Real Access / Real Impact criteria

The Real Access criteria are used to frame the analysis of all issues surrounding ICT access and use, including the "soft" aspects that are often overlooked. They are designed to anticipate or detect the reasons that ICT development initiatives, government e-strategies, or grassroots projects fail to achieve their goals or highlight how and why these projects succeed.

There are twelve inter-related Real Access criteria that can be used to improve the way that ICT-based development policies and initiatives are planned, researched, monitored and evaluated. Each criterion is set out below, with a short description and a set of example questions that can help frame thinking about how to apply it to ICT projects and policies.

To get a full picture of the Real Access / Real Impact criteria, have a look at our **Concept Note** that describes the full framework.

Our **images of the digital divide** help illustrate these points.

The Real Access criteria are:

- (1) Physical access to technology
- (2) Appropriateness of technology
- (3) Affordability of technology and technology use
- (4) Human capacity and training
- (5) Locally relevant content, applications, and services
- (6) Integration into daily routines
- (7) Socio-cultural factors
- (8) Trust in technology
- (9) Local economic environment
- (10) Macro-economic environment
- (11) Legal and regulatory framework
- (12) Political will and public support

(1) Physical access to technology

The first step is to consider whether ICT is available and physically accessible to the people and organizations involved with or affected by the project or policy. Looking at the technology itself is obvious, including the availability of hardware, software, telecommunications networks, and Internet services. But in developing countries, it is also important to think very broadly and consider geographic, environmental and contextual challenges that can affect physical access to ICT. For example, basic infrastructure requirements, such as electricity and roads, often raise critical issues affecting physical access to technology. People with disabilities — such as the blind, deaf or physically handicapped — face particular barriers to technology access, and inclusion of these groups may require special attention.

Example questions for applying this criterion: Is technology available and physically accessible to people and organizations? What technology is available? What factors affect physical access to technology in general? What factors affect the physical access to technology in the context of this project/policy? What can the ICT project/policy do to help ensure that technology is available and physically accessible to people and organizations?

(2) Appropriateness of technology

Once physical access to ICT is determined, it follows that the technology used in projects and policies must be appropriate to local needs and conditions. Appropriateness can be gauged in terms of power requirements, security, environmental conditions, and other aspects of the local situation. The technical specifications and usability of the ICT targeted in the project or policy must also be suitable to how people and organizations need and want to put technology to use. A wide variety of technologies are now available, and it is important to think broadly about options for appropriate technology. For example, desktop computers and high-bandwidth connections are often the first things that come to mind when people envision an ICT project, but they are often not the best technology choices in the context of local realities of developing countries. The majority of people and organizations in poor communities lack electricity or a secure location for desktop computers, making them inappropriate for many ICT projects and policies. More appropriate ICT options may include handheld computers and public access points, as well as innovative uses of cellular telephones, television, and radio for Internet access. Solar and other alternative power sources, together with battery-powered portable devices and wireless connectivity offer greater possibilities for rural access.

Example questions for applying this criterion: Is the technology appropriate to the local needs and conditions of the community? How do people need and want to put technology to use? What can the project/policy do to help ensure that ICT is appropriate to these needs and conditions of the communities involved in or affected by it? What can the ICT project/policy do to help ensure that technology is appropriate to local needs and conditions of the community? How could technology that works well in developed countries be modified to be more suitable in developing countries? Have all existing technology options been assessed and has the most appropriate solution for the specific policy/project objective been selected?

(3) Affordability of technology and technology use

Once it is determined that appropriate ICT is available, the next question is whether people and organizations can afford to obtain or access it, and use it in their work and their lives. The affordability problem is, of course, tied directly to the general conditions of poverty. At a macro level, significant infrastructure investment is needed to bring technology to communities that lack electricity, access to telephone networks, or computer equipment. And in very poor communities, which often need basic necessities such as food, healthcare, and sanitation, striking the right balance between technology and other priorities is required. At the micro level, expensive hardware and the high cost of telecommunications and Internet connectivity in developing countries are primary barriers to the affordability of ICT, especially in remote areas. For example, a computer costs the equivalent of a years' average income for the majority of people in developing countries, and Internet users in many developing countries pay higher connectivity charges than their counterparts in the developed world. Affordability is an immediate problem, which shifts to a question of sustainability in the long-term. Policy-makers and development practitioners need to make realistic choices about introducing costly ICT services in poor communities, and may be better off integrating creative uses of inexpensive technologies into development efforts. One option for developing nations and low-income communities is public access points, which provide low-cost or even free computer and Internet access, but project or policy planning must account for subsidizing the costs of providing these services over the long-term. Telecommunications liberalization and technology convergence can also bring down costs and make many technologies more widely affordable in different contexts.

Are the technologies and ICT services affordable for local people to obtain, access and use? What does "affordable" mean in the context of the community or target group? What can the ICT project/policy do to help ensure that technologies and technology use are affordable for local people and organizations? Is the project/policy planning for technology affordability in the short-term, and sustainability in the long-term?

(4) Human capacity and training

Any technology will be insufficient if people do not understand how to put it to effective use as part of their lives or their work, either because they are not trained to use it, or they cannot imagine the possibilities for how they could use it. People will be encouraged to use ICT only when it is apparent to them that it will have a positive impact on their daily lives. Further, it is essential that people understand the broader potential for technology, so that users are empowered to innovate for themselves and use technology in creative ways that may not have been envisioned by the project or policy. In this way ICT can be an enabler of broad skills development; not only related directly to the use of ICT, but as a powerful tool for learning. At one level, employees in schools, libraries, hospitals, civil society organizations, governments and businesses need the basic technical skills to use ICT in their daily work. It is equally important that high-level technical support skills are available to ensure that ICT can be set-up and maintained. The lack of technical support is a major obstacle to technology use in many developing countries, and skills transfer should be an element of any development project involving ICT. Illiteracy is also an important barrier to ICT use in many countries, but there are innovative applications of technologies that can help with this. For example, voice and image-based technologies can help side step the need for reading and writing skills as prerequisites to ICT use.

Example questions for applying this criterion: Do people have the training and skills necessary to use technology effectively? Do they understand how to use technology? Can they envision other potential uses for the technology in their lives or work? What training is already available in the community or target groups involved? Is the available training well suited to the needs of the project/policy? What can the ICT project/policy do to help ensure that people and organizations understand technology and its potential uses? What can the ICT project/policy do to help ensure that people and organizations get the training they need to use technology effectively, especially where no training is currently available?

(5) Locally relevant content, applications, and services

In order for ICT to be meaningful in the daily lives and work of people and organizations, there must be locally relevant content, applications, and services available, which can be accessed through ICT. In the context of socio-economic development programs, local relevance means things like educational materials, health information, environmental data, or agricultural extension services that are useful to people in the communities served. It could also mean locally relevant applications, such as software or computerized systems for administration of patient records, drug distribution management, small business tax calculations, or literacy training. Government information and services provided to citizens are a great example of local content that can be adapted for widespread distribution through the electronic environment as e-government services develop. Another example of locally relevant content disseminated effectively through ICT is basic healthcare information, which can reach vast numbers of people via radio and television in poor and rural areas where there are few medical facilities. At a personal level, the use of ICT for communication with loved ones, business colleagues,

or customers, can be a considerable motivating factor to encourage new users to try ICT. But regardless of the content, application, or service, its availability in local languages it critical if ICT is to be relevant and useful to the communities and groups targeted by ICT projects or policies.

Example questions for applying this criterion: Are there locally relevant content, applications, and services that people and organizations can access and use through ICT? Are content, applications, and services available in local languages? What content, applications, and services are "locally relevant" in the context of the communities or target groups affected by the ICT project/policy? What can the ICT project/policy do to ensure that locally relevant content, applications, and services are available to people and organizations? Is the project/policy creating or improving locally relevant content, applications, and services?

(6) Integration into daily routines

Without the many conveniences enjoyed by developed countries and well-off communities, people in developing countries and disadvantaged communities often face a variety of burdens in their daily lives. Day-to-day tasks that are simple for privileged groups -- such as cooking or cleaning -- are often time-consuming and inconvenient for the less advantaged. And in a work environment, basic aspects of teaching, hospital administration, government service provision, and other jobs often take longer where modern conveniences are unavailable. Even the journey to work, school, or the local hospital can be a burden to many, when public transportation is poor, roads are bad, and distances are long. In this context, integrating technology use into peoples' daily routines is a major hurdle for many ICT for development initiatives. Yet this seemingly obvious issue is often overlooked by ICT projects and policies, where technology use becomes an additional burden to the already over-burdened lives of people in developing countries, and this proves to be a factor that limits widespread technology uptake. People are unlikely to use technology if it involves efforts that outweigh the benefits. For example, where people have to travel out of their way to use telephones or computers, these technologies becomes less useful. Or when teachers are required to take a computer course outside of the school day in order to get training to use computers in their classrooms, they may be less likely to participate in ICT projects. Moreover, as in developed countries, people in developing countries will usually not use technology for technology's sake, but they will find ways to integrate ICT use into their lives and work when it helps them improve the way they do something that they need to do anyway.

Example questions for applying this criterion: Is technology use an additional burden to the lives and work of people and organizations already burdened by daily tasks, or is it integrated into their daily routines? What are the realities of daily life and work in the communities and groups targeted by the ICT project/policy? How can ICT use be adapted within these local realities? What can the ICT project/policy do to help ensure that technology use is integrated into daily routines and does not become an additional burden to people's lives and work?

(7) Socio-cultural factors

The likelihood of living in poverty is far greater for groups who suffer discrimination. Across the globe, people are prevented from full participation in their societies and economies on the basis of their race, gender, class, age, physical ability, HIV status, geographical location, sexual preference, religion and other socio-cultural factors. Social exclusion leads to unequal participation in economic, political, educational, and digital arenas, and it follows that discrimination limits ICT uptake. The infusion of ICT into a country paints the

existing landscape of poverty, discrimination, and division onto the new canvas of technology use. Because ICT can reward those who know how to use it with increased income and cultural and political advantages, the resulting digital divide shows up in increasingly stark contrast. The trend is that privileged groups acquire and use technology more effectively, and because the technology benefits them in an exponential way, they become even more privileged. For example, in many countries women are inhibited or prevented from using technology, and ICT professions continue to be male-dominated. There are also growing gaps between younger and older generations in relation to technology use in some communities: older people often believe that they are "too old" to use technology, while in other communities a "pecking order" for technology use prevents younger people from using ICT. Development initiatives need to be aware of the socio-cultural factors that have an effect on the use of ICT they target, and take steps to mitigate discrimination.

Example questions for applying this criterion: Are people limited in their use of technology because of their gender, race, disability, age, or other socio-cultural factors? What kinds of socio-cultural issues could impact on the ICT project/policy in the community involved? What can the ICT project/policy do to help ensure that people and organizations are not limited in their technology use due to gender, race, disability, age, or other socio-cultural factors?

(8) Trust in technology

The level of confidence that people have in computers and the Internet has been a defining issue in the design and widespread acceptance of ICT in the developed countries of the world. The same is proving to be true in developing countries, especially as issues such as privacy, data protection, security, and cybercrime begin to affect developing country ICT users. If computer and Internet users do not feel confident about what happens "behind the screen", it can significantly limit the ways that people are willing to use the technology. This is especially relevant to the adoption of e-government and e-commerce applications, but also has bearing upon the motivation to become e-literate generally. Some believe that a lack of awareness about these key issues among new ICT users is a potential time-bomb: where unsophisticated users naïvely trust online information and computer applications they are more susceptible to scams and fraud, and if the problem harms too many, there could be a backlash against technology use. As part of efforts to advise people and organizations about the benefits of technology, it is also important to inform about the risks involved in ICT use to help new users guard against them.

Example questions for applying this criterion: Do people and organizations have confidence in technology use? Do they understand the implications of the technology they use? How do the communities or targeted groups feel about issues like privacy, security, or cybercrime? Do they understand issues like privacy, security, or cybercrime in the context of technology use? What can the ICT project/policy do to help ensure that people and organizations have confidence in technology use? What can the ICT project/policy do to help ensure that people and organizations understand the implications of the technology they use in terms of privacy, security and cybercrime?

(9) Local economic environment

While the usefulness of technology for socio-economic development has been demonstrated, the sustainability of such efforts in developing countries has proven challenging. At the end of the day, the local economic environment determines the extent and frequency of technology use in the long-term. So

ICT projects and policies should also be designed with local economic conditions in mind. If people and organizations cannot afford to use technology now, subsidized ICT projects will not succeed in the long-term if steps are not taken to improve the economic environment. Technology used to foster economic growth can help expand ICT use in the community more generally. For example, when community-based organizations and small businesses are involved in providing technology services and creating content for other businesses, this can generate revenue to help make local technology use sustainable, which in turn will have a positive impact on the local economy. However, it is important that the potential negative economic effects of ICT projects and policies are also considered. For example, ICT training programs can be useful, but local job opportunities must be created for those who acquire ICT skills so they do not have to leave their families and communities in search of employment. Failed community access projects can lead communities to reject future technology projects, where they feel that funds have been drained from the local economy that might have been better used for other things. And in some cases new technologies can replace human labor -- for example by "cutting out the middle-man" -- resulting in lost jobs, which also can create negative attitudes towards technology. These effects must be carefully weighed against the potential gains in productivity or better distribution of wealth.

Example questions for applying this criterion: What is the condition of the local economic environment? What impact will ICT use have on the local economy? Can the local economic environment sustain the technology use envisioned in the ICT project/policy? Can the local economic environment sustain long-term technology use generally? Can ICT be integrated into the local business community to improve the economic environment? Does the ICT project/policy have a plan for ensuring the sustainability of the envisioned technology use? What can the ICT project/policy do to help ensure that the local economic environment can sustain long-term technology use?

(10) Macro-economic environment

Where the local economic environment determines the sustainability of technology use in ways that are seen directly at the community level, macro-economic policies have an impact that is initially seen at the national level, but which eventually is also felt at the local level. National governments and regional economic bodies usually set macro-economic policies that are then implemented by regulatory agencies. There are a variety of macro-economic policies that can affect the widespread uptake of technology, including policies governing deregulation of key industries; foreign direct investment; banking and currency controls; trade tariffs, labor and employment standards; and taxation. Macro-economic policies can hinder technology use, for example where foreign investment in local technology industries is discouraged by high taxation or currency controls. Alternatively, macro-economic policies can help create an enabling environment for the widespread use of ICT, for example where customs duties on technology are reduced to encourage computer imports. ICT projects and policies need to consider how the macro-economic environment will affect their activities, and plan accordingly. If macro-economic policies have a negative impact on ICT uptake, development projects may want to consider whether to engage in advocacy activities to promote appropriate changes.

Example questions for applying this criterion: Does the macro-economic environment in the country or region affect technology use? What are the key areas of macro-economic policy that affect technology use in the country or region? Is macro-economic policy favorable to technology use? How do policy issues like deregulation, taxation, trade, investment, or labor affect the use of technology envisioned in the ICT project/policy? What can the ICT

project/policy do to help ensure that the macro-economic environment is favorable to technology use?

(11) Legal and regulatory framework

Policy positions that are agreed upon in international, regional, and national institutions are implemented through laws and regulations at the national level to form the framework for governing the country. ICT policy-making happens at the international level through processes like the ITU discussions on telecommunications policy, UNCITRAL development of model laws, and WTO negotiations on trade. And at the regional level it is seen in efforts to address cross-border issues like Internet exchange point negotiations, technology trade and investment cooperation, or consortium bids to roll out Internet backbone infrastructure. At the national level ICT policies cover a range of issues, from radio and television broadcasting to the provision of telecommunications services. ICT policies and the resulting legal and regulatory framework can either foster or hinder the effective, widespread use of ICT, depending on the principles that shape it and how they are implemented. Governments must understand the implications of their decisions for the technology end user, and shape an appropriate long-term strategy to implement laws and regulations that support technology use.

A range of projects are underway in developing countries that integrate ICT in a number of critical areas, including notably education, healthcare, government, trade, and small business support. However, these projects frequently encounter obstacles that directly or indirectly relate to the country's legal and regulatory framework. One example is projects that rely on technology or infrastructure use that may be limited by current laws or regulations, such as satellite, wireless, or Voice over Internet Protocol (VoIP) technologies. Another example is ICT projects that are hindered by a general law or regulation, such as fiscal or other regulations that limit cross-border trade and communications. A final example is projects working in a particular area (such as healthcare) where current laws or regulations do not cover ICT use (such as privacy and data protection laws governing the handling of electronic health data). Development initiatives need to consider how the legal and regulatory framework will affect their activities, and plan accordingly.

There are many examples where a nation's leadership has embraced ICT and is ready to promote a legal and regulatory environment that will enable its widespread use. But often at the working level, government officials do not understand the implications of existing laws and regulations that may hinder ICT use, nor the changes they need to formulate and implement to create a more favorable framework. There is no "one size fits all" solution and transplanting legal models to developing country environments does not work. An effective ICT legal and regulatory framework is unique for each country, and must be shaped by the existing web of legislation, local culture, economics and politics. Although the development aid industry generates a tremendous volume of reports, advice, and analyses aimed at helping developing countries shape laws and regulations, developing country governments frequently raise concerns that the recommendations offered do not show sufficient understanding of local needs and conditions. Ground-level ICT initiatives can also help give leaders a realistic appreciation for what ICT can — and cannot — do for the country. They can work with the government to help frame appropriate legislation, balance the needs and views of the relevant constituencies, and ensure the legal and regulatory framework is implemented effectively. When the legal and regulatory framework limits ICT use, it can be helpful for development projects to engage in advocacy activities to inform ICT decision-making and promote appropriate changes to laws and regulations.

<u>Example questions for applying this criterion:</u> Do the country's laws and regulations affect the use of technology? How do the laws and regulations affect technology use in the country? Does the legal and regulatory framework promote or inhibit technology use? How do legal and regulatory issues affect the use of technology envisioned in the ICT project/policy? What can the ICT project/policy do to help ensure that laws and regulations promote, and do not inhibit, technology use?

(12) Political will and public support

Governments can play a key role as engines for socio-economic development. Most developing country leaders are convinced that ICT will help their nations solve economic and social problems, and they are ready to drive the necessary changes. Government has the unique ability to lead the way while facilitating others to expand the scope of activity and become involved in the process. It is critical that governments lead effectively and bolster public confidence in the path they take. However, translating a grand vision into practical steps that fit their local context is not a simple matter. Governments often try to meet the short term demands of their constituencies and fail to provide a coherent long term plan for prosperity, or hinder the efforts of development initiatives and the private sector to address ICT disparities.

Some governments have planned e-strategies, but at a practical level they lack the political will to drive change because they do not enjoy widespread public support for an ICT-focused approach. Often this is because government officials fail to engage stakeholders in framing the e-strategies, so they do not have public buy-in for their long-term plans. Public participation is also needed so that governments do not have to carry the burden for development alone. If citizens are informed and empowered to participate in the policy-making processes that determine how ICT shapes their society, they will offer their support to government decisions, and be more pro-active in improving their own lives. In some cases the government has partnered with the country's business and civil society sectors to promote ICT-enabled development at the ground level, but the various stakeholder groups lack the experience and resources to give effective input. Often they do not understand the issues being addressed, or they lack clear channels to express their concerns and acquire information. Further, most people do not see the relevance, or the direct impact, that policy-level developments have on their lives. ICT projects and policies can help build channels of communication between decision-makers and stakeholders, including by using technology. For example, e-mail lists can serve as simple channels for information exchange between citizens and government officials. Development initiatives can also inform governments about ground-level realities, and help advocacy organizations engage with the government to promote strategies that enhance ICT use.

<u>Example questions for applying this criterion:</u> Do people support the widespread use of technology in their communities? Do they understand the links between local technology use and the government's overall political strategies to promote ICT for development? What is the link between public support for technology use and government e-strategies? Does the government have the political will to drive needed change to promote technology use? What can the ICT project/policy do to help ensure that the general public supports technology use? What can the ICT project/policy do to help ensure that the government has the political will to drive needed change?