control.

Keywords: Goal , Challanges , Role

Introduction

" The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives." Mahbub- ul - Haq, the late visionary creator of the concept of Human Development, quoted in UNDP 2007.

Goals of the ICT

Goal Number 1: No Poverty

Currently, there are over two billion people in the world who don't have a bank account. Digital financial services through ICT helps these people engage with digital economy. It has been proven that access to financial services empowers people to get out of poverty.

Information services can also provide accurate and timely financial information to the people which promulgates their rights to economic resources and market perceptions which would ultimately benefit all those who are concerned.

Goal Number 2: Zero Hunger

It is evident that the skyrocketing number of the world's population signals the need for new methods in order to improve crop yields. Through ICT, farmers can gain access to information systems that provide content such as weather forecasts, trading information and training courses that are tailored to their needs.

Goal Number 3: Good Health & Well-being

ICTs have the potential to bring the medical personnel and their patients closer wherever they may be. Patients can remotely contact healthy care services for help. Health care workers can run tests that would otherwise be impossible without the help of ICTs such as conducting remote diagnostic check-up of their patients and prescribing treatment solutions.

Goal Number 4: Quality Education

Education is where a citizen is prepared. E-learning systems serve as a leeway in educating learners through ICT. With these technologies, it can contribute a worldwide spread of access and quality in education for all, as well as excellent delivery. Teachers have pointed out that with the implementation of ICT in their school, it has helped enhance the students' attention and perception skills .Around the globe, there are programs that are self-paced, available competitive college courses from known universities with certification, online competitions and labs which in turn act as tools for livelihood opportunities. There are also smart systems that analyze the learning pattern of the student which it uses in constructing individual learning plans as maximized pedagogy.

Number 5: Gender Equality

Access to ICT helps women in understanding the importance of their productive and reproductive roles in the society at the local community, government and global level. Women can be empowered as economic, social and political actors by providing new space and opportunity where they can contribute to the community. These opportunities can be in form of advocacy, ICT-based entrepreneurship or other community development activities through ICT.

Goal Number 6: Clean Water and Sanitation

Contaminated water and inadequate sanitation accounts to more than 800,000 deaths annually. ICTs can provide ways for smarter water management such as automated systems handling the measurement and observation of the water supply and propose possible solutions and interventions based on the data gathered. ICTs can also be used to provide data to practitioners in the field enabling them to provide more water, sanitation and hygiene (WASH) services.

Goal 7: Affordable and Clean Energy

ICT-powered solutions such as smart electrical grids, smart homes and buildings, and automated industrial processes can be deployed to replace their inefficient counterparts towards usability and energy efficiency.

Goal 8: Decent Work and Economic Growth
ICTs are paving way for interested entities to conduct business virtually anywhere in the world. Some of examples of these businesses are online education platforms, computing services and online boutiques. This creates a plethora of new employment opportunities which ultimately fosters market growth.

Goal Number 9: Industry, Innovation and Infrastructure
ICT is a crucial tool in industrialization. In emerging information and knowledge societies, open access to academic research, online collaboration and optimization of ICT enable countries to provide infrastructures well-suited for knowledge-based societies such as power networks, transportation systems, water supplies and communication networks.

Goal Number 10: Reduced Inequalities
ICTs can help reduce inequality within and between countries by providing knowledge to the disadvantaged section of the society such as those living with disabilities and women. For example, to those who are visually challenged, there are now accessibility solutions that accept speech as input and output for computing operations. Interactive lectures can also be used to engage people into learning and developing their ICT skills with the goal of bridging the digital divide.

Goal Number 11: Sustainable Cities and Communities
City management can be done effectively with the help of ICTs. Innovative concepts such as smart buildings, smart waterworks facilities and intelligent transport systems not only provide increased work efficiency but also boasts a reduced energy consumption and waste impact.

Goal Number 12: Responsible Consumption and Production
ICTs application help participate in the dematerialization and virtualization of materials such as the case of virtual receipts and electronic books replacing their paper-based counterparts.
Innovative ICT applications can also stimulate a sustainable consumption and production of resources. Some examples of these include smart grids, cloud computing and ICT-based power plants.

Goal Number 13: Climate Action
ICTs such as satellite monitoring are critical in monitoring the earth, interacting with climate and weather information, generating forecasts and using results gathered to enable early warning systems.
Besides monitoring the effects of climate change, ICTs also play a role in alleviating the effects of climate change by providing timely and accurate forecasting and early warning systems.

Goal Number 14: Life Below Water
Utilization of ICTs can also pave the way to the conservation and responsible use of oceans and the marine resources that they hold. Satellite-based monitoring can improve overall monitoring and reporting efficiencies which results to increased liability. On a smaller scale, local sensors and other related systems can also deliver real-time updates to improve the accuracy and efficiency of data gathered from satellite-based monitoring.
Big data from the monitoring activities can be analyzed to look for short and long-term trends in terms of pollution, weather patterns and migration cycles.

Goal Number 15: Life on Land
ICTs can play a major role in the conservation of terrestrial ecosystems and prevention of biodiversity loss. Like on oceans and marine resources, global monitoring systems such as satellite-based monitoring can improve the monitoring efforts which would increase accountability. As a result, several illegal activities such as poaching and illegal wildlife trade can be alleviated through this way.
Data gathered from the monitoring activities can be used to analyze trends in terms of biodiversity, changes in ecosystems as well as to plan mitigation efforts.

Goal Number 16: Peace, Justice & Strong Institutions
ICTs can help in strengthening the accountability and reliability of institutions. The emerging trend of governments opening their data to the public increases transparency ratings, enables citizens and helps stimulate financial growth. ICTs are also vital in areas such as monitoring and tracking government data and public demographics.
ICTs are also important when natural or man-made disasters occur because it is responsible for retrieving, communicating and sending reliable and timely crisis information. This allows efficient and correct solutions to be carried out. In the future, analysis of big data can also pave way to accurate forecasting and early warning systems which would be open to anyone.

Goal Number 17: Partnerships for the Goals
Ultimately, ICT plays the biggest role in SDG, although not specifically mentioned. But with the three pillars of sustainable development namely economic growth, social inclusion and environmental sustainability, it is no doubt needed in providing innovative and effective means of implementation in a global scale. It helps in enhancing international coordination, multi-stakeholder partnerships, data monitoring and accountability.
The Sustainable Development Goals is an opportunity for the world to work together to reach goals such as ending poverty, protecting the earth and ensuring prosperity for the planet. Technology if used effectively will accelerate the SDG's task of reaching its goals.

Challanges in the Implimentation of ICT
However, this new potential and opportunity is accompanied by significant challenges and possible threats for large established INGOs.
Sustainability and scale
The use of ICT in development programs supported by INGOs has, to date, been relatively ad hoc, with many examples of small initiativesor pilots but very few large-scale, sustainable, ICT-supported programs. To unleash the full potential of ICT in development programs, a new level of collaboration, both internally and with other organizations, and a new approach to scaling solutions to achieve a really material impact are needed. This will necessitate significant coordination between INGOs, technology companies, private sector organizations, universities, and government entities (central and local), as well as with traditional development partners.

Lack of knowledge

Many INGOs are not well equipped internally to support and nurture the effective exploitation of ICT to benefit development. They simply do not have the knowledge, expertise, or organizational capacity needed. The use of information technology is often seen as a thorny, problematic issue relating to back office systems. Furthermore, ICT often has a questionable reputation as a result of previous unsuccessful or costly initiatives.

Pace of change

INGOs' current structures, staffing, and ways of operating have a strong momentum that is not easy to halt or redirect.It is relatively easy to utilize ICT to sustain and improve current organizational constructs and approaches, making useful but incremental progress. It is incredibly difficult to conceive of new ways of working with organizational constructs that are fundamentally different from the status quo and require a shift in terms of strategy, competence, skills, and organizational structure.

Funding

There also is a significant challenge in adequately planning and financing the use of ICT in development programs.With cyclical donor funding and pressure to minimize administrative and management costs, it is often difficult for INGOs to properly plan and resource financial and human investments in ICT as a core capacity for development programs.

Changing roles and norms

The emergence of new ICT possibilities potentially presents some more fundamental and far-reaching questions, challenging or even undermining the assumptions on which INGOs came into being. When we reflect on why INGOs were originally founded, we can isolate a number of specific gaps between people and communities in poverty and those in more affluent, developed parts of the world. For example, if we think about gaps around understanding and information, traditionally INGOs helped us understand the dire need of communities in the poorest parts of the world. There are also gaps in terms of access, communication, and of course resources that INGOs have historically played an important role in addressing.

Illiteracy:

 Text user interfaces do not work very well, innovative Human Computer Interfaces (see Human Computer Interaction) are required.

Lack of means to maintain the project: some projects may be left to deteriorate in time because maintenance is sporadic and if a component breaks it is costly to obtain skilled people and parts to make a repair.

Role of ICT in Human development

Education

The use of ICTs in the educational system that would not be able to solve the current problems in the educational system, but rather provide alternative solutions to the obstacles encountered in the conventional educational system. ICTs would be able to provide education and knowledge in a wider reach, even with a limited amount of resources, unlike conventional systems of education.

Literacy

Many current initiatives to improve global, regional and national literacy rates use ICT, particularly mobile phones and SMS. For example, in India a project titled "Mobile Learning Games for English as Second Language Literacy" (2004-2012) aimed to enhance the literacy sub-skills of boys and girls in low-income rural areas (and in urban slums) via mobile game-based learning of English in non-formal, formal and informal education contexts.

Health

ICTs can be a supportive tool to develop and serve with reliable, timely, high-quality and affordable health care and health information systems and to provide health education, training and improve health research.[

Alives of people with disabilities can be improved, allowing them to have a better interaction in society by widening their scope of activities.

E-government and civic engagement

New forms of technology, such as social media platforms, provide spaces where individuals can participate in expressions of civic engagement. Researchers are now realizing that activity such as Twitter use "...that could easily be dismissed as leisure or mundane should be considered under a broader conceptualization of development research.

Conclusion

   This paper has discussed, through a down to earth and practical approach, what the authors consider the key challenges of integrating ICT in organisations in the scenario of most developing countries.   The best practices given should not be interpreted as prescriptive: The best approach in each case must be tailored by the staff of the organisation (not external consultants) to the prevailing conditions and culture of the organisation. This is the challenge we leave to organisations of all kinds in developing countries: Develop your own capacity.

Artificial intelligence technologies are making its way to agriculture and it is now the future that we see for ICT4D. Food stocks, crop choice and virtual assistant are the main focus of the advance intellectual technology that can bring the livestock and agriculture to industrial and to information links back again. As a result, these will shape the future of ICT4D.

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