

Specification Helvetas Working Area: Helvetas Policy for *Knowledge for Development and Information and Communication Technologies (ICTs)*

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1. Introduction

1.1. Context

Society is changing from an industrial to an information-oriented society. Information has become a core economic resource. The people all over the globe must have equal access to it.

The declaration of New Delhi (1994) already states: “Individuals are not born as consumers; information is not a commodity but rather a utility to be shared”. It requests:

- All peoples and individuals shall have the right to communicate freely, to utilise the tools of communication and to inform themselves and others.
- ICTs must be used to facilitate participatory democracy and development of civil society and not to limit democratic rights.
- Information systems exhibit great potentials for real popular participation and should be organised according to the principles of decentralisation in order to nurture and sustain cultural diversity and humanitarian values.

An important impulse for the actual dynamics was the development of the information and communication technologies (ICTs). They fill the people with enthusiasm and fascinate them, especially the youth. As the radio and television in the old days, it is now the computer, which is on its way to reach the remotest areas of the earth. The promotion of ICTs comprises the following chances:

ICTs allow to solve certain problems res. to settle them faster than previous technologies. For instance, actual knowledge can be forwarded in no time to all regions of the world using storage media or Internet.

ICTs offer the chance that the information flow is not anymore directed dominantly from North to South but also in the opposite direction. The ones having an Internet connection are not reduced to being only information recipients but can also act as producers and providers.

ICTs provide the chance to establish new hierarchies – often meritocratic knowledge hierarchies – and thus to initiate development. This opens up the possibility for young people in particular to determine their future on their own and to assume leading roles/positions.

ICTs can create new jobs in a country. India has developed to a giant in the area of software within a short time. That could be an example for other countries of the South which are disadvantaged by the lack of resources or access to the world market.

1.2. Trends

The informatics industry will develop further in a turbulent and often surprising manner. Cheaper hardware which will require less maintenance, and more intuitive and ergonomic software (e.g. speech recognition) as well as technologies which will make the computers less dependent from localities (e.g. satellite technologies) will have great influence on the use of ICTs particularly in the South. Nevertheless, the urban centres will stay privileged for a prolonged period (e.g. due to mobile telephone networks). In remote villages and sparsely populated areas, the simple access to the Internet will still be long in coming. For these areas, the danger exists of the so-called „**digital divide**“ – which means, they may become areas which stay excluded from the possibilities of the Internet.

An interesting approach constitute the Multipurpose-Community-Telecentres (MCT; a comprehensive „Internet Cafe“) which provide a whole range of services in the area of informatics, telecommunication, education and secretariat.

1.3. Computer Applications

Two general ICT areas deserve particular attention from a Helvetas prospect: the Knowledge Management and the education sector. Both areas offer special relevant applications for the development context. Knowledge Management – with its focus on knowledge processes as well as the capabilities of people and the relations among them (soft factors) – provides the necessary cognition and respective instruments for better gathering, disseminating and harnessing knowledge, not at last also indigenous, in the South. In areas with none or only rudimentary school structures, the computer can take in an important function as learning tool since it does not supplant existing structures but fills a vacuum and establishes new structures.

2. The Strategic Orientation of Helvetas in ICTs for Development

2.1. Why Helvetas is Engaged in the ICT Area

The Development Cooperation (DC) supports the efforts of the countries of the South and East to escape poverty and to lead a life according to their possibilities and own conceptions. In this connection, the access to food and drinking water as well as the right to work, education and information are important. The current development shows that information and education are more and more linked with the access to ICTs. An engagement in ICTs does not imply anything fundamental new but it is merely the logical consequence of the worldwide dynamics. ICTs offer possibilities to achieve the conventional objectives in a better, more effective and efficient manner. This potential has to be used.

In the South, the ICT market concentrates on the elites in the cities where companies can count on profit. The market and the elite determine who gets access to ICTs and who does not (top-down approach). This development became already visible during the spreading of the telecommunication networks in the countries of the North but was opposed by so-called „Universal Service Obligations“¹ (USOs). Where such USOs are absent, other mechanisms and actors have to intervene:

- DC organisations assume also in the ICT area their “classical” role: They attend to marginal regions and population groups which are unattractive for the market and thus are neglected.
- They help to decrease the rural-urban disparities within the countries and counteract the digital divide.
- They work with decentralised structures and together with local NGOs and thus support bottom-up approaches.

Helvetas makes already use of ICTs in its work and can impart and further develop experiences gained. ICTs can contribute to achieve the goals of Helvetas in a better and more effective manner.

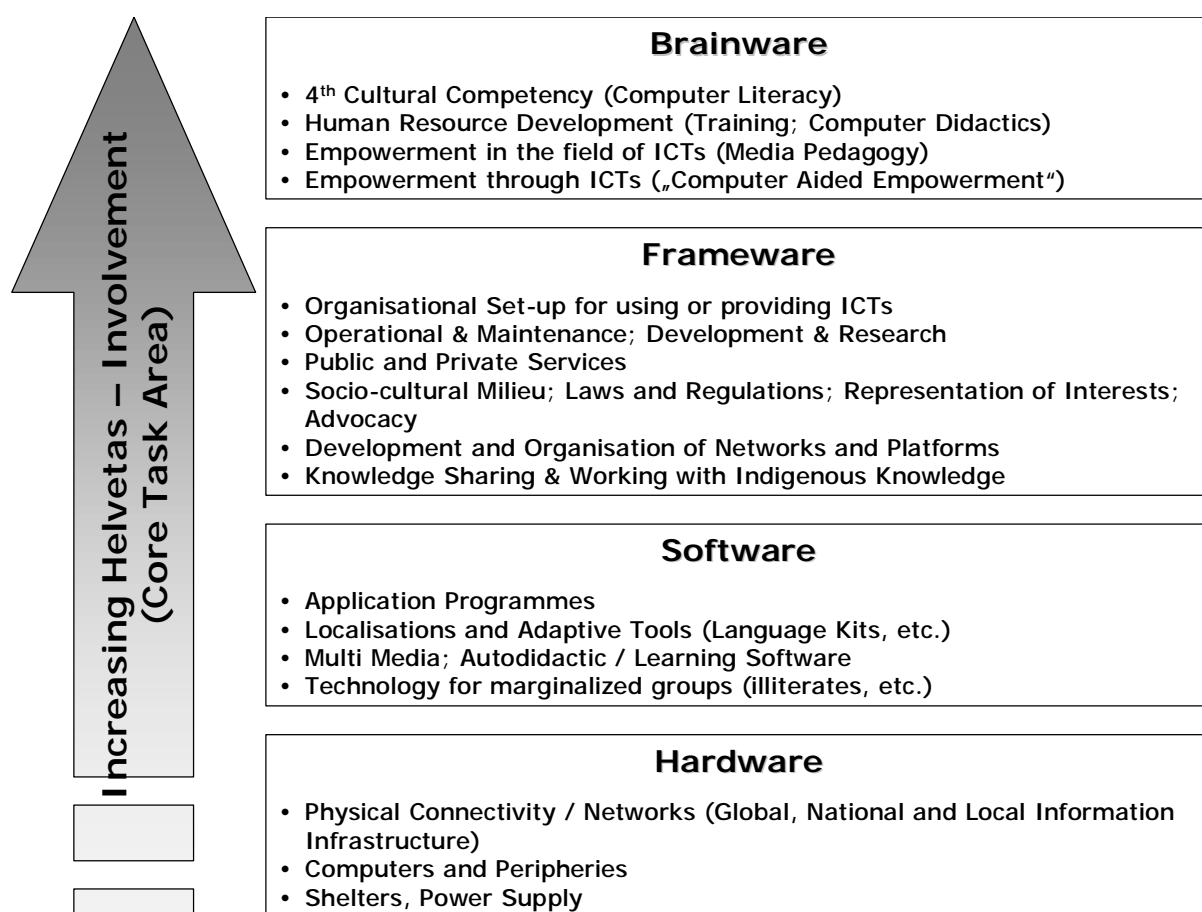
¹ See glossary

2.2. General Orientation of Helvetas: Brain- and Frameware

Helvetas concentrates on limited areas of the wide field of „Knowledge for Development/Global Knowledge“ and „ICTs for Development“. Helvetas wants to achieve high competencies in some selected fields and thus become an attractive cooperation partner.

That means at the same time, that Helvetas does not enter the mainstream fields which are already covered by numerous and more potent institutions. Therefore, Helvetas engages only in a limited way in the fields of „physical access“ (construction of ICT infrastructures), „telecentres“ or „tele-medicine“, for example.

Today, everybody is talking about the common concepts of hard- and software. In order to build up a balanced ICT project, Helvetas considers two additional concepts to be taken into account: we call them “Brainware” and “Frameware”, and they are frequently neglected to a wide extent. We place the focus of our work, our specialisation, on these two fields.



Brainware encompasses training of users and auxiliary staff (on different levels such as basic skills – computer literacy – as well as advanced knowledge on how to bring ICT into meaningful use), deployment and management of staff as well as provision of assistance.

Frameware takes into account that any ICT project – in order to develop its full potential, to produce results and to be sustainable – requires a series of additional institutional and organisational measures for a favourable environment and has to be well integrated into organisations and institutions.

3. Specific Priorities / Focus 2007

Having set the priorities on Brain- and Framework, we can derive two action lines. They focus on education and training of human capabilities (Brainware) as well as the establishment of social and institutional/organisational context, which promotes the meaningful and sensible use of ICT (Framework):

1. ICTs in Education and Empowerment
2. ICT as a transversal theme

3.1. Sphere 1: ICTs in Education

Objectives until 2007

- Ø Helvetas promotes the introduction and embodiment of ICTs into education; thereby, it attaches great value to a meaningful and appropriate use.
- Ø Helvetas fosters the integration of ICTs into formal education but emphasises a balanced approach considering not only technical skills but also social and didactical consequences.
- Ø Helvetas also promotes opportunities of informal education, providing talented and passionate persons occasions to practice their interests and to develop great proficiency through auto-didactical ways.

ICT training has to cover three fields in order to meet requirements of a sustainable and meaningful education:

- § ICT technology (specific computer skills, e.g. maintenance of ICT, mastering of means, etc.).
- § ICT pedagogy (e.g. media education): ICT has major impacts on most fields of society. It is crucial for all members to understand change triggered of by ICTs, and to draw adequate and necessary conclusions for further actions. ICT pedagogy aims at empowering people to deal with these transformations in autonomous and liable ways. It deals with the social impact of ICT, estimating the potentials and risks of the information revolution, rules and standards of behaviour, law and regulations in ICT, cyber criminality, etc.).
- § ICT didactics (meaningful handling/use of ICT in/for work, teaching, etc.) which itself includes two parts:
 - How to teach ICT
 - How to use ICT as a didactical mean in other subjects
- § A fourth field complementing the former three is curriculum development, designing and developing teaching contents, including training materials adapted to local, specific needs of beneficiaries.

3.1.1. ICTs and Formal Training

Computer literacy is a fourth cultural competence (in addition to reading, writing and calculating). In this sense, computer literacy is closely connected to the ideas of equal access, empowerment and self-reliance. Therefore, computer literacy gets a central standing in our work to empower people and give them the possibility to self-determine their life. Subsequently we put ICTs in service of training and education. Helvetas participates in developing pedagogical models for the use of ICTs in teaching and informal training.

ICTs can take a role in formal education on three distinct levels:

a) *Computer literacy* must be the foundation of any ICT activity. ICT itself is subject of teaching: People acquire a basic notion of informatics, such as the handling of hard- and software, the use of programmes, etc.

b) *ICT-integrating learning* addresses the use of computers in teaching along with other didactical media (in order to collect and analyse information, to support language training, to show presentations, etc.). In this setting the instructor keeps his indispensable role within the teaching process; ICT only supports him.

c) *ICT-based learning* places the computer at the centre of the learning process. The computer can replace the instructor. Students individually follow a training programme provided by the computer or participate in an event, which takes place in a remote location, using the computer as a channel.

The complexity by going from level a) to level c) is strongly increasing.

3.1.2. ICTs and Informal Training: Autonomous Development Forces

The field of informatics and telecommunication – as hardly any other in history – developed as the priority field of innovative persons who were ready to explore them and push them ahead. The emergence of local leadership can be left over to those people. It is more decisive to eliminate obstacles than to be very pro-active.

Background of this attitude is the conviction, that all cultures have inherent developmental forces and means to determine their own path. We trust in the human faculty to take even complex development processes in their own hands.

We therefore consider the creation of “*Infotopes*”² as an effective and above all an efficient way to foster local leadership and to raise change agents. We define an Infotope as a place to exchange information and knowledge, which has to be put at disposal at reliable costs or if necessary even free of charge. It will become important to identify and recognise young and promising talents. Moreover, the concept of “*Minimally Invasive Education*” is of high relevance and must be closely followed-up. The use of auto-didactical experts (instead of foreign ones) for the dissemination of these skills is much more cost-effective (in addition to giving them a livelihood). Last but not least, it brings forward-looking social forces into a position of influencing social change and to break down old structures.

3.2. Sphere 2: ICT as a Transversal Theme

Objectives until 2007

- Ø Helvetas opens up new opportunities to its target groups to access the international information and communication network. This includes qualifying people to assess and handle new technologies and remove social and power-driven obstacles.
- Ø Helvetas explores the potential to use ICTs for political and social participation and sustained democratisation processes.
- Ø Helvetas participates in developing new techniques, methods and instruments emerging from Knowledge Management, to enhance indigenous knowledge.

² See also glossary

Unfavourable results in negotiations, be it in commercial markets or in social processes are very often caused by a lack of information. Making use of existing ICT infrastructures or – where it makes sense – establishing new “Infotopes” (as a means to access information, e.g. to favour potential participants in market places), may contribute substantially to eradicate poverty.

A special focus shall be given to women, as ICTs can be a vehicle of promoting social equality of gender through its more neutral level. Due to veiling the identity of participants of communication, traditional social hurdles may play a minor role and voices are heard of persons who usually are excluded.

ICTs are said to have a great potential in democratisation of information in general but also in a specific political sense. They allow an increasing majority to participate in social processes. The potential derives from several factors:

- a) The Internet is the first mass medium that allows two-way communication, and this at very low costs.
- b) Internet allows people access to information that were beyond their reach so far.
- c) New data processing methods and representation techniques allow to present facts in a comprehensible way (e.g. graphical presentation, geographic information systems), thus allowing better-founded decisions.
- d) ICTs allow moving closer to decision makers and opinion leaders at low costs.

Therefore, Helvetas strives to make these potentials accessible for people in the South and in the East. This happens mainly in the larger frame of programmes on decentralisation, democratisation and community development.

ICTs open up a historically unique opportunity to capture, disseminate, promote and exploit knowledge and information in the South and by the South, respectively by local communities. ICTs for the first time are real two-way communication technologies, allowing not only to receive but also to broadcast information.

Helvetas wants to support societies and people in the South to make the most of this opportunity. The creation of own content can be a great chance to explain alternative perspectives on the world and its events and therewith pro-actively counter the dominance of Northern views and issues.

Moreover, affected people themselves know the best answers to their questions. Local knowledge through mutual consultations will: (a) be re-valued by an intensive re-creation, transformation, publication and use through the users of the extension network, and (b) be “codified” (which means that through “recording” answers, solutions, and debates in a storable [e.g. written] form, the knowledge becomes retrievable and processable). Helvetas wants to establish systems for the promotion and validation of innovations, creativity, etc. (cf. FPLA Paraguay, Honey Bee Network, etc.).

3.3. Outline: ICTs as a Working Area of Helvetas

<i>Spheres of activity</i>	<i>ICTs means</i>	<i>ICTs concrete activities</i>
1. <i>ICTs in Education and Empowerment</i>	<ul style="list-style-type: none"> • Computer literacy campaigns/activities to be included in any action using ICTs. • Computer-Aided Learning 	<ul style="list-style-type: none"> • Distance learning projects in formal education • Creation of computer training centres/schools • Establishment of Media Centres/Resource Centres • Projects in Minimally Invasive Education
2. <i>ICTs as a transversal theme</i>	<ul style="list-style-type: none"> • Promotion and use of new services and technologies, permitting the participation/use by people that were excluded until now. • Enable access to new resources of relevant information, allowing to extend information base and stay up-to-date. • Awareness-rising in the field of ICTs and the information society, allowing people to make their own judgement on chances and dangers of the new technological change. • Include capturing and dissemination of indigenous innovations/knowledge into other project activities. 	<ul style="list-style-type: none"> • E-Governance • Market-information systems • Training in content-creation and publishing of local/locally relevant information. • Include creation of Infotopes (attached to other projects / activities) wherever ICTs are used. • Use tools (as GIS, simulation software, etc.) to take decisions based on sounder foundations. • Establishing platforms of innovation, exchange and mutual assistance.

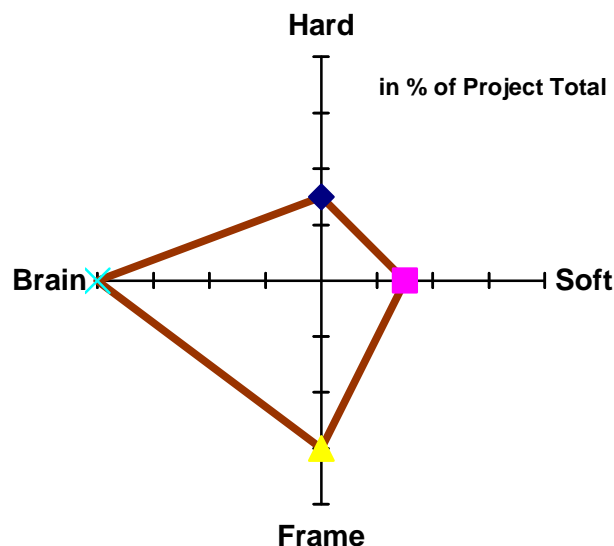
3.4. Quality and Quality Control

3.4.1. General Qualitative Indicators

1. Creation of an „Informatics Infotopie“ – be it only as a supportive measure – has always to be attended to: Computer enthusiasts have to be able to emerge and develop in an autonomous manner. Moreover, especially in traditional societies, ways have to be found to meet at the same time the principles of seniority.
2. The use of ICTs has to be convenient. The question why ICT is applied in a certain case has to be answered clearly at any time. Compliance with an adequate means-effect ratio has always to be subject of the monitoring.
3. An important question is always: Do the ICTs substitute an alternative „technology“ or do they fill in a vacuum? If they replace another technology, it has to be scrutinised thoroughly whether the new IC technology is really more efficient/effective. New techniques often lead to the loss of old methods which were better adapted and not less adequate.

3.4.2. General Quantitative Indicators

4. *Total Costs of Ownership* (ToCs) have to be kept in mind. They always have to be mentioned and monitored: For proper ICT projects, the hard-/software share of the total project expenses should not sum up to more than 30% (a higher proportion has to be justified)! The same is true for Knowledge Sharing projects – the hard-/software share of which should even not exceed 10%.
5. The model on the 4 „wares“ (Hard-Soft-Frame-Brain) can serve as an instrument to review a project in terms of its “sound setting”. This may be done by comparing the extent of activities or resources of the fields with each other. A typical/ideal “diamond” can be taken as reference:



4. Core Competencies of Helvetas (2002-2007)

ICTs/Global Knowledge Sharing include a number of fields of action. A fully-fledged policy would affect six fields:

1. Coordination, Structuring of Sector
2. Advocacy, Policy Development
3. Public Awareness-building
4. Standards, Procedures and Regulations
5. Technical Know-how, Research and Development of Best Practices
6. Project Implementation

To cover all fields, an own competence centre would be necessary. Helvetas has decided to focus on fields 5 & 6 (as far as necessary on 4 and in a limited frame of the Helvetas domestic activities on 3) and to become leading therein. This means that Helvetas acquires knowledge and technical know-how in order to satisfy internal needs as well as to be recognised as an expert organisation being consulted by external players.

Helvetas has built up a network, in which it is an important partner. It wants to contribute in implementing complex tasks/ventures as „project leader“ or „general entrepreneur“. Helvetas also plays an active role in international committees/consortia and as a supporter of joint actions (e.g. the creation of a competence centre) and gets a high profile through qualified contributions.

4.1. Comparative Advantages of Helvetas

Helvetas has a series of advantages to fulfil the objectives outlined in this policy:

- § It pursues an approach of combining process and product. Just as in other fields, Helvetas will stick to its grassroots orientation. It focuses on the real benefits for the most disadvantaged people of a society, identifies their needs and finds adapted answers and applications.
- § The vast variety of activities of Helvetas allows identifying meaningful ICT applications that support its conventional activities. A sense of “what is feasible, what is reasonable and what is desirable” will evolve.
- § The mission of Helvetas to build bridges between the North and the South implies the use of ICTs as a bridging channel for a lively exchange between people of different regions of the world and entails the promotion of a mutual understanding.

4.2. Core Competencies (è aspired „in-house“ competencies)

Helvetas defines its role as some kind of general entrepreneur of projects in ICTs, assuring the observance and realisation/implementation of leading principles of sound project work (state of the art, “savoir-faire”). It has the capabilities to be the interface between different spheres, i.e. bring together technology and development and assure quality and soundness of projects, to know potentials and limits of sensible use of ICTs as well as how to realise them.

Field of competencies	Methodological requisite know-how
1. Adapted/participatory planning, needs assessment	Adopted methodology (PRCA, social networking, etc.)
2. „Plattforming“: Knowledge Exchange/link commu-	Whole range of Knowledge Management

	nities and equip with virtual tools	tools
3.	Media/computer pedagogical competencies Informatics didactics	Pedagogical know-how and curriculum development; Instruments as WebQuest and mentoring
4.	Promotion of Indigenous Knowledge and innovations	informal communication systems dealing with, access to and transfer of knowledge on grass root level/ community organisations; validation, valuation & promotion
5.	Creation of „Infotopes“ as working environment, laboratories, experimental space and room to play/develop	Application of findings on the formal and informal learning, minimally invasive education; creation, organisation and maintenance of favourable settings
6.	Establishment and operation of Resource Centres as Content Providers as well as clearing houses as Knowledge Brokers	Conceptualisation, organisational set-up (modes of operation), necessary trainings

These competencies do only partly coincide with the two spheres of activities, described in Chapter 3. In contrary, they are applicable in all these spheres; they can be considered as cross-dimensions.

4.3. Out-sourced Competencies

1. „Standard problems“: handling/training/development res. standard software and applications (e.g. web mastering/publishing, multimedia, network technology, office computing, programming, etc.)
2. Infrastructure questions/hardware questions/ICTs in a technical meaning: establishment and operation of infrastructure (of computer networks up to telecentres), installation and operation of hardware components/peripherals

4.4. Services of the Head Office and of the Helvetas Network

The Helvetas Head Office strives to maintain an “advisory service at Head Office” which is at the disposition of all Helvetas programmes and projects as well as for external inquiries and needs (mandates). The desk in general becomes active upon request but keeps up permanent activities in order to answer inquiries within a meaningful delay.

It undertakes also activities in order to communicate the Helvetas competency towards the public and to position Helvetas in the vanguard of Global Knowledge in Switzerland (*Profiling*).

5. Annexes

5.1. Glossary

Brainware (à Framework)	A Helvetas-originated term. Brainware encompasses training of users and auxiliary staff (on different levels such as basic skills – computer literacy – as well as advanced knowledge on how to bring ICT into meaningful use), deployment and management of staff as well as provision of assistance. The concept of Brainware takes into account that any ICT project – in order to develop its full potential, to produce results and to be sustainable – requires an equilibrium between Hard-, Soft-, Frame- and Brainware.
Digital Divide	Standing term for the (growing) gap between regions and population segments with access to ICTs and the ones without. Access also includes the handling i.e. the knowledge to be able to use the ICTs effectively. The access is considered as a decisive parameter to participate in the development (especially in the globalisation), to represent own interests and not to become a passive victim.
Formal Training in ICTs (à Informal T.)	Covers all students. Follows common concepts of training. Teaches basic notions and concepts. Guarantees defined level of know-how and competence in basic application. Awakens sense for potential of ICT and visions for their use.
Framework (à Brainware)	A Helvetas-originated term. Framework is a series of institutional and organisational measures for the creation of a favourable ICT environment. This includes regulations of access, use and maintenance, mechanisms of financing and amortisation, arrangements of responsibilities (for all kind of tasks, such as maintenance, supervision, support & training). ICT projects must be well integrated into organisations and institutions. The concept of Framework takes into account that any ICT project – in order to develop its full potential, to produce results and to be sustainable – requires an equilibrium between Hard-, Soft-, Frame- and Brainware.
Informal Training in ICTs (à Formal T.)	Autodidactic training, peer-to-peer training, independent exploration. Practice and experience, acquired by coming through hundreds of specific situations. Gives space for realising enthusiasm for informatics. Relies on joy of discovery.
Infotope	A Helvetas-originated term. We define an Infotope – in analogy to a biotope (= Lebensraum) – as a place (Greek “tópos” = place) to exchange information and knowledge, to experiment and work with it, by putting at free disposition necessary means and medias for those

	who are ready to get involved in and/or have such needs.
Minimally Invasive Education	A central idea of MIE is (a) the cultural adaptation of these new technologies and (b) the reaching of the best ratio of means \Leftrightarrow effect. Exposed to ICTs, young people of a specific cultural context automatically and unavoidably create their own understanding, terminology and patterns in the dealing with them.
Multipurpose-Community-Telecentres	A central institution in a village/city quarter which provides a whole range of services in the field of informatics, telecommunication, education and secretariat: e.g. secretariat services, electronic library, publishing services, photocopier, classrooms for lessons, telemedicine practice, post, telephone, Internet Cafe.
Universal Service Obligations	Conditions linked to licence assignments (for telecommunication networks) to ensure the basic supply – also in economical unattractive regions – at tariffs being affordable for all citizens.