



# Challenges for mainstreaming ICT in a networked cooperation environment

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## Some questions we´ll ask ourselves during the event

- How to stimulate human development in the Network Society?; How to shape the Network Society on the basis of human development?
- What is the role of ICTs in human development and development cooperation?
- Does development cooperation need to be informationally and technologically updated?
- How does the context of the Information Era and the Network Society influence the methods and entities of development cooperation?



## Some questions we´ll ask ourselves during the event (II)

- How to mainstream ICT in development cooperation?
- What is the Network Cooperation? Which network processes are adequate for development cooperation?
- What elements of ICT mainstreaming and development cooperation networking are relevant for Spanish Cooperation?
- How to generate knowledge on these topics? What do we do after the Meeting closes?

# 1

## Human Development in the Network Society



# Human Development

- Human Development: processes that increase choices (freedoms) for a long and dignified life (Sen)
- Products of human development: '*entitlements*' – opportunities and rights that determine the capacity to choose for a person
- Important implication of HD: orientation towards the provision of real *opportunities* reales, and not simply satisfying basic needs.

# The Network Society

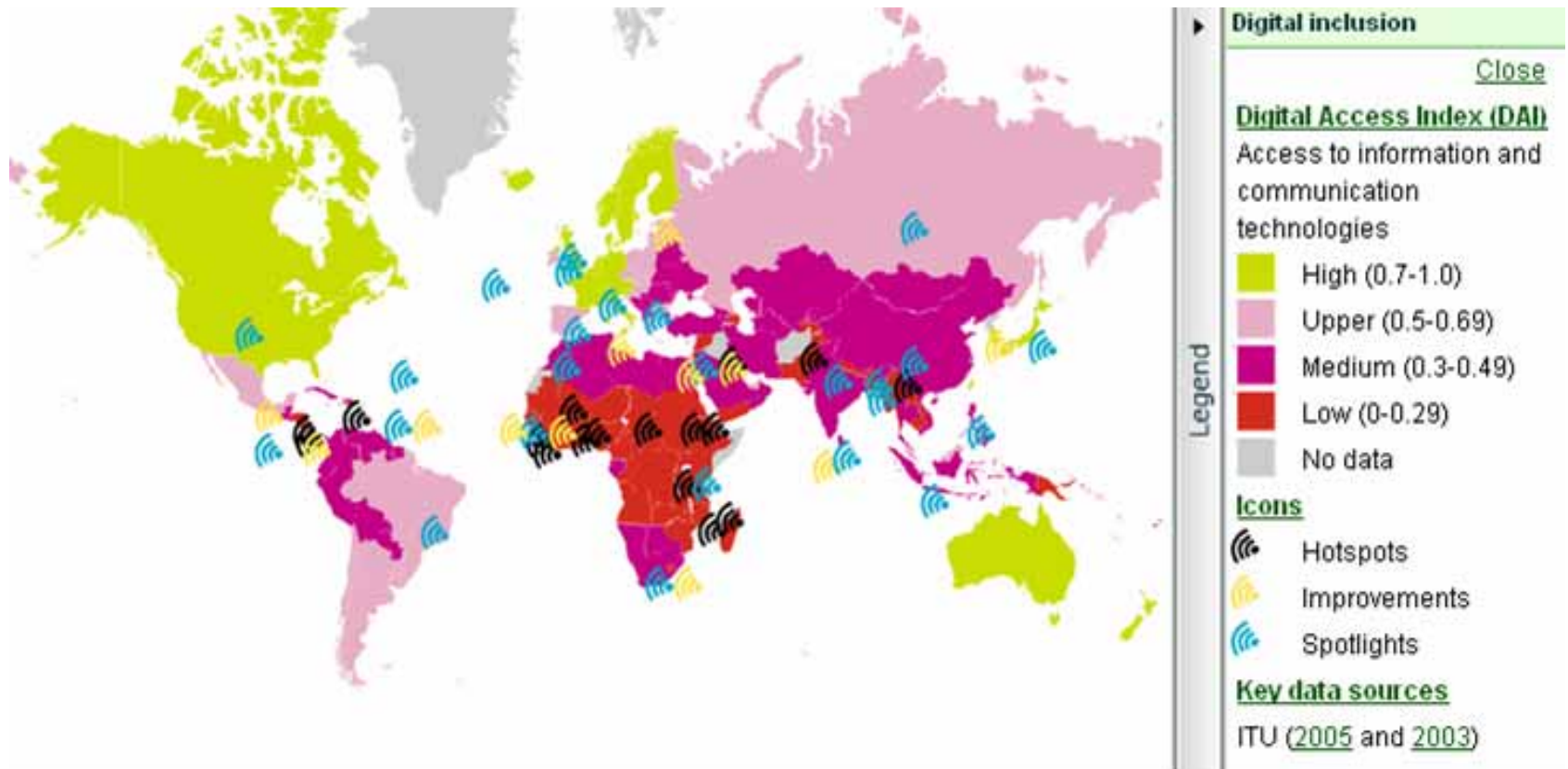
- Network Society: the social structure of the Information Age, organized through networks that work on ICTs (Castells)
  - Models of production, communication, organization and identities organized in/via networks
  - New spaces of relations and transactions ('space of flows')
  - A new concept of time ('asynchronous time')
- Networks: systems of nodes and connections
  - Do not require a center, and are characterized by their flexibility, scalability and tolerance to disruptions
- Altered incentives/penalizations relative to acquiring and using information and knowledge
  - Whether on global markets, or national development processes
  - Stronger stimuli to invest in capacity (human and institutional)

# Human Development in the Network Society

- Human development should result in expanding choices in the framework of the Network Society
  - Maximizing enabling factors and minimizing obstacles to HD
- Is the Network Society a proper environment for HD?
- Underdevelopment in the Network Society from a perspective of exclusion: the Fourth World (Castells) :
  - *'Networks that link valuable functions, persons and places in the world, while they disconnect populations and territories lacking value or interest for the dynamics of global capitalism. From here follow social exclusion and the economic irrelevance of segments of societies, of areas of cities, regions and entire countries, which constitutes what I call the Fourth World'*

# Human Development in the Network Society

Classification according to ITU's Digital Access Index (2005, 2003)



source:  
Maplecroft maps

# 2

## ICT for Development



# Information and knowledge as key elements for development

- For human development, the value of information (and of the knowledge in which it transforms) depends on:
  - its contribution to expanding choices: eg. education (which creates capacity), or access to information about opportunities for work or businesses
  - how it helps to diminish obstacles to development: eg. Information to health professionals about HIV/AIDS prevention/treatment, or about the rights of ethnic minorities for a human rights NGO

# Knowledge ecosystems

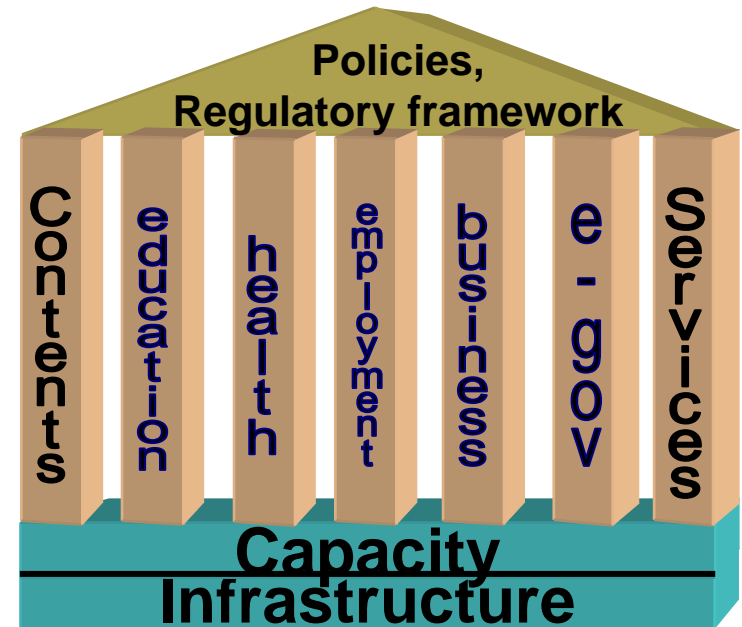
- Knowledge ecosystems can be described using a garden metaphor (Denning):
  - knowledge is not extracted, but cultivated
  - knowledge grows if the gardeners plant, feed and take care of the garden
  - knowledge can degrade if it doesn't have a fertile ground
- Networks are a good environment for 'knowledge gardens'
  - acting as 'greenhouses' that accelerate the production and management of knowledge
- Successful human development strategies depend in part of nourishing and supporting the knowledge 'gardeners'

# ICT and Human Development

- ICT are tools for accessing, generating, processing, storing and distributing information
- 3 ways in which ICT contribute to human development (Labelle, UNDP):
  - facilitating access and dissemination of information, and the creation of knowledge
  - helping developing countries to reach and become a part of the knowledge economy
  - as enablers of development by favoring the empowerment of people, at local and community level

# The Digital Divide

- Can be conceptualized as the difference in how the possibilities of ICT are put into use, due mainly to a lack of **access** to the technologies, **capacity** to use them, and relevant **contents**
- Emerges as a global development theme in the late 90's
- The digital divide contributes to other development divides, which in turn feed on it ('information poverty')
- Actors and leaders from the South want to overcome their digital divides
- Important qualitative advances since the early 90's: a multitude of pilot projects



## Basis for the use of ICT as development tools

- The utility of ICT for human development is a function of the value of information in a given context
- Basic criteria for analyzing the viability of using specific ICTs in a concrete situation:
  - (i) what purposes does the information serve
  - (ii) how the local actors get it, transform it and communicate it
  - (iii) which information needs are not satisfied
  - (iv) what uses for information can be added or improved upon the existing ones

# ICT and Human Development: Limitations

- ICT are not a development panacea
- They don't satisfy needs directly, like food, medicines, shelter or a loan to set up a business
- ICT can become too high a financial investment
- They can facilitate a kind of political control which is little or not democratic at all
- Their incorporation into some programmes can be a cover up for commercial interests
- There can be significant institutional resistance, and also on the part of decision-makers

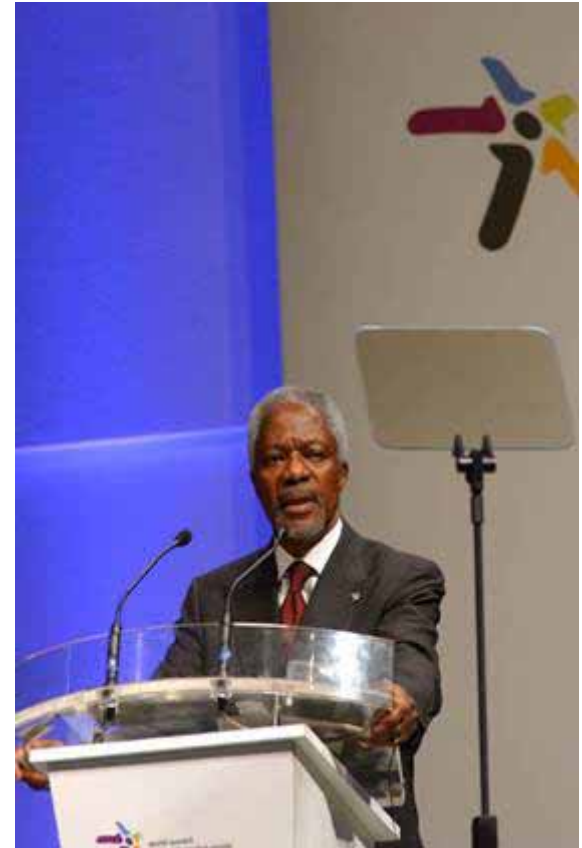
# ICT and Human Development: the evolution of the fish and the fishing rod

- Classic dev metaphor: don't give a fish, give a fishing rod and teach how to catch fish
- In the Network Society, the metaphor changes; ICT add value:
  - List of prices for the fish in various spots along the coast
  - Weather map and fishing conditions
  - Types of available catch
  - Advice from other fishermen
  - Trading on spare parts
  - Bulleting board – eg. people available to help out on ship, etc.



# 3

## Mainstreaming ICT into development cooperation



## What does mainstreaming ICT into development cooperation mean?

- It refers to the use of ICT in the conception, planning, implementation and promotion of projects and programmes, as well as in the managing cooperation organizations
- Implies an extensive technological absorption in the cooperation agencies
- Frequent calls by the agencies for the mainstreaming of ICT in development from international fora (WSIS, UN, OECD-DAC, etc.)
- However, there persists a considerable gap between **discourse and practice**: ICT are not yet well extended, understood or accepted in the reality of cooperation

## Level of ICT mainstreaming into development cooperation

- It is lower in the large development agencies than in the private sector or generally in Public Administration
- The institutional environment is not most conducive:
  - Often an attitude of distrust and scepticism towards ICT
  - Lack of knowledge and awareness about the real possibilities of ICT for development
- Indicators referred to 4 criteria (DAC study, Dec 2003, 23 countries):
  - Special attention to ICT mainstreaming: **11**
  - Existence of at least one corporate document on strategies related to ICT4D: **9**
  - Existence of a specialized unit or of technical specialists to support colleagues in ICT4D issues: **10**
  - Financing ICT4D projects: **13**

## Reasons for the cooperation agencies to mainstream ICT

- For higher efficacy (effectiveness + efficiency) in their actions – getting more and better results
  - a sector that moves significant figures: US\$ 106,000 M in 2006
- Because they can control their strategies – the agencies have considerable autonomy
- For their stimulating and catalytic effect – cooperation serves as a test bench
- Because they can better share knowledge and good practices – to expand the impact of actions outside their implementation locations

# ICT mainstreaming model in large cooperation agencies

Mainstreaming dimension	Objectives
<b>Internal</b> , referred to <b>management and operational processes</b> within the agency	<ul style="list-style-type: none"><li>■ simplification of transactions and reduction of mechanical tasks</li><li>■ fast and easy access to the information needed by agency staff &amp; collaborators</li><li>■ adequate management of knowledge and information resources</li></ul>
<b>External</b> , referred to the field work of the agency, in its <b>project and program portfolio</b>	<ul style="list-style-type: none"><li>■ routine use of ICT in projects to help them achieve their objectives</li><li>■ to network projects</li><li>■ capacity strengthening of local actors to apply ICT to their development process</li><li>■ efficient knowledge generation and use from the projects</li></ul>



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## Networks for Development

# Basic network concepts

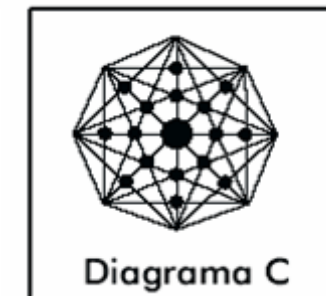
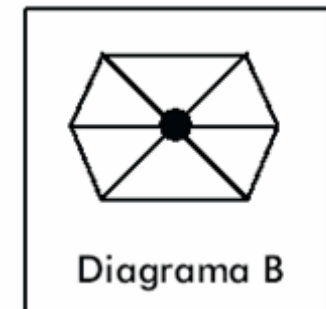
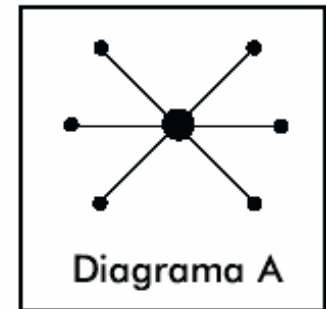
- A network is a set of **nodes and connections** (including **hubs**)
- Each node or connections can exhibit variable characteristics:
  - 'Strong' connections denote a frequent and productive relation between nodes; 'weak' connections essentially point to evidence of mutual awareness (Wellman)
  - Nodes vary in importance and capacity to connect
- The efficacy of networks in comparison to more hierarchical schemes comes from their flexibility, modularity and agility

# Benefits of forming part of a network

- Development organizations belong to networks or structure as networks because of their benefits, in terms of :
  - Sharing resources (financial, knowledge)
  - Better access to information
  - Greater potential for collaboration
  - Operational decentralization
  - Mutual support and risk reduction
  - Greater credibility (particularly for smaller NGOs)
  - Higher operational flexibility
  - More efficient representation
- It is necessary to manage networks: these benefits do not occur spontaneously
- Network management in development work is still in its early phases
  - Much to learn about managing networks and working in networks

# Morphological description: 1-D and 2-D networks

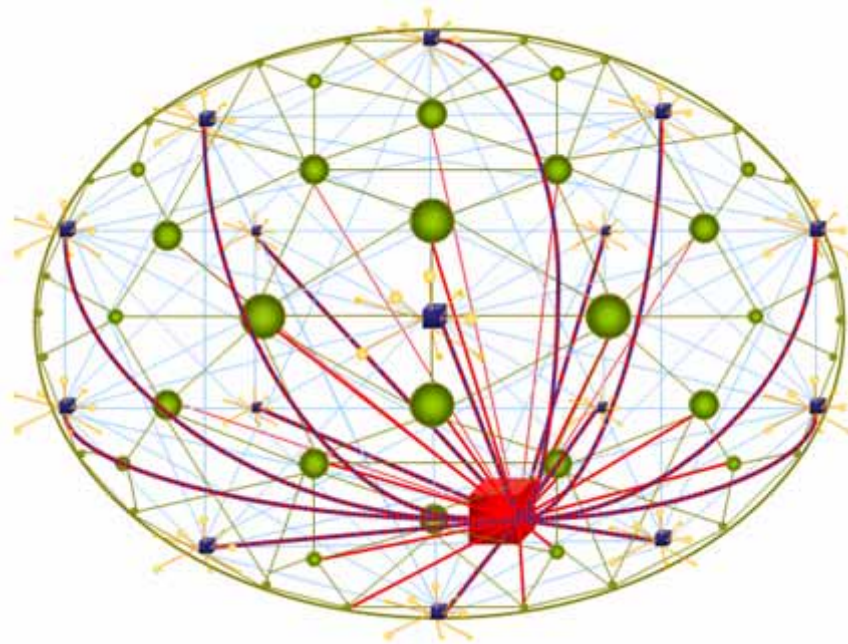
- **1-D (linear)**; doesn't differ much from non-networked structures
  - members linked lineally
  - Communications must flow thru adjacent actor before passing to the next one
- **2-D (flat)**
  - nodes can link up with a nearby node, be this one of similar prominence or the center node
  - Geometries are essentially grids, with cells of different shapes



Adequate to act as **institutional** networks, fundamentally aimed at the representation of their sector and defending their interests in front of others

# Morphological description: 3-D networks

- **3-D (spatial)**; have the greater level of freedom and flexibility
- Any member can link up to any other one, regardless of its prominence
- The central node (if there is one) accounts for a lower share of total links



They are adequate as **enabling** networks, oriented towards strengthening the capacities of its members so they interact effectively among each other

# Comparison between 2-D and 3-D networks

2-D institutional network	3-D enabling network
<p>The central or principal node acts as the <b>coordinator</b> of the network; determines <u>who</u> will carry out <u>which</u> actions, and thus will have previous knowledge about them.</p>	<p>The strong node will act to <b>dinamyze</b> the network; they develop resources and tools to favor networked actions among <u>any</u> of the nodes.</p>
<p>The <b>normative</b> is very important: network functioning is based on a series of norms that order and regulate its activities.</p>	<p>The functioning of the network is essentially <b>ad-hoc</b>, given the freedom and easy of linking among nodes, based on a few basic norms.</p>
<p><b>Planning</b> of actions is essential, since the central node must orient resources and efforts for their undertaking.</p>	<p><b>Periodic monitoring</b> is the essential 'corporate' actions, informing about what is happening in the network; it's not possible nor convenient to plan the possible actions among the nodes.</p>
<p>The network prioritizes <b>access to information</b>; the central node promotes availability of information and the systems for access.</p>	<p>The network prioritizes <b>knowledge generation</b>, thru communication among its nodes, the relationship with external entities, and information systematization. Stronger nodes work on the shared criteria for knowledge management, providing tools and services that favor it..</p>

# Functional description of networks

- **Social networks** (among individuals)
  - boom of social networks mediated through digital means (web 2.0)
  - There are some spaces of confluence with organizational networks
- **Organizational networks** (within/among them)
  - explicit and commonly held goals
  - A variable level of decentralización and task aggregation through democratic decision-making.
- A organizational network is normally more **productive** than a social one, generating results/products or offering services

# Types of development networks

- **Corporate** networks: established and maintained by one or more organizations
  - Among actors from development agencies (eg. ONGs)
  - Among professionals from the same organization (eg. World Bank)
- **Knowledge** or **thematic**: focused on a specific development theme (environment, HIV/AIDS, etc.)
- **Project** networks: among organizations or within a single one
- ***‘Network projects’***
- ***‘Open Source’*** networks: inspired on the ones that create and distribute open source/free software
- **Diaspora** networks: integrated by communities of migrants in both countries of residence and origin
  - Relevant for initiatives of co-development

# Evolution towards enabling 3-D networks for development

- 3-D, enabling networks offer the best environments for development and cooperation
  - Strengthening individually each one member for its own objectives
  - By providing tools/methodologies that favor the free collaboration among them
  - Generating a greater range of collective results
- Various processes can help development networks to transit from 2-D to 3-D nets, thru:
  - Inducing flexibility in the modes of participation
  - Building generative capacities for effective networking
  - Internal reinforcement via knowledge management
  - Networks for cooperation projects
- Cooperation strategies can also help in the evolution towards such networks, beginning by examining their own networking orientation

# 5

## Cooperation 2.0: the Network Cooperation



# Networking development cooperation

- Networks are changing the cooperation agenda
- Development actors networks overcome the limitations of the model of the 'expert counterpart' from North to South
- The international cooperation system is engaged in a gradual networking process, whereby:
  - collaboration mechanisms are multiplied
  - knowledge management is promoted
  - projects and programs are designed as 'networked objects'
- Knowledge networks and access to global knowledge systems can substitute for conventional cooperation models
  - *"knowledge networks do not need to be confined within information flows, in fact they can become an alternative institutional model for promoting development"* (Nath)

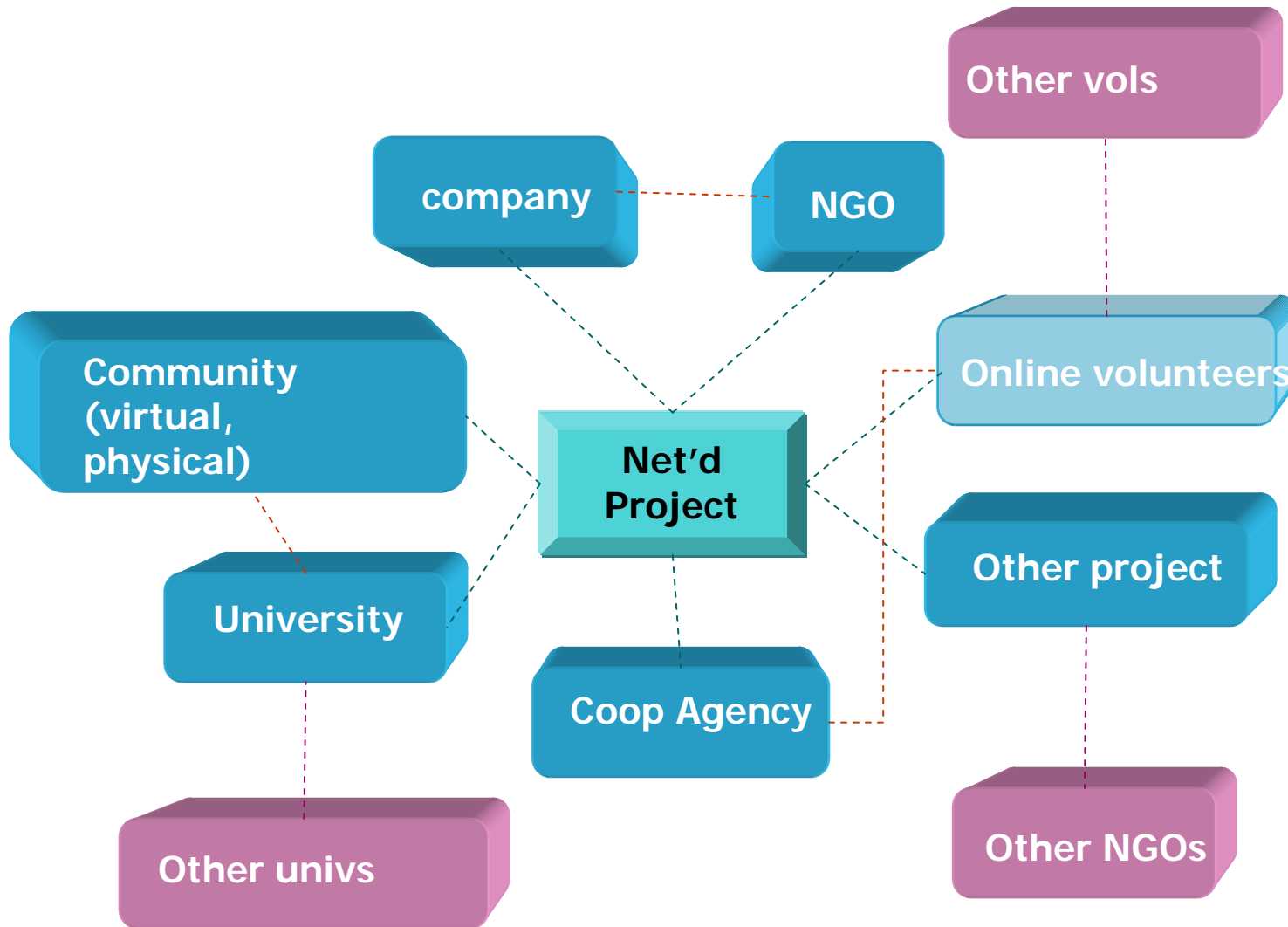
# Cooperation in the Network Society: the Network Cooperation

- Evolution towards an emerging cooperation model, Network Cooperation, tasked with getting good HD results and is deliberately adapted to the Network Society context
- Implies strategic changes in the international cooperation system:
  - Redesigning its **architecture** – towards structures based on networks (nodes, hubs and connections) oriented towards knowledge acquisition and collaboration
  - Undertaking a **re-engineering** of cooperation processes – reflected in projects, management, strategies and policies focused on getting results than improved the conditions of life of the targetted beneficiaries of cooperation's interventions.
    - ICT mainstreaming would be a part of this re-engineering

# Characteristics of the Network Cooperation

- Incorporation of technological, human and institutional networks in the operational day-to-day, fostering particularly their enabling functions (3-D)
- Generalized use of ICT both for internal functions (corporate level) as well as external actions (fieldwork) to improve the efficacy of cooperation's work
- Emphasis on the generation, absorption and dissemination of knowledge as a priority function for cooperation
- Redefinition of traditional development projects, so participation in them is not limited by a limited (geographic) space, but is contained in the space of flows that the project itself generates
- Promotion and channelling of networked social capital
- Stimulation of multistakeholder actions (government, civil society, business, university) looking for diversity in ideas and a shared commitment for development

# A development project as a networked initiative



# Network Capital

- **Networked social capital** (*network capital*) can be understood as a particular type of social capital which is derived from the differentiated value that communities structured as social networks and using ICT generate for themselves, for others and for society as a whole
  - Emerges from relations of trust and collaboration out of both social and organizational networks
- Among its attributes are:
  - It results from collaboration thru digital networks
  - It is generated mainly via voluntary actions
  - It comes from communities of interest, much more than communities linked by geographical proximity
- The free software movement constitutes an excellent example of network capital
- Network capital can be an important asset for development cooperation, and thus cooperation policies would benefit from promoting and channeling it

# Management of cooperation networks

- Incorporation (in planning, operations) of network management as a corporate competence of cooperation agencies
- The management of a given network depends on its structure as well as its objectives and function
  - a. It is necessary to know its context (social/economic/cultural/technological) so its networking style is coherent with it
  - b. It is convenient to make explicit the objectives or purposes than its members want to give it (to shape it in a particular way)
  - c. Along its functional evolution, it will benefits from a detailed characterization at some interval – performing a network analysis
- Network analysis studies the relations among nodes thru a set of parameters,
  - Eg. cohesion, equivalence, prominence, bridging rol and agency (Anhier, Katz)

# 6

## La Cooperación Española ante un entorno 2.0



# Networking the Spanish Cooperation System

- Spanish Development Cooperation is highly decentralized and complex (SECI, AECID, Ministries, Regional Govts, Municipalities, Dev ONGs, Companies, Universities, etc.)
- It is a system, but it is far from being a networked system
- To that Spanish Cooperation needs to significantly advance in its info-technological update
  - Discussed in the 'Guide to ICT Integration in Spanish Cooperation' document (SECI 2006), and now underway en curso.
- An example of a concrete networked action would be the establishment of a **Portal for Spanish Cooperation**, constructed collectively, for outreach, learning and communication among its numerous actors



## Some actions to provide impulse to the internal ICT mainstreaming in AECID/SECI

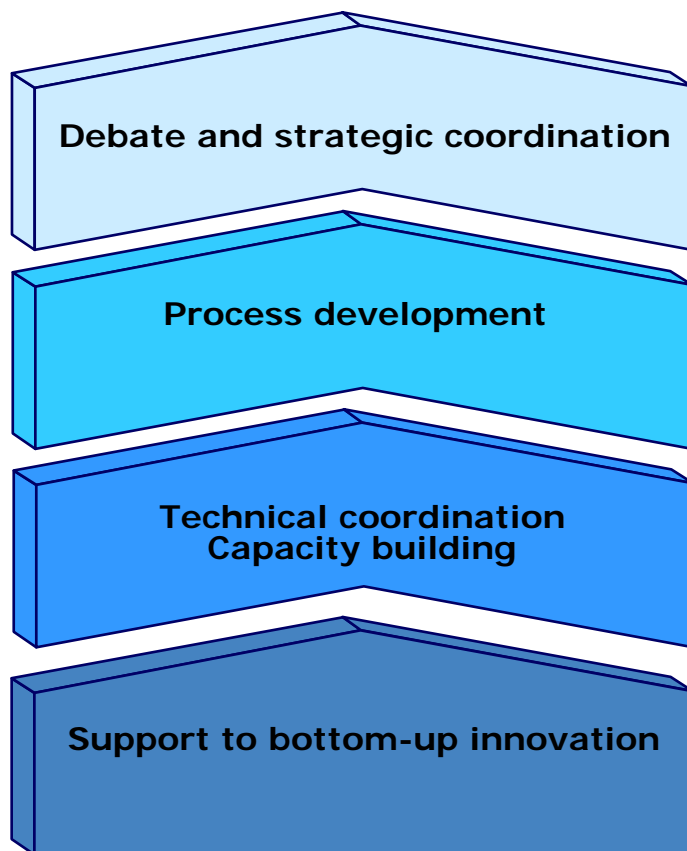
- To design a corporate informational architecture
- To formulate and implement a knowledge management strategy
- To implement an array of e-services (for submitting proposals, e-learning, monitoring reports, etc.)
- To draft a strategy (White Book) of Spanish Cooperation on ICT for Development
- To provide specialized support on ICT4D within AECID

## Some actions to provide impulse for the external mainstreaming of ICT in AECID/SECI

- To introduce and use ICT in the AECID projects and programs portfolio (transversally)
- To include ICT4D projects – aimed specifically at reducing the digital divide
- To incorporate ICT in some country strategies of Spanish Cooperation
- To participate in projects with other partners
  - Bilateral DAC agencies
  - Multilateral agencies (UNDP, UNESCO, IDB, etc.)

# Fostering ICT mainstreaming in the Spanish Cooperation System

## Working levels



A collaborative environment among actors which lends itself to incorporating ICT would be advisable:

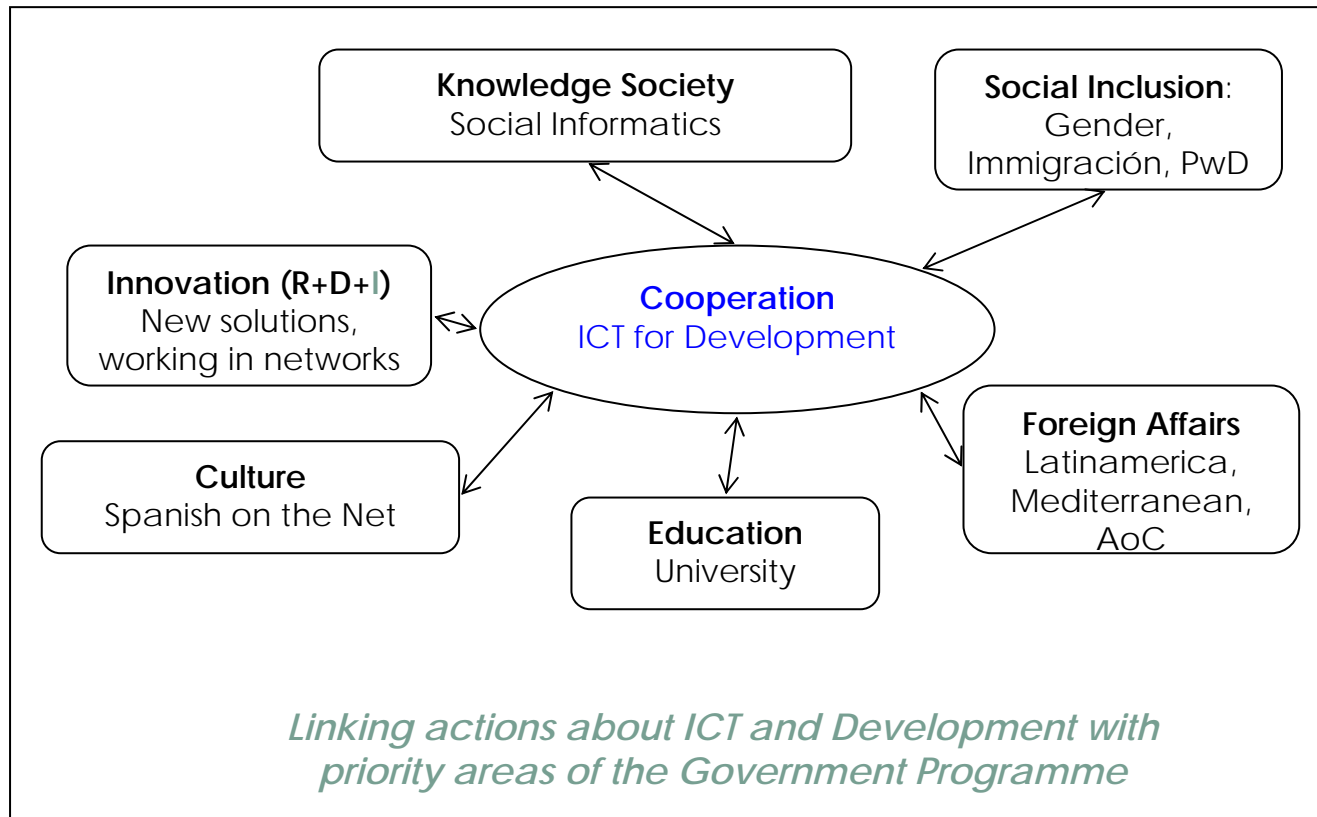
- Generation of spaces for **debate** and **strategic coordination**
- Identificación and **definition of processes** for the gradual introduction of ICT in the System
- Assigning **technical capacities** and **resources** to get the processes underway
- Support to innovative initiatives and entrepreneurs **bottom-up**

## Benefits of a network cooperation for the Spanish Cooperation System

- It facilitates achieving the principles of **collaboration**, **complementarity**, **quality** and **coherence** of the Spanish Cooperation policy (as reflected in its current Plan Director 2005-2008)
  - Collaboration: effective decentralización at a good point for it; makes it easier to proactively become involved in multilateral or multinational initiatives
  - Complementarity: better awareness of the initiatives of other actors to avoid overlap and atomization; design of initiatives to be jointly implemented as networked projects
  - Quality: enables a better use of the knowledge generated in its programs and projects, including lessons learned in other countries that can be quite applicable in Spain ( eg. on e-governance, e-educación, ICT and disaster management, etc.)

# Coherence among cooperation policy and State policies

A network cooperation favors the coherence with State policies , by multiplying the actors and initiatives within a programmatic approach that prioritizes 'coherent' lines of work



# Conclusions

## ■ Human Development in the Network Society

- The Network Society provides a different context in which to plan and carry out human development actions, based on network structures and dynamics

## ■ ICT for Development

- Information and knowledge are essential ingredients for development, and ICT are tools that can be applied to generate and manage both
- The Digital Divide is an important development divide in the Information Era (it affects other divides and is affected by them)

## ■ Mainstreaming ICT in Development Cooperation

- ICT mainstreaming in development cooperation increases its efficacy (more effective, more efficient)
- It involves two complementary and necessary axes: an internal one (corporate) as well as an external one (fieldwork); in both it's essential to underline ICT human and institutional capacity building

## Conclusions (II)

### ■ Networks for Development

- Institutional networks (2-D) are giving way to enabling networks (3-D) which offer more possibilities for cooperation's work

### ■ Network Cooperation

- Network Cooperation models make extensive use of networks (human and electronic) and ICT; emphasizes knowledge management; seeks a larger degree of collaboration and participation from any part of the world; and designs its actions in networked fashion (including projects)

### ■ Networking Spanish Cooperation

- The reticulation of the Spanish Cooperation lends itself well to the highly decentralized and multi-actor system on which it is based
- The info-technological update of the Spanish Cooperation forms part of its reform and modernization process



Many thanks for your kind attention!

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