

Information and Communication Technology (ICT) in development co-operation.

Guidelines



NORAD

DIREKTORATET FOR
UTVIKLINGSSAMARBEID
NORWEGIAN AGENCY FOR
DEVELOPMENT COOPERATION

Information and communication technology (ICT) in development cooperation

Guidelines from NORAD

1. Why use ICT?	3
Definition of ICT	3
2. Principles for NORAD's use of ICT for development	4
3. Possible areas for NORAD's use of ICT for development	4
3.1 Institutional development	4
3.2 Private-sector development	5
3.3 Basic social services	5
3.4 ICT infrastructure	6
3.5 The environment and natural resources	6
3.6 Cooperation with civil society	7
3.7 Women and gender equality	7
3.8 Knowledge and human resource development	8
3.9 Contact with external institutions	8
4. ICT assessment	8
5. Working procedures	10
6. Annex	11
Examples/Practices	11

Information and communication technology (ICT) in development cooperation Guidelines from NORAD

This document serves two purposes:

1. To clarify the main principles for NORAD's use of information and communication technology (ICT) in development cooperation, and
2. To be a practical toolkit for staff at Norwegian embassies and in NORAD/Oslo on how and when to work with information and communication technology in programmes and projects.

1. Why use ICT?

The information revolution is changing everything about the world we live in, including the practice of development. ICT has the potential to create jobs, improve access to basic services, and increase the sharing of information between people living in different parts of developing countries. The network age is creating a new paradigm of development that can empower the South and enable it to develop itself.

Even so, many countries and regions still lack the fundamental services that would allow them to enter the information age and prevent the new information technology from becoming yet another source of division.

NORAD recognizes the challenges posed by ICT in development contexts and acknowledges the increasing digital gap between the rich and the poor parts of the world. In May 2000 a working group submitted a report entitled "Bridging the digital divide – challenges and opportunities for NORAD and its development partners". In the light of the report NORAD decided to integrate ICT into development cooperation in order to combat poverty more effectively.

Definition of ICT

In the following the term ICT refers to:

- *Information channels* such as the World Wide Web, online databases, electronic documents, management and accounting systems, intranet, etc.
- *Communication channels* such as e-mail, electronic discussion groups, electronic conferences, the use of cell phones, etc.
- *Hardware and software* used to generate, prepare, transmit and store data, such as computers, radio, TV, computer programmes/tools, etc.

2. Principles for NORAD's use of ICT for development

ICT is to be integrated into projects and programmes for combating poverty according to the following principles:

- 1. ICT is to be regarded as a tool for attaining development goals. ICT is to be integrated wherever it is expedient and feasible.**
- 2. NORAD will not regard the use of ICT in development cooperation as a new sector in itself, but as an integral part of other sectors. The priority areas of development cooperation – social development, economic development, peace, democracy and human rights, environmental and natural resource management, and women and gender equality – are also the main areas for the integration of ICT into development.**
- 3. To use ICT successfully, the partner countries must recognize the benefits and possibilities of this technology as a tool for development in their plans and analyses.**

3. Possible areas for NORAD's use of ICT for development

ICT is a tool for attaining development goals. There are numerous ways of addressing the opportunities provided by this technology. NORAD will, as stated above, focus on ICT as a tool in the already established priority areas for development assistance, where the agency and other Norwegian institutions already have a high standard of expertise and long experience. The following areas are regarded as the main areas for ICT incorporation.

3.1 Institutional development

Development cooperation for institutional development is a central feature of development cooperation. ICT is a useful tool for promoting efficiency and high quality in the public administration and for supporting e-government programmes that involve increased transparency, good governance and anti-corruption projects.

Through open information flows staff in the public sector can be made more accountable for their decisions and actions, which will lead to a reduction in corrupt practices. Furthermore making use of the electronic information resources available to them will enable the staff to work more efficiently.

Case: TANROADS, Tanzania

The project is a part of the reform process of the road sector in Tanzania. Tanroads is a relative autonom agency under the ministry of works.

Tanroads is making use of advanced technology in communicating with the district offices and in monitoring the condition of all the main roads in Tanzania. Tanroads is also making use of e-banking (both the headquarter as well as the district offices)

The project is funded trough a basket fund with other donors, and involves an Institutional co-operation with the Norwegian Directorate of Public Roads.

3.2 Private-sector development

ICT is an essential component of the infrastructure necessary for the development of the private sector. Furthermore, the private sector can participate in development by investing in ICT.

NORAD focuses on improving the conditions for investment, the development of local enterprises and the participation of the general public in business activities. In this connection the major role played by the private sector in the production of goods and services are especially crucial. In general NORAD's support for private sector development is available to all sectors, including the ICT sector. To obtain Norwegian funding, a partner country must submit an application for a specific project together with a project proposal.

As the example shows, NORAD's matchmaking programme has been used to establish joint ventures between ICT enterprises in Norway and Sri Lanka, thus contributing to the transfer of business and technological skills to the ICT sector in one of Norway's partner countries. ICT also provides opportunities for the poorest people through micro-enterprises like the Grameen phone project in Bangladesh.

Case: Computerising of the university administration, Sri Lanka

The project is a part of NORAD's Matchmaking programme and involves a university reform programme. The Norwegian Company ErgoNet is co-operating with the Sri Lankan company DMS Group on computerising university administration systems on three different universities in Sri Lanka.

The project involves linking the three involved universities to the same network, implementing a management information system in order to maintain student records and track activities, and facilitate easy communication between the different departments within the same university on both academic and non-academic matters.

One of the most successful student administration systems used in Norway for the administration of students and academic affairs is used in this project.

Case: Health Information System Programme (HISP), Mozambique

The main focus of the programme is to use HISP as a model for action research and institutional development by using information systems, training programmes and special designed software programmes to provide district health services through a model of decentralised health management.

HISP builds on the "bottom-up" principle of providing district health services enabling first-line health officers, managers etc. to extract information from databases through special designed software programs, to analyse obtained data, and to implement district based action schemes on the bases of analysed information.

NORAD supports the project through the frame-agreement with NUFU.

3.3 Basic social services

NORAD focuses on improving the quality and availability of services to poor and marginalized groups.

ICT is a powerful tool for development in both the health and the education sector. It can be used for: distance learning, training in the field, access to research information worldwide, easier and more cost-effective production of printed learning material, providing guidance regarding mother/child health and nutrition issues and so on.

3.4 ICT infrastructure

As stated above, NORAD does not regard the development of the ICT sector as a priority area, but it does recognize the importance of access to information resources .

NORAD considers legislation governing the ICT sector to be of vital importance for the partner countries if they are to make proper use of the technology, and for the private sector if it is to be able to offer and maintain services such as provision of ICT infrastructure, access to ICT and so on.

**Case: Telecommunication regulations,
Eritrea**

The main goal of the project is to establish and develop a telecommunications regulatory policy and framework, which promotes long-term investment in the sector as well as competition in all telecommunications services, while protecting the public from potential monopoly abuses.

This project involves institutional co-operation between EPTA and the Norwegian post and telecommunications Authority.

Case: IPPP, Zambia

The project involves support to the Environmental Council for Zambia industrial pollution prevention programme, where ICT is used both as a management tool and for public information and awareness.

The objective of the management tool is to provide quick and efficient access to updated information on pollution-relevant information for enforcement purposes. The intranet provides information on specifications for hazardous chemicals, data for permitted and prohibited chemicals and processes, relevant rules and regulations on water, air and waste pollution etc.

Information to the public and industry is provided through newsletter and a website.

3.5 The environment and natural resources

Norwegian development cooperation aims at helping to ensure that natural resources are managed in a sound manner, and that all possible effort is made to inform the population of the consequences of the exploitation of these resources.

In the environmental and natural resource management sector, there is a great need for the collection, storage and use of data. ICT can be of vital importance here. This also applies to national systems for monitoring the environmental impact of development measures as well as to information to the public.

Case: Worldview International Foundation (WIF)

Worldview International Foundation (<http://www.wif.org>) is a development organization with experience and knowledge in the field of communication and media activities for development.

WIF undertakes activities ranging from participatory grassroots projects to the production and dissemination of the latest virtual reality products.

The activities includes amongst others:

- "Mandate the Future"
- media centres
- Worldview Rights
- NGO network
- YA*TV
- "Knowledge on demand"
- etc.

NORAD supports the organisation through a frame-agreement.

3.6 Cooperation with civil society

Civil society plays an important role as a supplement to the public sector in connection with increasing access to basic social benefits and strengthening and developing democracy. A dynamic civil society that works closely with the authorities and the private sector is essential to a well functioning democracy.

NORAD funds several organizations that make use of ICT in development projects as well as in their activities in general.

3.7 Women and gender equality

NORAD focuses on gender equality and women's rights by helping to ensure that development cooperation does not discriminate against women, and by providing support for development interventions that strengthen the position of women in society.

The asymmetry in social and economic power between men and women, which prevents women from enjoying the full benefits of development, also limits their ability to use and influence the content of ICT. Women generally have stronger roots than men in their communities, and therefore possess essential knowledge of the social, cultural, economic and environmental needs of their communities. We need to draw on this knowledge in order to ensure that ICT is responsive to these needs.

Furthermore, the importance of women's participation in the production of ICT content and technology is of vital importance in order to ensure that the content is culturally acceptable and serves its purpose.

Case: BRIDGE – database on women and equality

Bridge (<http://www.ids.ac.uk/bridge/>) is a programme for information collecting and sharing among different women organisations in south and north. Established in 1992 within the Institute of Development Studies (IDS) in Sussex.

Bridge offers

- Siyanda – an internet portal offering reports, policy documents, case studies etc. on women related issues .
- News bulletin – " Development and gender"
- Experts offering collections of information regarding specific topics (for payment)

NORAD is supporting Bridge through basket funding with other donors.

3.8 Knowledge and human resource development

Capacity-building in the fields of teaching and research is necessary in order to meet the challenges in important sectors of society.

NORAD focuses on providing support for knowledge management, planning based on knowledge gained through research, increased South-South cooperation and capacity building at universities and colleges in partner countries in cooperation with Norwegian universities and research institutions.

ICT can help to achieve these goals because it enables the sharing of information worldwide, which serves an educational purpose and provides opportunities for communication between experts wherever they may be in the world.

Case: Distant education for public servants, Sri Lanka

The project consists of 150 group-learning centres at both ministry and divisional level. These learning centres are equipped with computers with modem connection and TV monitors. The course material is delivered to the trainees in a project website.

The goal is to offer adequate re-training of public servants, so that the communication between the central government and the provincial councils is enhanced. This will enable the public servants to require knowledge, skills and capabilities to carry out their responsibilities efficiently.

3.9 Contact with external institutions

Based on requests from partner countries, NORAD should – as in other sectors – promote institutional cooperation between institutions in the South or between institutions in the North and South on different aspects of ICT as a tool for development.

4. *ICT assessment*

The use of ICT as a tool for development in projects and programmes should be part of the initial discussions with partner countries on the possibility of NORAD funding. As stated above, ICT is to be integrated as a tool whenever it is expedient and feasible in the sector, programme or project concerned.

In order to determine whether this is the case, an ICT assessment has to be carried out, based on an analysis of the situation. ICT assessments, like any other assessments, are part of the programme cycle as such and should therefore follow the guidelines set out in NORAD's development cooperation manual.

The ICT assessment should determine the target group's access to ICT in the broad sense of the term. If ICT is to become a tool for development, the target groups must have access to it. This does not necessarily mean individual access; socially beneficial community-based access is equally useful. Access does not only refer to the availability of cables and computers, it involves much more. The term '*real access*¹' refers to aspects such as competence, relevance, politics and economic factors.

The ICT assessment must therefore be conducted along the following lines:

¹ <http://www.bridges.org/digitaldivide/realaccess.html>

- **Physical access:**
People will only use technology if it is available within a reasonable distance of their home or workplace. A computer that lacks adequate power supplies, connection to the Internet or software will not be effective in helping people see the relevance of technology to their lives.
- **Appropriate technology:**
What kind of technology will meet people's needs and desires? A wide variety of technologies are available. Policy makers must be able to critically assess which kind of technology is appropriate for the intended use.
- **Affordability:**
Can people afford the technology? The cost of hardware, phone lines, electricity, Internet connection, software, and maintenance must not be so high that it prevents many people and organizations from using the technology.
- **Capacity:**
People must be able to make effective use of the technology. Further, it is essential that users understand the broader potential for technology applications, so that they can creatively apply the technology to other parts of their lives.
- **Content:**
Is the content locally relevant, especially in terms of language? Content is only relevant when it is of interest to users given their cultural background, and accessible given their reading, writing and language skills.
- **Integration:**
Does the technology add a further burden to people's lives or can it be integrated into daily routines?
- **Socio-cultural factors:**
Are people limited in their use of the technology because of gender, race, or other socio-cultural factors? People are often prevented from using technology because of ethnic, gender or other socio-culturally-based inequalities. These factors must be considered and addressed.
- **Trust:**
Do people have confidence in and understand the implications of the technology they use, for instance in terms of privacy, security, or cybercrime?
- **Legal and regulatory framework:**
How does the legislation affect technology use and what changes are needed to create an environment that fosters its use?
- **Local economic environment:**
Is there a local economy that can and will sustain technology use? The local economic situation will determine the level and frequency of technology use. Technology that can be used to foster economic growth will be more widely employed in the community.
- **National economic policy:**
Is national economic policy conducive to widespread technology use, for example, in terms of transparency, deregulation, investment, and labour issues?

- **Political will:**

Is there political will in government to do what is needed to enable technology to be integrated at all levels of society?

The ICT assessment will indicate whether ICT can be a useful tool in the project or programme concerned and whether it will achieve the development objectives and provide input to further discussions and dialogues with the partner country.

5. Working procedures

Procedures and responsibilities are described in general terms in NORAD's development cooperation manual, and will also apply to projects and programmes with ICT components.

The ICT aspects are to be assessed along the lines described above by the embassy in connection with the assessment of a project or programme. The embassies should consider appointing one person with special responsibility for ICT-relevant projects.

In annual meetings with partners, information regarding ICT should be an integral part of the discussions. Wherever there is a national strategy for ICT in the country or region this should be part of the ICT assessment. Efforts should be made to find out what other donors are doing in this field, in order to achieve coordination and cooperation with these donors.

The technical department of NORAD/Oslo may (and should in this initial phase) be consulted during the ICT assessment. The technical department is responsible for contact with external institutions on the various aspects of ICT for development, and will monitor projects both in Norway and internationally.

6. Annex

Examples/Practices

NORAD is already involved in many ICT-relevant projects. The following examples are taken from the ICT assessments made by the embassies in Tanzania and Sri Lanka, and from various departments of NORAD/Oslo.

1. **Making ICT work at Makerere University, Uganda:**
Developing the opportunities generated by ICT to offer the services of a quality university in the global age
2. **Food and agriculture organisation (FAO): ICT projects in Latin America:**
Developing Internet-based market information tools, household food security information systems, famine early warning systems and other sophisticated tools to assist decision makers.
3. **IDB projects in Honduras to provide technology packages to poor communities:**
Programme which will supply technology packages that will bring educational vehicles to isolated communities that will include tools such as computers, software, magnetic media, cellular phones, and faxes, coupled with a renewable energy source to drive the electronic equipment.
4. **Financial Management Information Systems (FMIS) – IMF:**
Computer based information systems for financial, budget and expenditure control for ministries of finance as well as for line ministries. NORAD is considering financing such a programme in the Palestinian Authority.
5. **Debt Management and Financial Analysis System (DMFAS) – UNCTAD:**
Standard packages of computer software, technical assistance and training that helps developing countries establish and implement more effective debt management. Norway is contributing to the financing of the DMFAS work in UNCTAD and in the installation of DMFAS in the Ministry of Finance of the Palestinian Authority.
6. **Different projects in Brazil supported by the Norwegian Program for Indigenous peoples:**
Video productions in order to strengthening the cultural consciousness of the indigenous peoples of Brazil. Website development for information about indigenous peoples in Portuguese and English, and a website where indigenous organisations can learn and ask for advice in relation to administrative problems.
7. **Support to Farmer Association Project (SFAP), Zambia:**
Developing a database for register producer associations, to register contracts between individual farmers and their groups on the one hand, and the industry on the other hand, to monitor economic performances of various products, and to provide open access to market information.

- 8. Support to Environmental Council of Zambia (EZC) Industrial Pollution Prevention Programme (IPPP), Zambia:**
ICT used as a management tool and for public information and awareness.
- 9. Computer based system for wildlife sector monitoring and management, Zambia:**
System for facilitating cost-effective management of national parks, resource monitoring for wildlife management decisions and planning and executing of antipoaching and other law enforcement activities. The system is developed by NINA/NIPA in Trondheim
- 10. Health Information System Programme (HISP), Mozambique:**
Programme for action research and institutional development by using ICT to provide district health services through a model of decentralised health management.
- 11. BRIGDE (IDS) – database on women and equality:**
Programme for information collecting and sharing among different organisations in south and north. Established in 1992 within the Institute of Development Studies (IDS) in Sussex.
- 12. The postgraduate Diploma course and MPhil programme in Women's Law – development of a website:**
Co-operation between the university of Oslo and the University of Harare. Participants from different countries. The website will contribute to a more efficient distribution of information and research material to students and others.
- 13. Malawi college of Medicine – improvement of learning environment:**
The objective of the project is to make the college a centre of academic excellence, responsive to the health needs of Malawi and its neighbours, in training health professionals, provision of clinical services and health research.
- 14. Case study on the Centre for Policy Alternatives (CPA), Sri Lanka:**
Monitoring of violence at the parliamentary elections of October 2000 by using cellular phones for easy communication.
- 15. Project between University Grant Commission and Norwegian Partner ErgoNet to implement NORAD sponsored IT project worth of US \$ 1.1 million, Sri Lanka:**
Student administration system which consists of a series of fully integrated modules designed to provide a comprehensive solution to administrative problems. The system is intended to be used by both management and staff. It provides a complete administrative system for managing students and courses.
- 16. Distance Education for Public Servants, Sri Lanka:**
The project will provide training to 103,500 public servants within a two-year period and be managed from the Office of Project Administration supported by a network of 150 group learning centres at the ministry level to the divisional level.

- 8. Support to Environmental Council of Zambia (EZC) Industrial Pollution Prevention Programme (IPPP), Zambia:**
ICT used as a management tool and for public information and awareness.
- 9. Computer based system for wildlife sector monitoring and management, Zambia:**
System for facilitating cost-effective management of national parks, resource monitoring for wildlife management decisions and planning and executing of antipoaching and other law enforcement activities. The system is developed by NINA/NIPA in Trondheim
- 10. Health Information System Programme (HISP), Mozambique:**
Programme for action research and institutional development by using ICT to provide district health services through a model of decentralised health management.
- 11. BRIGDE (IDS) – database on women and equality:**
Programme for information collecting and sharing among different organisations in south and north. Established in 1992 within the Institute of Development Studies (IDS) in Sussex.
- 12. The postgraduate Diploma course and MPhil programme in Women's Law – development of a website:**
Co-operation between the university of Oslo and the University of Harare. Participants from different countries. The website will contribute to a more efficient distribution of information and research material to students and others.
- 13. Malawi college of Medicine – improvement of learning environment:**
The objective of the project is to make the college a centre of academic excellence, responsive to the health needs of Malawi and its neighbours, in training health professionals, provision of clinical services and health research.
- 14. Case study on the Centre for Policy Alternatives (CPA), Sri Lanka:**
Monitoring of violence at the parliamentary elections of October 2000 by using cellular phones for easy communication.
- 15. Project between University Grant Commission and Norwegian Partner ErgoNet to implement NORAD sponsored IT project worth of US \$ 1.1 million, Sri Lanka:**
Student administration system which consists of a series of fully integrated modules designed to provide a comprehensive solution to administrative problems. The system is intended to be used by both management and staff. It provides a complete administrative system for managing students and courses.
- 16. Distance Education for Public Servants, Sri Lanka:**
The project will provide training to 103,500 public servants within a two-year period and be managed from the Office of Project Administration supported by a network of 150 group learning centres at the ministry level to the divisional level.