

# UNESCO and ICT for Development



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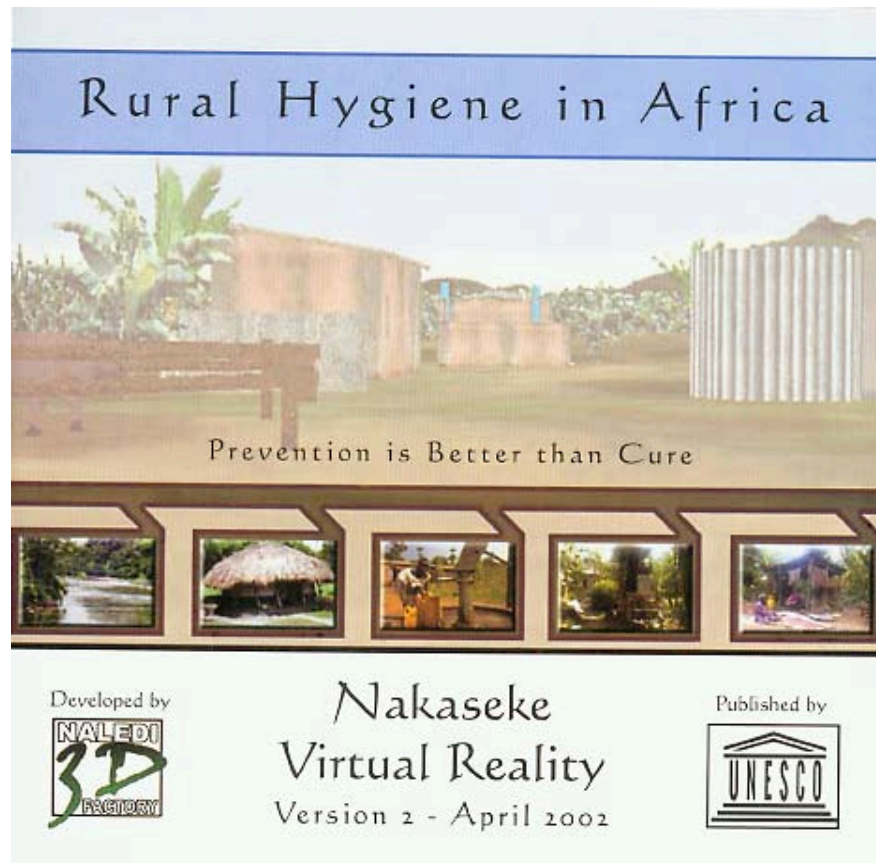
## **Structure of presentation**

- **Objectives: Millennium Development Goals**
- **UNESCO CI approach to ICT for Development:**
- Strategies and methodologies:  
*WSIS, normative actions, guidelines, testbeds*
- Content:  
*Portals, toolkits, digital libraries, dictionaries traditional knowledge*
- Access:  
*hardware and connectivity in CMC, libraries, schools*
- Human capacity-building:  
*Skills to combat HIV/AIDS, Gender Disparities, Illiteracy*
- **Conclusion**

## **Millennium Development Goals**

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria, and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

## ICT and Development



- ICT must be integrated into development
- ICT must be used as vehicle to bring knowledge to the people



## **ICT for Development: challenges**

- Building human-capacity (e.g. education, IT literacy, training and support, capacity building)
- Increased access (through community centers, libraries networks, tools, targeted user sites, multilingualism)
- Developing local and multilingual content
- Provision of enabling environment (technical infrastructure, regulatory framework, user choice)

## ICT for Development: challenges

- Improved connectivity
- Lower costs
- Promoting knowledge creation and sharing
- Fostering entrepreneurship in IT-enable services
- Scarce resources and competing priorities for development

## ICT for Development: target groups

- Decision-makers, e.g. influence policy
- Marginalized groups: women, youth, special needs and Africa
- Knowledge institutions: particularly, to assist developing countries

## ICT for Development: approach

- Institutional cooperation: national and international policies and strategies
- Partnerships: best practice exchange, co-financing
- Capacity-building at grass-root level: infrastructure, trainings and tools

## ICT for Development: “products”

- Development Strategies and Methodologies: normative actions, forums, guidelines, testbeds
- Development Content: digital libraries, multimedia toolkits, portals, radio/TV programs and publications
- Access: infostucture in CMC, libraries and schools connectivity
- Human capacity-building: training and ICT skills

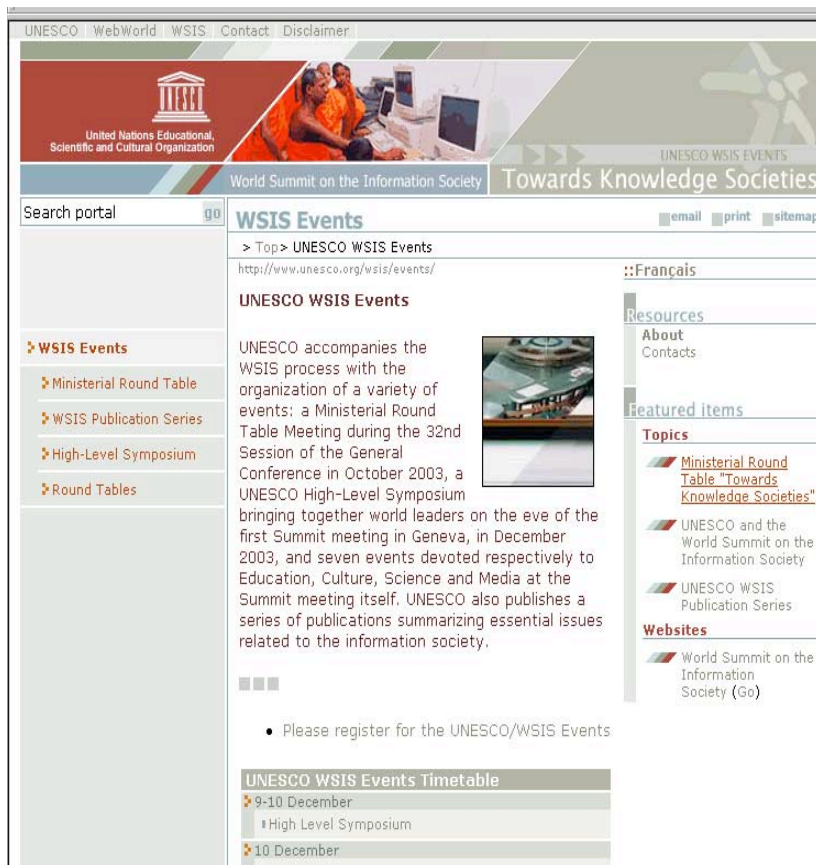
## Strategies: UNESCO at WSIS



At WSIS UNESCO responded to the three main challenges in building Knowledge Societies:

- to narrow the digital divide that accentuates disparities in development;
- to guarantee the free flow of, and equitable access to information, education for all and cultural and linguistic diversity; and
- to build international consensus on shared values and principles.

## Strategies: WSIS Action Plan



WSIS Plan of Action includes ca. 75 actions (total: 150 actions), for which UNESCO can claim responsibility as it directly affects its mandate and its areas of expertise



## **Strategies: Normative Actions**

- Recommendations concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace
- Charter on the Preservation of the Digital Heritage
- Recommendations on Electronic Publishing in Science
- Universal Declaration on Cultural Diversity
- Education for All: Dakar Framework of Action

# Content: Portals

## Example: Observatory on the Information Society



Observatory's main objectives are to raise awareness on the constant evolution of ethical, legal and societal challenges brought about by ICT. It is a public service readily accessible to all. It features national policies and strategies in the area of e-commerce, IPR, Freedom of Expression, E-commerce, Privacy, Access for all, Infostructure, Access and Applications.

Observatories have been created in Asia, Africa, Latin America, NIS and Arab states to serve audience in English, Arab, Russian, Spanish and Portuguese.

# Content: Portals

## UNESCO Regional Observatories on the Information Society

Address  <http://www.georgia-observatory.ge/>

#unesco-cairo.net/unesco/home.html

[illegible]

UNESCO

الرئيسية  
وثائق  
إخبار  
تدوين  
اتصلوا بنا  
الخيارية

الخامس







Small text about RISAP's mission and vision.

HOME INFORMATION SERVICES UNIVERSAL ACCESS PLANS & POLICIES REGULATION & PRIVACY

**INTERACT WITH OTHERS**

OLAP Forum  
Room

**NEWS ARCHIVE**

China's Next-generation DVD Faces Hurdles  
Printer Market Takes off in China  
Internet Engineer Planning Assault on Spam

**>> News Archive list...**

**SEARCH THIS SITE**

[try advanced search](#)

**WEB COUNTER**

we've been visited  
**36929**  
times since Feb 2003

**USER BOX**

welcome, Anonymous

**Login:**

**Password:**

[Register here](#)

**OUR PARTNERS**

Indosat MG  
Bank Mandiri  
Bank NISP

**>> News..**

**China Takes Action Against Spam**



China has launched a campaign to fight junk e-mails, or "spam", during the first half of 2004, reported the China Police Daily last Saturday.

... [More](#)

**>> In Focus..**

**The Asia/Pacific SecurityVision 2004 Conference : 26 February 2004**



Who should attend : IDC's Asia/Pacific SecurityVision 2004 Conference - Securing Business Resilience - has been designed for Chief Security Officers, along with CIOs, CEOs, CFOs and other senior executives concerned about their considerable IT investments.

De... [More](#)

**>> Statistics..**

**Internet Population**

- \* Index
- \* Method
- \* Result



**>> Agenda..**

Saturday, Oct 18th 2003 **One Day Seminar**

Indo... alt\_03.gif...

**RECENT EVENTS ARCHIVE**

Saturday, Oct 18th 2003 **One Day Seminar**

Jul: 09-27 2003 **Indonesia Computer Festival**

**>> Event archive**

**JOIN US**

Mailing list


News Letter

range : 1 week

**SURVEY**

What do you think responsible as the major cause of cyberlaw violation in your country

- ☐ We don't have any cyberlaw
- ☐ Unsocialized cyberlaw
- ☐ Our country don't have special cyberlaw enforce
- ☐ Cyber offender think that they're doing is cool



Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura

**Observatorio de la Sociedad de la Información**

revista de prensa en línea

**Actualidad**

**Indicadores de la Sociedad de la Información**

**Suscripción**

Reciba en su casilla de correo el resumen semanal del Observatorio

Digite su dirección de correo electrónico

y presione el botón "suscribir"

**Protección de la vida privada, Protección transnacional, Comercio electrónico, Cibergrafía**

**(ECO) 2004-0203 Spam aumenta a computadores en la Internet (jato)**

El exponencial aumento en el volumen de correo electrónico no solicitado-spam- está sacudiendo la confianza del consumidor en la Internet y podría dañar el crecimiento de la economía electrónica, dijeron el lunes ejecutivos en una reunión mundial contra el spam. [Más](#)

**Reglamentación de contenidos, Derechos de propiedad intelectual, Derechos de autor, Libertad de expresión, Cybercriminalidad**

**(CRM) 2004-0203 Sentencian a jóvenes británicos por trampa sistema computación (jato)**

Un adolescente londinense fue sentenciado el lunes a 200 horas de servicio comunitario por mear en el sistema de computadores de un laboratorio de estudios físicos estadounidenses para almacenar su colección personal de archivos de música y películas. [Más](#)

**(CRM) 2004-0203 Más de un millón de ordenadores infectados en el mundo por virus "Mydoom" (bireas)**

El virus "Mydoom", considerado por los expertos como el gusano de más rápida propagación en la historia de Internet, ha infectado ya más de un millón de ordenadores desde su detección el pasado lunes, según una estimación de la sociedad finlandesa de seguridad informática F-Secure publicada el domingo. [Más](#)

Organização dos Países Unidas  
para a Educação, a Ciência e a Cultura

## Observatório da Sociedade da Informação

Receba nosso Boletim

Nome

E-mail  OK

Busca Rápida

Busca Avançada

☐ Acesso à Informação

☐ Aspectos Éticos

☐ Cúpula Mundial - Genebra  
2003

☐ Desenvolvimento de  
Conteúdo

☐ Governo Eletrônico

☐ TICs na Educação

Documentos

Eventos

Na Mídia

Boletim

Co-patrocinador

**CT BRASIL**  
Ministério da Ciência e Tecnologia

Parceiros

### Em Foco

**Novas Tecnologias e a  
Comunicação  
Democratizando a  
Informação** - Artigo  
03/02/2004 (Sergio  
Werthien - Representante  
da UNESCO no Brasil) -

"Não basta colocar a informação à disposição dos usuários. Isso é fundamental, porém o passo adjacente será oferecer a análise dessa informação, possibilitar que as universidades, os centros acadêmicos e os centros de pesquisa possam trabalhar esta informação, extrair tudo o que pode oferecer ao cidadão, torná-la mais inteligíveis e compreensíveis para a população em geral, de forma que todos tenham a opção de acesso aos serviços públicos prestados por meio das novas tecnologias."

**Ver o documento**

**Ver documentos anteriores**

### Na Mídia

**Bié: Paulo Tchিপilia inaugura  
sistema de informatização do BI**  
03/02/2004 (Angola Press)

**Rádio Escola começa a emitir hoje**  
03/02/2004 (Josina de Carvalho - Jornal  
de Angola)

**União Internacional de  
Telecomunicações organizará  
workshop sobre governança na  
internet dando sequência à Cúpula  
Mundial da Sociedade da Informação**  
03/02/2004 (UNESCO; ITU)

**O governo vai investir R\$ 4 milhões**  
03/02/2004 (TI & Governo)

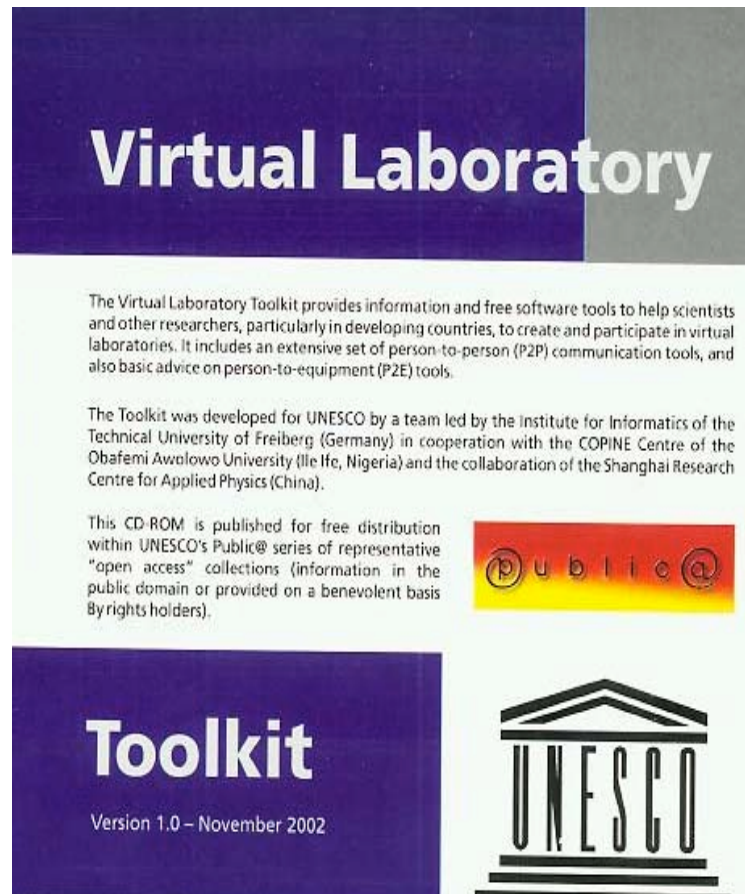
**O governo define os padrões de  
interoperabilidade**  
03/02/2004 (TI & Governo)

**Ver mais notícias**

### Em Destaque

**Cartilha Telecentros comunitários**

## Content: Toolkits



Virtual Laboratory is an electronic workspace for distance collaboration and experimentation in research or other creative activity, to generate and deliver results using distributed information and communication technologies.

Illustration: This Virtual Laboratory Toolkit provides information and free software tools such as person-to-person (P2P) communication tools and basic advice on person-to-person equipment (P2E) tools. Authors of the Toolkit: Technical University of Freiberg (Germany), Obafemi Awolowo University (Nigeria) and Shanghai Research Center for Applied Physics (China)

## Content: Toolkits

### UNESCO actions:

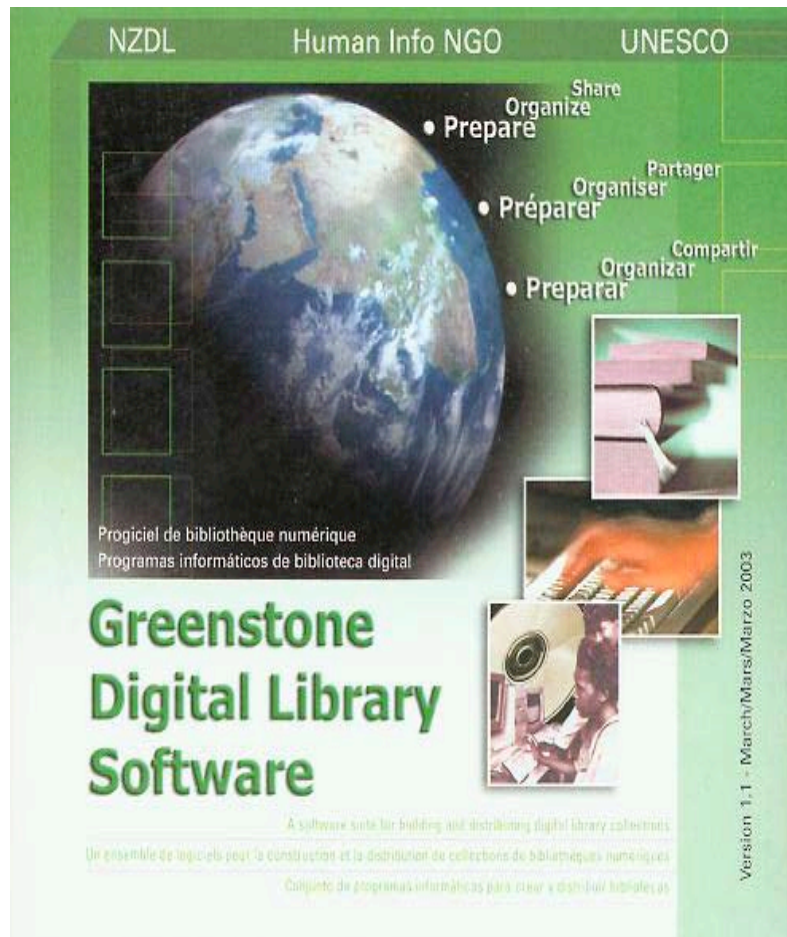
- Research on methodologies
- Partnership building for VL
- Development of toolkits

### Examples:

- Expert Meeting on Virtual Laboratories
- A pilot project between the Institute of Atomic Energy, National Nuclear Centre of the Republic of Kazakhstan and the Los Alamos National Laboratory (LANL), USA, to establish a Virtual Laboratory on radio-ecological problems in Kazakhstan.



## Content: Digital libraries



Digital libraries are gateways to:

- increasing electronic information under public domain and open access provisions;
- cooperative programmes which deliver commercially published works to users in LCDs under preferential conditions, provided that their copyright is respected.

## Content: Digital Libraries

### UNESCO actions:

- Development, translation and adaptation of digital libraries
- Dissemination

### Examples:

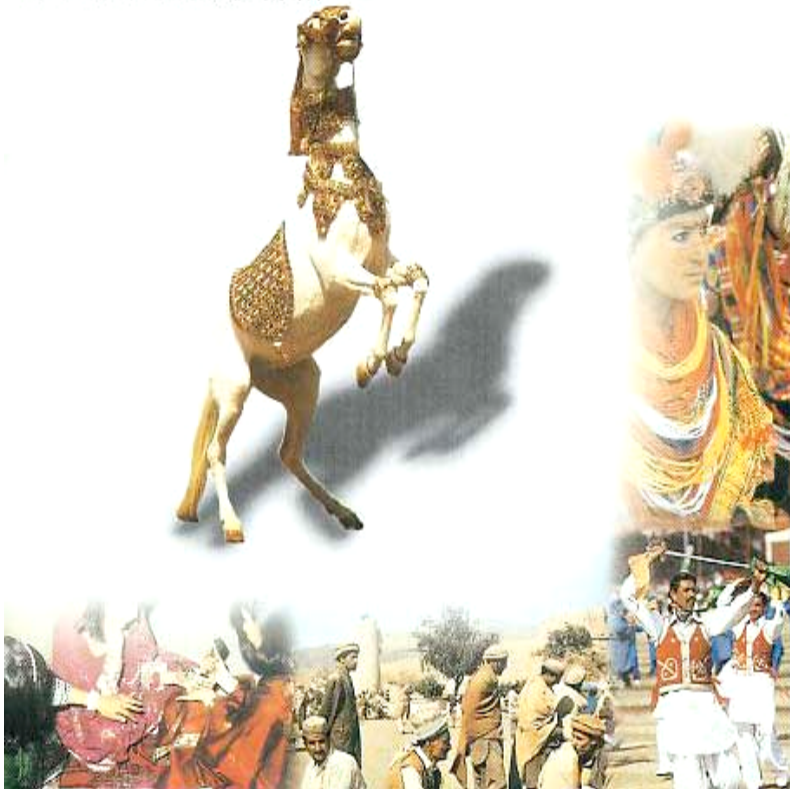
- Greenstone is a suite of software for building and distributing digital library collections on the Internet or on CD-ROM. It integrates functions such as metadata, full text search and retrieval, multilingual support, support for multiple document formats and administration.

As of 2003 the New Zealand Digital Library Project, UNESCO and the Human Info NGO disseminated it through a series of training workshops in Africa, Central Asia and the Pacific.



## Content: Local (indigenous) knowledge

*Cultural Heritage of Pakistan*  
a multimedia tour



Traditional (indigenous) knowledge is:

- an expression and communication of a community's locally generated, owned and adapted knowledge and experience that is relevant to the community's situation
- part of a complex that also includes language, attachment to place, spirituality and worldview.
- a vital factor for sustainable development

## Content: ICT and Knowledge



### UNESCO concerns:

- Most content comes from providers in the developed countries.
- Content often reflects language, lifestyles and concerns that are different from those “consuming” the content.
- Local content creators may not be sufficiently recognized in some Intellectual Property Right Systems
- Knowledge means not only the knowledge in high segments of science and technology but also traditional knowledge
- ICT is at present too narrowly defined as Internet technology only; traditional media (radio and television) are equally important

## Content: ICT and Traditional Knowledge



### UNESCO actions:

- Research
- Preservation
- Promotion
- Access





## Content: ICT and Multilingualism

*“As one moves around the Internet, one readily notices how the languages of the world are divided into three categories according to the use made of them in cyberspace: namely, languages used to communicate, which we shall call working languages, languages about which one speaks, or language objects, and finally those languages which are never mentioned on Internet and which are the absent languages.”*

*Marcel Diki-Kidiri, “Langage, Langues et Cultures d’Afrique Noire”*



## **Content: Multilingualism**

### UNESCO concern:

Language constitutes the foundation of communication and is fundamental to cultural and historical heritage. Today various forces threaten linguistic diversity, particularly on the information networks.

### UNESCO actions:

- formulating policies to raise awareness of issues of equitable access and multilingualism
- the development and implementation of pilot projects to facilitate both the access of languages to the Internet and their inter-operability on it
- a wider, more equitable access to information by promoting multilingualism on the information networks, ensuring the worldwide dissemination of information

## Access: Libraries

Libraries and archives enable community access to:

- traditional sources of knowledge
- global information resources



### UNESCO actions:

- Create community-level infrastructures for libraries
- Promote information resource sharing culture
- Development of Portals for information professionals:
  - UNESCO Libraries Portal ([http://www.unesco.org/webworld/portal\\_bib/](http://www.unesco.org/webworld/portal_bib/))
  - UNESCO Archives Portal  
([http://www.unesco.org/webworld/portal\\_archives](http://www.unesco.org/webworld/portal_archives))

## Access: “Open School”

### Example: Low Cost ICT Literacy Programme in Brazil

Eight Brazilian cents is the fee for one lesson of the Programme “Computers for the Community”. It includes one hour free access to the Internet and courses in Windows, Word, Excel, PowerPoint and Internet browsing.

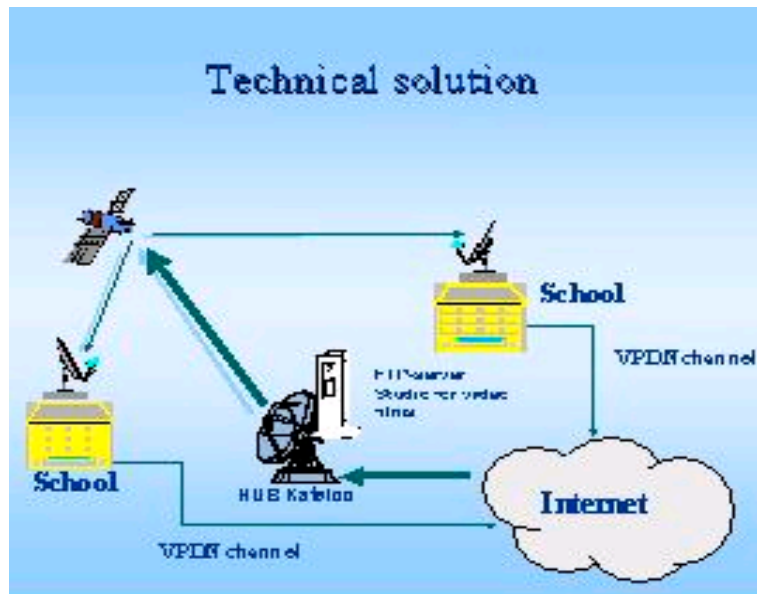
The project “Open School” was initiated last year by UNESCO in Brazil in partnership with the Government of the State of Pernambuco and with the support of *Interdata Microinformática Ltd* and the *Diário de Pernambuco*.

More than five thousand people have already attended the courses mostly during weekends in schools.

The low fee of R\$ 6,50 (ca US 2,50) for an 80 hours course is possible thanks to the voluntary work of instructors and monitors, the production of the course books by the *Diário de Pernambuco* and the use of the public schools infrastructure.



## Access: Traditional Schools



Receiving equipment for schools



UNESCO strives to increase access by the greatest number to the learning opportunities offered by new information technologies. This implies that:

- Computer literacy be recognized as a basic skill in educational systems and free access to the internet be provided in schools and public libraries.
- Full advantage be taken of distance education and the life-long learning opportunities offered by ICTs.

Illustration: technology used in DL project in traditional secondary schools in Kazakhstan

## **Access: Distance Learning Models in Traditional and Open Schools**

- Multi-media model: Print, audio, video, computer managed and computer assisted learning
- Tele-learning model: Audio-conferencing, video-conferencing, broadcast TV/Radio
- Flexible learning model: Interactive multimedia, Internet-based access to WWW resources, computer-mediated communication

## Access: Community Multimedia Centres



*“Community access to information technology resources is essential if the digital divide is to be bridged in the developing world.”*

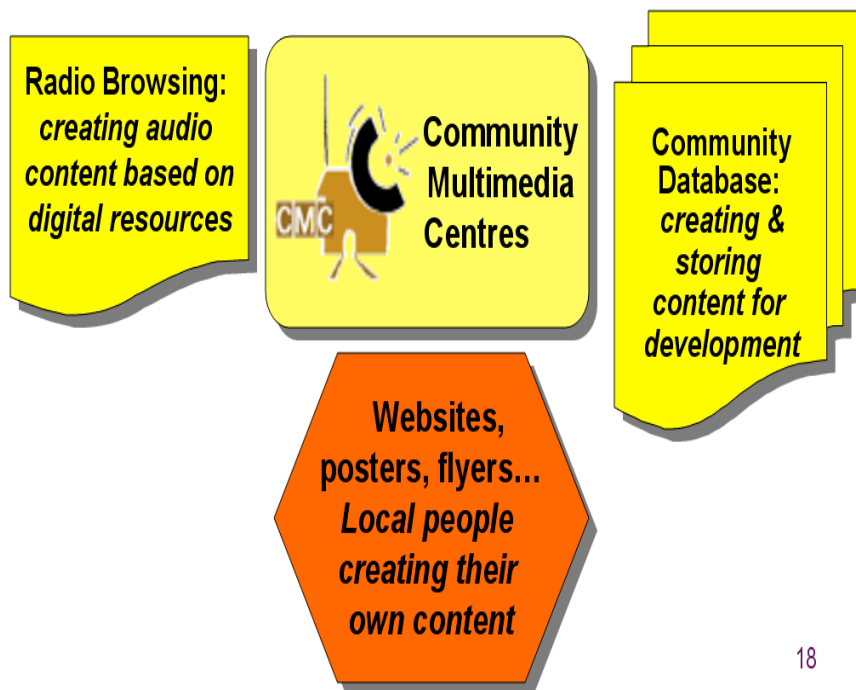
*UN Secretary-General  
Kofi Annan*

## **CMC: Diversity in Approach**

- At its most basic, the centre offers the simplest portable radio station, a single computer for Internet browsing, e-mail and basic office, library and learning applications.
- At its most developed, the centre is a major infrastructure, offering a full range of multimedia facilities, functioning as a distance learning, training and informal education centre, linking up to the local hospital for telemedicine applications, down-loading and printing national newspapers, etc.

## CMC: UNESCO Actions

First step: 2001. 20 pilot CMCs across Africa, Asia and in the Caribbean starting from the pioneering Kothmale Internet Project in Sri Lanka (See <http://www.kothmale.net> and [http://www.unesco.org/webworld/highlights/internet\\_radio\\_130599.html](http://www.unesco.org/webworld/highlights/internet_radio_130599.html))



Second step: December 2003 CMCs scale up at the ICT4D Platform of the World Summit on the Information Society in Geneva. The programme aims to establish 50 community multimedia centres (CMC) in Mali, Mozambique and Senegal.

## CMC: UNESCO strategy

- Identify countries where local communities are highly mobilised and ready to take on this type of project.
- Seek political support at the highest level.
- Promote multi-stakeholder partnerships: consortium of national and international stakeholders from all sectors.
- *ICT must be harnessed **at** the local level, **by** local communities themselves.*

## CMC: Capacity-Building

- “Telecenter Cookbook”, a guidelines for the establishment of a CMC based on experiences around the world.
- Multimedia Training Kit or MMTK to be used by trainers in face-to-face workshop training – trainers can adapt, combine and repackaging the components.

MTK is disseminated in partnership with ItrainOnline together with Bellanet, IICD, INASP, OneWorld, APC, IICD. UNESCO also works closely with AMARC, FAO, Panos, Radio for Development and Search for Common Ground.



## **CMC: ICT Content Dissemination**

### **Internet through Radio**

- **“Radio Browsing of the Internet”**
- Radio presenters gather information in response to listeners’ needs and queries from reliable sites on the Internet, on CD-ROMs or other digital resources. During the radioprogramme, the presenter “visits” these pages of information on the computer screen together with a local expert (e.g. a doctor) and together, they explain and discuss the information directly in the languages used by the community. Radio browsing is already used in Sri Lanka, Bhutan and Nepal.
- **“Community databases for development”**
- Through the radio browsing programmes, the community is informed that on-line information remains available for them to consult in the CMC. By developing a computer database, the CMC ensures that the whole community can access a pool of easily-assimilated knowledge in a language which is understandable to the community.

## Human Capacity-building: ICT to combat HIV/AIDS epidemics



*“HIV/AIDS, tuberculosis, and malaria are among the world’s biggest killers, and all have their greatest impact on poor countries and poor people. Effective prevention and treatment programs will save lives, reduce poverty, and help economies develop.”*

*Millennium Development Goals*

## ICT against HIV/AIDS

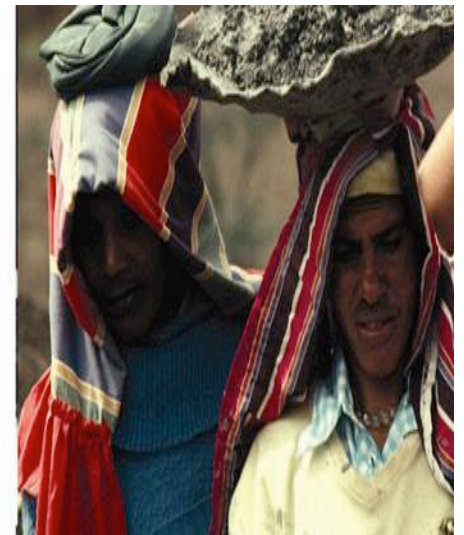
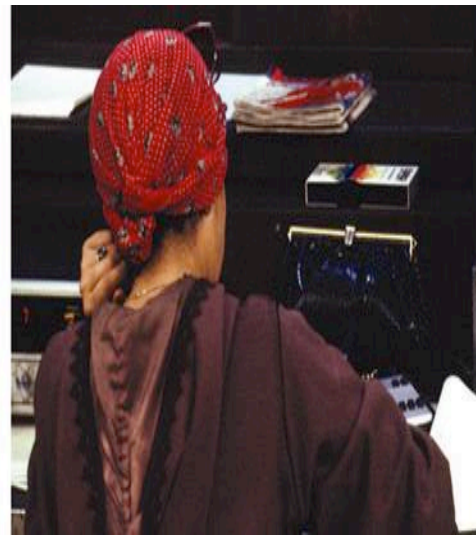
### UNESCO actions:

Use of ICT for awareness-raising on the latest scientific results for diagnosis, as well as understanding of the nature of HIV infection

### Examples:

- Workshops and on-line training materials on the science of HIV/AIDS for media professionals
- TV, radio programmes and publications
- The MMTK curriculum of open access training kits
- HIV/AIDS electronic Library (with materials from UNAIDS, WHO, UNESCO, UNICEF and various experts)

## Human Capacity Building: ICT to Combat Gender Disparities



*“Women have many grave problems, but none that cannot be solved by that magic world: education”*

*Vivekanand*

## ICT against Gender Disparities

### UNESCO actions:

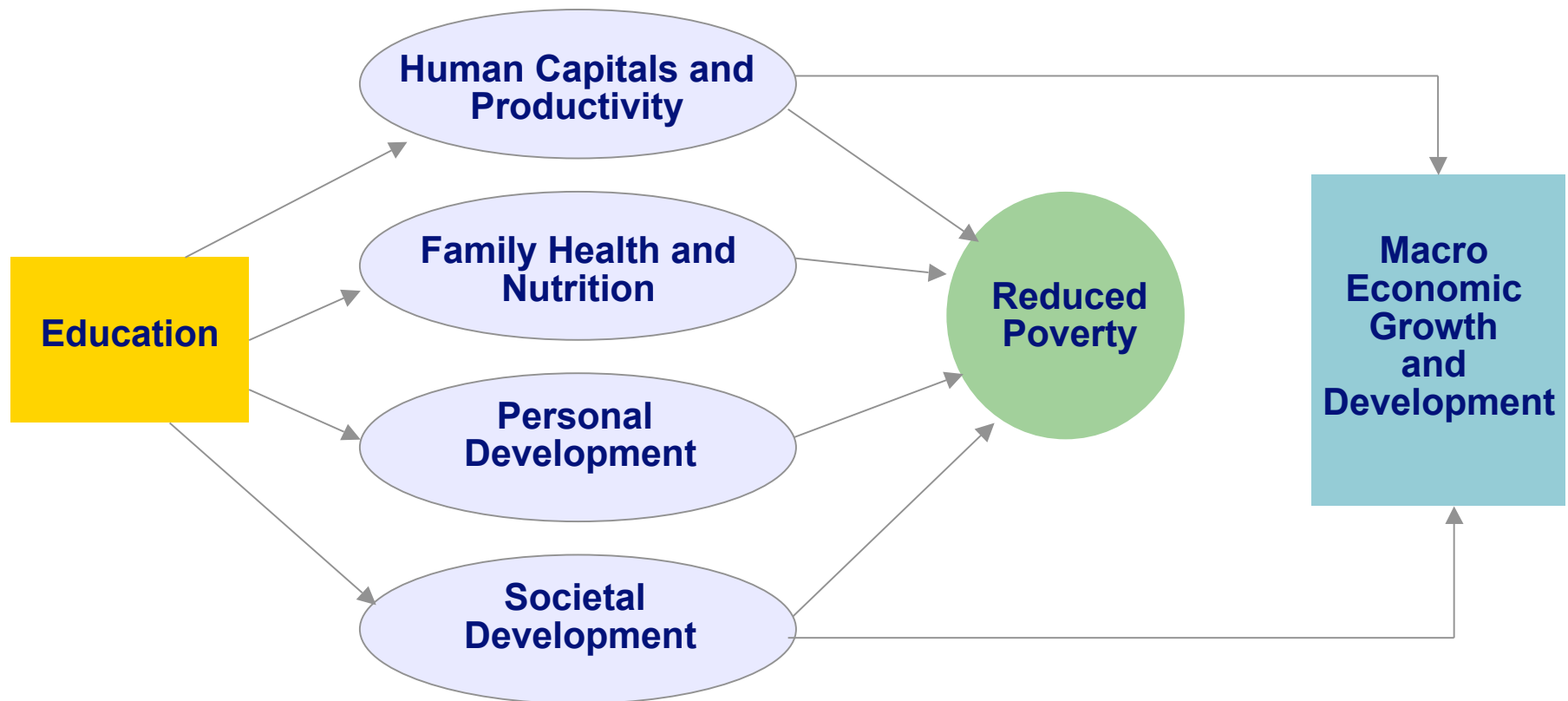
- Awareness-raising and dissemination of information
- Empowerment

### Examples:

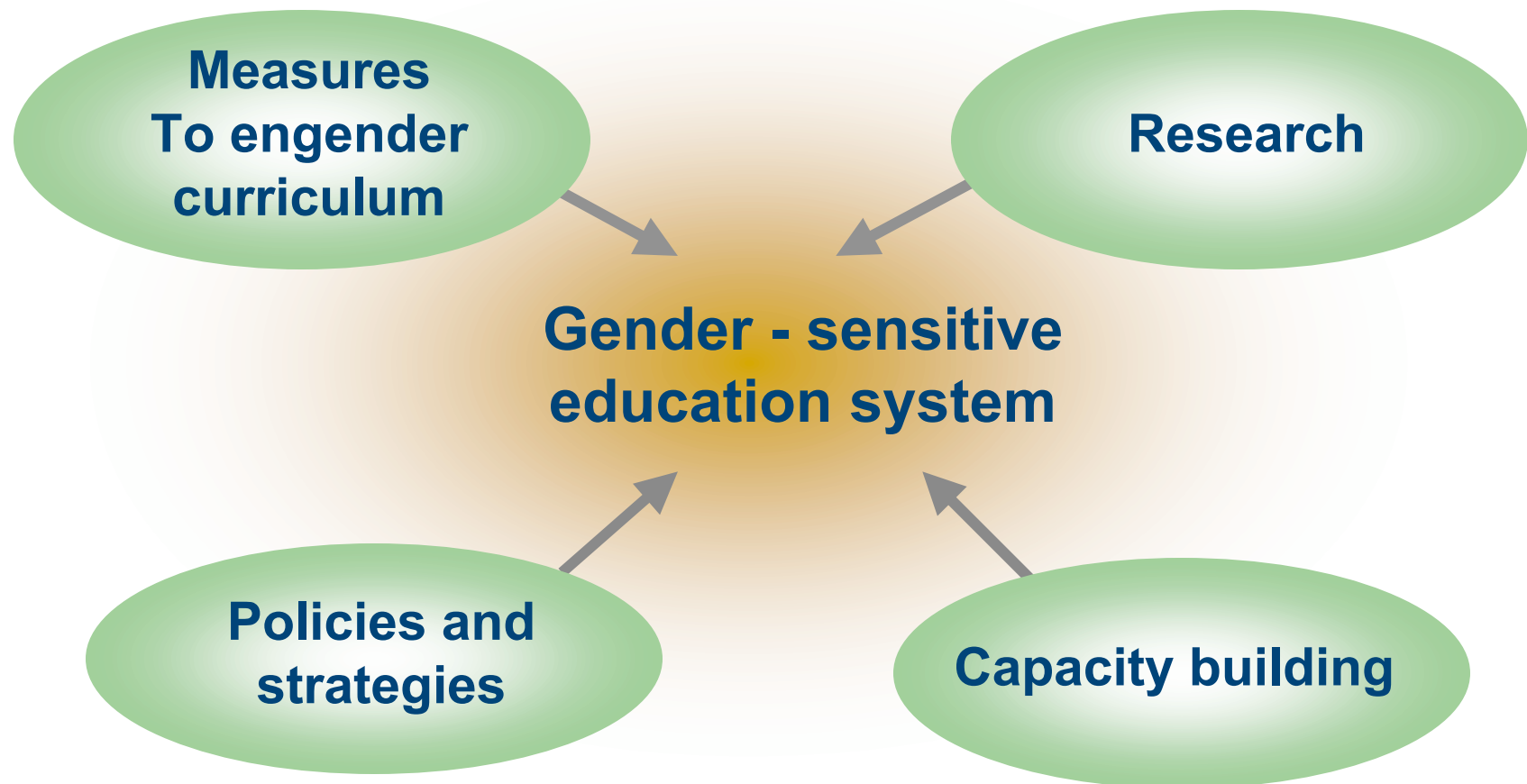
- Workshops for journalists on key concepts such as gender empowerment, gender equality and gender equity
- TV, radio programmes and publications
- Content production for women by women in CMCs
- Training modules
- Promoting gender-based research



# ICT against Gender Disparities: Empowerment through Education



## Example: Gender-Sensitive Education Systems (GSES) through CMCs



## Example: Empowerment through training

### **UNESCO - IGNOU Gender Training Project**

UNESCO works with Indian's Indira Gandhi National Open University (IGNOU) on production and delivery of gender training modules.

Modules tackle gender-sensitive policies, media, training methodologies; research; leadership and entrepreneurship.

The gender training inputs - self-instructional modules available on CD ROM and online by end of April 2004 – are targeted at gender trainers, women's organizations, policy makers and students. They combine “face-to-face” (f2f) and distance modes supported by f2f counselling, mentoring and resource provision.



## ICT for Development: Education for All

Education  
for All

EFA Home



*“One of the biggest challenges facing Africa is the quality of education, and countries look into ways of improving the quality, not only quantity, of basic education. We can also use new technologies to improve our lot.”*







*Gajaraj Dhanarajan,  
CoL president*

## **Capacity Building: ICT against Illiteracy**

### **UNESCO actions:**

- Needs assessment and adapting pedagogy to technologies and visa-versa
- Training and guidance for educators on e-learning and on-line systems, including quality procedures and accreditation
- Collaborative online and off-line content development, publication and delivery

## Examples: Training and Guidance

	TITLE	THEMES	TARGET GROUPS	DEVELOPERS
	<b>ALMA - African Language Material Archives</b>	Education Business Health/sanity Literature	School and university students, non-African students and scholars of African languages, teachers of African languages	- WARC - UNESCO - AODL - CAORC
	<b>Digital Development Anthologies</b>	Education Business Health/sanity Literature	Information centres serving grass-roots users, public libraries, multimedia centres, librarians and information officers	- UNESCO - DANIDA - Human Info
	<b>Electronic Library Series</b>	Education	Teachers and teacher educators	IICBA/UNESCO
	<b>Enlace Quiche Project</b>	Education Culture	Pre- and in-service teachers promoting Mayan languages Persons seeking guidance to develop language training programmes	- Enlace Quiche Project - USAID - Learnlink
	<b>Rural Hygiene in Africa - Nakaseke Virtual Reality</b>	Education Health/sanity	Children and youth, Illiterate and literate people	- UNESCO - Naledi 3D Factory
	<b>Rural Women in Africa: Ideas for Earning Money</b>	Business	Women with minimal education and local or English language fluency	- IWTC - IDRC/ ESARO

## Conclusion

To advance development:

- Ability to use ICT matters most,
- ICT should be regarded as a tool and not as an end in itself,
- Development agencies should encourage mixed media approaches
- The creation and dissemination of relevant local and universal knowledge should be encouraged and supported
- Education and capacity-building based on "mixed media" and "mixed knowledge" should be at the centre of development efforts.