

## Technology, democracy and planning: hints from the Mediterranean

Camarda D., Giordano R.

*in*

Camarda D. (ed.), Grassini L. (ed.).

Local resources and global trades: Environments and agriculture in the Mediterranean region

Bari : CIHEAM

Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 57

2003

pages 305-313

Article available on line / Article disponible en ligne à l'adresse :

<http://om.ciheam.org/article.php?IDPDF=4001982>

To cite this article / Pour citer cet article

Camarda D., Giordano R. **Technology, democracy and planning: hints from the Mediterranean.** In : Camarda D. (ed.), Grassini L. (ed.). *Local resources and global trades: Environments and agriculture in the Mediterranean region.* Bari : CIHEAM, 2003. p. 305-313 (Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 57)



<http://www.ciheam.org/>  
<http://om.ciheam.org/>

# TECHNOLOGY, DEMOCRACY AND PLANNING: HINTS FROM THE MEDITERRANEAN

**D. Camarda, R. Giordano**

Department of Architecture and Urban Planning, Polytechnic of Bari, Italy

## ABSTRACT

The digital revolution, that directly involves the Information and Communication Technology (ICT), can be considered as one of the most recent innovations able to deeply modify our society. Policy makers, both local and global, increasingly recognize the potentiality of change, and they propose strategies aiming at reaching goals linked to such key areas as sanity, education, economic growth, empowerment and democratisation, environment.

In particular, the role that the ICT can play in the democratisation of the decision processes is becoming an increasingly addressed issue. We can consider that the term Information Technology concerns the system of data gathering, data storage, analysis and representation constituting a Decision Support System for bottom-up planning. Therefore, this kind of digital technology is considered as a tool for a more decentralized and democratic planning process and public debate.

The awareness of the importance of the shared decision process in complex domains, such as environmental planning, derived from the recognition of the role that stakeholders can play. If they are not involved in the alternative construction and evaluation, the decision process outcomes could be controversial and proposed solutions could generate strong opposition, making unfeasible those solutions.

Therefore, the extent to which IT-based tools can help the attainment of a more democratic and useful level of information for citizens could be not obvious. In fact, on one hand, we can agree about the concept of information as power: however, on the other hand, information raises power only if it can be effectively understood by the user, so transforming information into knowledge, and power. Often information provided by analytical tools, such as GIS and Decision Support System, is difficult to be interpreted by non-expert people, especially when basic knowledge is lowly developed in the Information Technology domain, like in Developing Countries, so making the interaction difficult. Furthermore, an increasing criticism warns about the difficulties in the proper application of Information technology planning instruments where planning staff's expertise is uneven, so envisaging the risk of using IT-based supports uncritically to develop incoherent policy.

Starting from this mismatch between intentions and real contingencies, especially under a locally-based perspective, the paper will try to outline how the different social and cultural awareness of different local communities can draw positive or even negative outcomes out of the use of IT-based tools, eventually. The presented case study begins with a review of the debate recently growing around the democracy-technology interplay, which is increasing coming into the agendas of international governmental and non-governmental organization. In this light, a particular emphasis will be given to the implication on governance and town and country planning in Developing Countries.

Furthermore, a case-study will be presented, carried out in Izmir (Turkey), and dealing with the integrated planning and management of coastal areas. In the illustrated application, a software tool was used to let people interactively build alternative development scenarios in sensible social and environmental contexts.

Finally, conclusions will be drawn out, trying to understand the potentials and the limits of an IT-based approach to community involvement in planning issues, with particular reference to lowly developed areas.

## 1. INTRODUCTION

The growing use of computer and modern information/communication technology can be considered

one of the most important technical and social changes in recent history. The so called "information revolution", that took shape in the early 1970s, has penetrated all aspects of our contemporary society. Now it affects the way in which we live, work, produce, consume, travel, and think (Castells, 1999). Above all, the coming of Information and Communication Technology (ICT) has affected the way in which we interact with one another and with our environment.

Speculation about possible impacts of this revolution on socio-economic development seems to waver between two extremes: the optimistic and the pessimistic view (Barbanente and Tedesco, 2001). The former, following the perspective of Negroponete, emphasizes the potential of Information Technology breakthroughs to resolve the social problems of poverty and inequality in world society. "According to Negroponete, the digital world holds new forms of community development, independent of communities of place. The isolation of the poor can be ended. [...] The digital world holds potential for conferring enormous economic benefits on the society as a whole and its low-income segment in particular. It is for this reason that Negroponete sees exclusion from the digital world as disastrous for those excluded" (Schön *et al.*, 1999, p. 8).

On the contrary, the pessimistic view states that we have no reason to expect that the new socio-technical system, that comes from the information revolution, will be able to remedy social inequities (Marx, 1999), first of all because we have to register an unbalanced social distribution of information tools. Moreover, the pessimistic views stress possible effects of eradication, schizophrenia, disintegration of social life coming from the global village of telecommunication (Barbanente and Tedesco, 2001).

In any case, potentials for change are remarkable, justifying the interest that the policy makers have in this technological innovation. In particular, it is important to underline that in large international organizations, such as OECD, UNDP, UNCHS and EU, there are sub-organizations with the task to elaborate effective strategies for the diffusion of ICT and to monitor its socio-economical effects. These organizations seem to take part in the optimistic view and they found their strategy on the belief that the ICT can be a powerful tool for the regional development, since it can dramatically improve communication and the exchange of information and thus strengthen [...] and create new economic and social networks.

The present paper begins with the consideration that many characteristics allow ICT to promote empowerment and democratisation of decision processes by making them more efficient and transparent through incentives to the communication and exchange of information between population and organisations and inside governmental agencies.

However, both recent literature and case studies seem to warn against an easy and a-critical supporting of ICT pervasion regardless of the peculiar aspects of each community. In fact, experience seems to show that ICT effectiveness is largely dependent on the basic characters and features of local contexts, their culture, their relational behaviours, and their economic base. In this context, the paper tries to understand to what extent ICT potential can be jeopardized by external factors, and what lessons can be drawn from current experiences, in order to take real advantage of ICT for local development.

The paper is structured as follows. After the present introduction, the second and third chapters are devoted to analyzing the role and the potential as well as some critical aspects of ICT and the international web network as enhancing participation and democracy in planning processes and decision making. In particular, some aspects of ICT diffusion in Developing Countries is argued in the fourth chapter, through the case-study approach carried out under the present Concerted Action, especially in Turkey. Some concluding remarks on the potentials of ICT are laid out in the last chapter, emphasizing the crucial role of local communities' characters and culture in enhancing the effectiveness of ICT-based processes.

## 2. ICT AND THE DEMOCRATISATION OF THE PLANNING PROCESSES

As stated before, many international organizations tend to consider Information and Communication Technology as a toll for the empowerment and democratisation of the decision processes.

Some unique characteristics seem to suggest that ICT has the potential to be a powerful enabler for development (UNDP, 2001):

ICT is *pervasive and cross-cutting*. ICT can be applied to the full range of human activities from personal use to business and government.

ICT is a key enabler in the *creation of networks* and thus allows those with access to benefit from exponentially increasing returns as usage increases.

ICT fosters the *dissemination of information and knowledge* by separating contents from their physical location. This flow of information is largely impervious to geographic boundaries allowing remote communities to become integrated into global networks and making information, knowledge and culture accessible, in theory, to anyone.

The "digital" and "virtual" nature of many ICT products and services allows for *zero or declining marginal costs*. Replication of content is virtually free regardless of its volume, and marginal costs for distribution and communication are close to zero. As a result, ICT can radically reduce *transaction costs*.

ICT's power to store, retrieve, sort, filter, distribute and share information seamlessly can lead to substantial *efficiency gains* in production, distribution and markets. ICT streamlines supply and production chains and makes many business processes and transactions leaner and more effective.

Increase in efficiency and subsequent reduction of costs brought about by ICT is leading to the creation of new products, services and distribution channels within traditional industries, as well as *innovative business models and whole new industries*. Intangible assets like intellectual capital are increasingly becoming the key source of value. With the required initial investment being just a fraction of what was required in the more physical-asset intensive industrial economy, barriers to entry are significantly lowered, and competition increased.

ICT facilitates *disintermediation*, as it makes it possible for users to acquire products and services directly from the original provider, reducing the need for intermediaries. This cannot only be a considerable source of efficiency, but has in fact been one of the factors leading to the creation of so-called "markets of one," leveraging ICT's potential to cater to the needs or preferences of users and consumers on an individual basis.

ICT is *global*. Through the creation and expansion of networks, ICT can transcend cultural and linguistic barriers by providing individuals and groups with the ability to live and work anywhere, allowing local communities to become part of the global network economy without regard to nationality, and challenging current policy, legal and regulatory structures within and between nations.

In the research field, some authors stated that the term "Information Technology" refers to the digital communication network which is seen as vehicle for dialogue between residents and public officials, or strengthening the social bounds in "communities of places" (Schön *et al.*, 1999).

From this perspective, using ICT governments can improve the quality and responsiveness of the services and information they provide to their citizens as well as expand the outreach and accessibility of services and public infrastructure.

ICT potential toward the democratisation of the decision processes seems to be very interesting for the spatial planning domain. In fact, often the decision processes in the planning field are complex because they involve many different social groups, with different interests, different problems, perceptions and understandings.

The awareness of the importance of the shared decision process in complex domains, like spatial planning, derives from the recognition of the role that the stakeholders can play: if they are not involved in alternative constructions and evaluations, then decision process outcomes could be controversial and proposed solutions could generate strong opposition, making those solutions unfeasible. Therefore, it becomes fundamental to pay particular attention to public participation in the environmental and spatial planning decision processes (Concilio and Kersten, 2002).

In this "collaborative and communicative planning", exchange of information among different actors plays an important role. In this process, information becomes gradually embedded in the understanding of actors in the community; it becomes embedded in the thoughts, practices and institutions of a community, thereby influencing actions (Innes, 1999). Therefore, it seems fundamental that all stakeholders are fully and equally informed, whereas they are often involved in the decision process without enough information on the discussed problem hence, in those cases uncertainty of the decision and negotiation processes increases (Concilio and Kersten, 2002).

From this perspective, the diffusion of the ICT can play an important role for a more democratic decision making process integrating locally and globally available information databases to allow remote interactions among stakeholders, decision makers and planners, often with the aim of helping information exchange and devising public policies.

However, the extent to which IT-based tools can help the attainment of a more democratic and useful level of information for citizens is not univocally agreed upon. An important problem concerns the

interpretation of the information. In fact, often decisions in environmental planning domain require great knowledge of environmental problems, also including intrinsic physical (biological, chemical, etc.) characteristics. Experts from different disciplinary sectors are able to understand such environmental problems by making reference to data analysis and modelling. But the information provided by models and analytical tools, like GIS and Decision Support System, are difficult to be interpreted by non-experts, reducing the opportunity for direct involvement of the stakeholder in the decision process.

In fact, if, on one hand, we can agree with the concept of information as power, on the other hand, it is important to highlight the fact that information generates power only if it can be effectively understood by the user: this comprehension converts information into knowledge (Shiffer, 1999). Therefore, we can argue that only if information becomes knowledge, will it make empowerment possible: effective knowledge sharing is a precursor for a successful collaborative process (Bush and Tiwana, 2001).

ICT tools can help people comprehend information, then derive knowledge, allowing them to become participants in the decision process in its first stage. Therefore, stakeholders are able to support the decision process providing their information in a social construction of knowledge (Innes, 1999). As the process of socialization, externalization, combination with other members' knowledge occurs in groups, shared knowledge is created (Bush and Tiwana, 2001).

For example, the creation of shared knowledge in a planning process can be supported by multimedia tools, like sound and image creation (Shiffer, 1999), and by tools for simulation and visualization of the different environmental scenarios that can describe the output of analytical tools more descriptively, such as GIS and Spatial Decision Support System, improving their user-friendliness (Concilio and Kersten, 2002).

### **3. THE USE OF WEB IN THE DEMOCRATIZATION PROCESS: THE VIRTUAL COMMUNITY**

We said that ICT can facilitate the creation of a shared knowledge improving the understanding and exchange of information. With regard to the latter, Internet can play an important role because it facilitates wide diffusion of information: it can eliminate time and place constraints so that people can discuss issues of common interest more effectively (Shiffer, 1999). In particular, Internet could contribute to mitigate information and services access problems of peripheral areas and of isolated and dispersed populations, overcoming mobility problems (Barbanente and Tedesco, 2001).

Moreover, in the intentions of the large international organizations, Internet could facilitate access to information for marginalized communities and groups such as women, youth and ethnic minorities. They can share and exchange information of mutual interest, strengthen their collective power and shape their own development solutions. Citizens are encouraged to participate in the democratic process, providing information to the government, through ICT mechanisms such as electronic forums and bulletin boards, which enables participation in public discussions (UNDP, 2001).

Internet can connect individuals and local communities with information and resources within and beyond their geographic boundaries, encouraging information dissemination, information exchange and communication. Therefore, ICT could contribute to the creation of a *virtual community*. This community is described as social groupings that exhibit shared spatial relationships, social conventions, a sense of membership and an ongoing rhythm of interaction (Bush and Tiwana, 2001).

One of the most interesting characteristics of the virtual community is the belief that this system, with its communication and information exchange, can strengthen and vitalize real existing communities, and increase the sense of community.

In recent times, many efforts have been made in order to create virtual communities able to promote bi-directional information flow between government and people. The government can provide citizens with information through community networks and citizens can in turn communicate with officials and interact with one another in a fast and inexpensive way.

In spite of this intention, many of the systems<sup>1</sup> allow only a one-directional flow of information. These systems, through a user-friendly interface, facilitate the public's access to crucial information regarding the community, such as "ethnic and religious", "health and safety", "economic development", "the

<sup>1</sup> See, e.g., Milwaukee's Omnifest, Buffalo Free-Net and St. Louis Community Information Network (Shiffer, 1999).

government initiative”, “community resources”, etc. Therefore, these systems try to improve public participation in the community decision making facilitating diffusion of easily understandable information, but they do not create a virtual place in which the people and the officials can exchange information.

In order to enhance the attainment of a more proper democratic planning process, some attempts are being currently made in order to create web-based decision-making environments, sorts of *virtual agoras*, in which citizens, decision makers, stakeholders and institutions can learn about the community problems, be involved in discussions, create alternative scenarios and assess those scenarios in a collaborative framework (Concilio and Kersten, 2002).

Technological instruments to support a wide-based collaboration in the management of planning processes, and thereby create a real useful virtual community, should allow simulation and assessment of different environmental and socio-economical scenarios related to different alternative solutions. They should allow access of the public to expert knowledge regarding specific issues and their understanding of this knowledge (Concilio and Kersten, 2002). They have to incorporate also tools for friendly visualization of alternatives, preferences, assessments and comparisons.

#### 4. ICT AND DEVELOPING COUNTRIES: A CASE STUDY

Among the experiences carried out during the last decade or so, some dealt particularly with issues related to sustainable development, especially in Developing Countries, trying to enhance planning and policy attitudes of local authorities. The Concerted Action is one of these experiences, and one of the main aims of this initiative is to build planning scenarios to envision future developments of a given area, mainly based on a variant to the *strategic choice* approach (Khakee, 1999; Schnaars, 1987; Jungk and Mullert, 1996). In order to do this, several stakeholders have been involved in iterated, multi-session scenario-building activities in different situations.

An interesting experience was carried out in 2001 in Izmir, Turkey, and dealt with the sustainable integrated management of coastal areas, subjected to several problems such as massive tourism, secondary houses, as well as industrial and urban pollution of soil and water. In order to make stakeholders interact, the process was partly developed by using a computer dedicated software, called MeetingWorks.

MeetingWorks for Windows is an advanced groupware product that includes tools for electronic brainstorming, idea organization, ranking, voting, cross impact analysis, and multiple criteria (weighted factors) analysis.<sup>2</sup> According to the vendor, among benefits brought by MeetingWorks to meetings and group processes is an improvement in productivity together with higher quality results. However, the software was conceived as a tool for executive, staff or personnel meetings within firms or societies, where the main aim is to ease the achievement of agreement on projects and issues. In the case of scenario building, instead, the major aim is to enhance the interaction and share of knowledge among stakeholders, in order to finally ease the drawing up of alternative community scenarios, development strategies and policies.

The use of a computer-mediated session allowed some considerations on the mechanism of knowledge gathering, as well as on the effectiveness of information exchange. First of all, data and information gathered through computer - although derived from a group interaction - were far better identifiable and recognizable than in a traditional face-to-face session. This was certainly due to the aim of the process itself, intrinsically conceived as a means to build aggregate responses: however, once reached, responses were remarkably harder to be analysed in face-to-face interactions, than in

---

<sup>2</sup> A LAN-based system, MW provides a Chauffeur station for use by the meeting facilitator or an assistant to create a meeting agenda and to run the meeting. The Chauffeur screen is normally projected at the front of the room for all participants to see. Participants have access to Participant stations, where they can enter their ideas, votes, comments and other input, all anonymously. The participant information is collected and displayed on the Chauffeur screen, allowing the group to view the group input, as well as other information such as the level of agreement in the group.

The agenda developed in the planning process is a list of all the topics and tasks, called steps, that will take place during the course of the meeting. While steps are similar to agenda items, they represent not only the tasks, but also the tools necessary to perform those tasks. Steps take place in a specified sequence and the results of one step can be passed automatically to another step that will use the information to complete its task. If one task produces surprising results, steps can be added to explore the topic, then return to the agenda and proceed to the next planned step.

computer-mediated ones. In fact, computer steps are reported by the software as logs of performed activities, making group responses transparent.

A second positive outcome, stemming from the previous one, is that the computer allows a backward tracking of the knowledge building path in its sequential progress even if without allowing analyses of individual responses. In face-to-face interactions, instead, many segments are implicit, fuzzy, informal, so difficult to be de-aggregated and scanned.

However, during the implementation of the procedure, the reaction was different within the group. The reliance on computer-aided work is reported as being low in Turkey, as compared to other European contexts, especially on public boards (UNESCO 1999). This occurrence was observable in the mood of many stakeholders, particularly - but not only - the senior ones, who showed great difficulty in actually starting the session, and required a significant involvement of technical assistance particularly in the first stage. On the contrary, other stakeholders (particularly the young ones) received little or no help at all in starting the session. In one case, a young NGO stakeholder, a late comer, succeeded in resuming all the preparatory work he had missed, by relying on his tenacity and home-made expertise, and refusing any technical help.

This multifarious picture induced the drawing up of a double-sided consideration, crucial for the work to come. In fact, on the one hand, particularly the young part of the group was technically and conceptually prone to use the new tool, both effectively and *creatively*, thus behaving with an interesting adaptive cognitive frame. On the other hand, instead, the majority of the group behaved as if burdened with a formative gap, both technical and conceptual, thus resembling the same *digital divide* described in Developing Countries (e.g. McLean, 2001).

Therefore, the whole image of the group was a sort of mixture of a sceptical and a intrigued attitude, but it allowed general reliance on people interested and well disposed. As a whole, the experience was carried out fatally slowly, and participants could make proper use of the tool only under a constant supervision of technicians and technical facilitators. Furthermore, they made frequent use of brief talks with one another, as a way to ease the information exchange via computer - this being a paradox, in a computer-aided interaction.

However, as compared to a previous experience in Tunisia, completely different approaches and procedures needed to be used to build development scenarios with stakeholders. While in the case of Tunisia the structure of traditions and established power ended up by limiting the participation of stakeholders to a bunch of governmental officials, in the case of Turkey stakeholders did participate actively, notwithstanding some organizational problems. In Tunisia, diffused scepticism in the potentials of building participated scenarios hung heavily over the whole process, making especially difficult and slowing down the first stages and - therefore - affecting the carrying out of all activities. No IT-based tools could be used to allow people interacting with one another. In Turkey, instead, diffused participation of stakeholders did allow the use of computer-mediated interaction among stakeholders, with encouraging results in terms of IT-spurred personal involvement and learning. However, the presence of facilitators and computer assistants was the crucial key that fostered stakeholders' attraction and enhanced the feasibility and the effectiveness of activities (Barbanente *et al.*, 2002).

As this and other examples show, participation is not only a question of developing tools, improving interaction means and methodologies, but also a matter of fostering aptitude and knowledge of *people*. Therefore, one could easily conclude that ICT can effectively mitigate segregation when an appropriate knowledge and expertise is equally bestowed and granted to people.

## 5. CONCLUSIONS

A major issue is therefore evident in the discussion above. Knowledge and information are deeply context-dependent, and major differences are in tradition, history and culture, and education in manifold different forms, as increasingly emphasized (Carley, 1995). It can be heavily mystifying, therefore, to deal with successful stories and helpful researches on IT-based planning, without making a point on the particular area or context of study. IT and GIS management for local development does not involve the same level of difficulty - and efficacy - in involving people's participation in Tunisia or Canada, in Turkey or USA.

As the above analysis shows, citizens' knowledge information need to be enhanced in order to take opportunities offered by the new technological tools for development effectively and timely. The quality

and quantity of such enhancements, heavily dependent on local characters, need to be particularly calibrated to the social and cultural patterns of each context.

In this light, a growing number of different projects is funded by national and international bodies, aiming at increasing people's participation and awareness, as well as at building the needed information base, both in citizens and in decision makers. On the part of decision makers, many increasing international agreements and funding programs, led by international institutions or associations, have been developed in recent years in order to train or retrain especially urban planning professionals. They are, for example, UNESCO's *MOST* (Management of social transformations programme), or EU's *ESF* (European Social Fund), that have often been devoted to sub-programs for the education of public officers.<sup>3</sup> However, it is worth noting that their approach is based on single projects, subjected to separate, not mutually integrated approvals by the international board, and left to the goodwill and *capacity* of local promoters to set up the project itself - the same capacity that the projects should foster. Furthermore, projects themselves are only aimed at retraining, not at attaining an effective reorganization of the education and learning sector.

As regards citizens' knowledge, a hidden and often non-publicized *universe* of projects and educational programs have been (and still are) developed, especially in poor countries. In recent times, some research institutes began monitoring the effects of education programs on development, by issuing specific studies or abstracting other bodies' researches: one of the most popular is the Institute of Development Studies, based in the UK, providing information through its web gateway.<sup>4</sup> This gateway still operates independently, having acquired increasing importance and usefulness during the last years. The philosophy was originally to explore the outreach of electronic information through the world: then it gradually moved to disseminating data and monitoring projects dealing with development issues. An increasing focus on poorest communities and developing countries was fatally attained during its evolution, particularly in addressing the most pressing social issues worldwide. Some of the currently available subjects are ageing populations, agriculture, biodiversity, children, debt relief, education, food, sustainability, globalization, health, participation, poverty, and development. In particular, educational issues have been traditionally dealt with and monitored especially in developing countries, and therefore a good overview is provided for researchers and policymakers (Lindsay and Ferguson, 1995).

The outcomes of this interesting investigation need to be further explored and evaluated: however, it is evident that in communities where structured educational schemes were set up, social as well as economic development started raising consistently. Even specific, new educational issues are being progressively addressed with increasing efficacy, focusing on up-to-date issues such as the awareness of sustainable development, the role of renewable energy, the potentials of Information Technology in local development (see, e.g.: Nazir and Nazli, 2000; El Sawi, 2000).

Following the thread of the overall discussion, an initial means of enhancing knowledge would be to strengthen existing training policies for planners and to intensify learning programs in developing countries. International programs have provided fair advancements in these directions during the last decades. This approach is likely to be successful especially in the short run.

However, issues at hand deserve a more ethical and structural approach to be effective in the medium-long term run. In this concern, what seems to be really missing at the moment is an explicit framework, a structured synergetic integration of all single policy efforts, both in citizens' and planners' learning programs. The aim of international policies should be to have a 'people-oriented', not a 'tool-oriented' approach, so that single projects could be linked together by their not being forefronts of new profits, but steps toward an ICT-based participated democracy (Sardar and Ravets, 1996).

In this perspective, the approach today generally lacks a strategic view, and in fact, apart from direct outcomes of the projects themselves, few large, durable structural spin-offs are registered in communities and populations in need. On the contrary, if the aim is attainment of enhancements in the long term, an increasing stress - and related financial commitment - needs to be put on wider, long-lasting and fully structured educational schemes. They can be integrated and carried out in parallel with the rise of the concern in regulating ICT-based activities, as well as with the remarkable bunch of norms in planning and designing issues, especially in the European Union.

---

<sup>3</sup> For example, the Unesco *City Professionals*, or *Chairs on urban sustainability and urban governance* programs, or the work programme *Education* of the Charter for architectural education (Unesco and IUA - International Union of Architects), or the EU *Pass* program, for the training of public boards.

<sup>4</sup> The gateway is called ELDIS, at <http://www.eldis.org>

And in fact, this is not an issue averse from what is stated by international agreements. In this concern, important commitments undertaken worldwide by nations, under the aegis of UNO, are reported in the outcomes of the important United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992. Agenda 21, one of five documents agreed during the conference, considers eradication of poverty, by giving poor people more access to the resources they need to live sustainably, including information and skills a major theme. It calls upon governments working in participation with international organizations, business, regional and local governments and non-governmental organizations and citizens to develop national strategies for sustainable development in an ongoing process of consultation and global democratization from local to international levels. Agenda 21 consists of 40 chapters in four sections of overlapping and interrelated issues involved in attaining sustainable development. Even if the digital divide is not explicitly mentioned as such, they clearly affirm that among the 21st-century commitments, together with the Easing of technology transfer (chapter 34), there are Education, training and public awareness (chapter 36), as well as Capacity building (chapter 37) and Information for decision making (chapter 40), in order to attain an equal and sustainable development (UNCED 1992).

Such commitments were provided with programmed milestones to be accomplished after 1992: some of them were further developed in local conferences, but many commitments still remain unachieved. Nonetheless, the principles in Agenda 21 provide the needed unifying background for development policies and plans to be issued next. This means that the lack of strategic view on internationally funded projects on ICT is not casual but chronically erroneous, if not purposely pursued to favour profitmaking. On the contrary, a renewed interest in developing the knowledge of people and populations would be extremely important, especially in present obscure times. Reference made to a key international agreement, such as Agenda 21, would ensure a super-partes status that would probably be a convincing guarantee to make all the world committed without reticence.

According to this philosophy, it would be a remarkable signal if especially the European Union, as a key actor at the interface between developed and developing countries, could make a committed step forward the setting up of a structured development scheme founded on cultural and educational aims. On the one hand, it would act as a flagship project toward the Mediterranean and - through it - toward all developing countries: on the other hand, it would be a unequivocal warning against the colonizing and exploiting attitude of global merchants (Sardar and Ravets, 1996).

And it would be likely to represent an initial structured and credible step able to transform patchwork projects into a proper development strategy.

## REFERENCES

- Barbanente A., Camarda D., Khakee A., Puglisi M. (2002), "With or without: Comparative study of preparing participatory scenarios for Izmir with computer-based and traditional brainstorming", *Journal of Future Studies*, 6(4), pp. 45-64.
- Barbanente A., Tedesco C. (2001), "The role of Information Technology in EU Territorial Policies between rhetoric and practices", in the *Proceedings of INPUT 2001, Second National Conference on Information Technology e Spatial Planning: Democracy and Technology*, Tremiti Isles, June, 2729.
- Carley K.M. (1995), "Communication technologies and their effect on cultural homogeneity, consensus, and the diffusion of new ideas", *Sociological Perspectives*, 38(4), pp. 547-571.
- Castells M. (1999), "The informational city is a dual city: Can it be reversed?", in Schön D.A., Sanyal B., Mitchell W.J. (eds), *High Technology and Low-Income Communities*, Cambridge, Massachusetts, MIT Press.
- Concilio G., Kersten G. (2002), *Information Technologies for Environmental Decision-Making in Networked Societies*, paper available on line:  
<http://interneg.org/interneg/research/papers/2002/04.pdf>
- El Sawi G. (2000), *Rural Capacity Building: A Model for Enhancing Economic Sustainability with Youth as Partners*, paper available on line:  
[http://www.dec.org/partners/dexs\\_public/content.cfm?Rec\\_no=105888](http://www.dec.org/partners/dexs_public/content.cfm?Rec_no=105888).
- Innes J. (1999), "Information in Communicative Planning", in *Proceeding of APA National Planning Conference Approaching the Millenium*, paper available on line:  
<http://www.asu.edu/caed/proceedings99/JAPA/INNES.HTM>
- Jungk R. and Mullert N. (1996), *Future Workshops. How to Create Desirable Futures*, Institute for Social Inventions, London.
- Khakee A. (1999), "Participatory scenarios for sustainable development", *Foresight*, 1(3), pp. 229-240.

- Lindsay J. and Ferguson P. (1995), *ELDIS: Gathering Information Bit by Bit*, <http://www.euforic.org/eadi/95jl.htm>.
- Marx L. (1999), "Information technology in historical perspective", in Schön D.A., Sanyal B., Mitchell W.J. (eds), *High Technology and Low-Income Communities*, Cambridge, Massachusetts, MIT Press.
- McLean S. (2001), "Distance education and distance learning: A framework for the Food and Agriculture Organization of the United Nations", *SD Dimensions*, FAO, [http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/2001/KN0901a\\_en.htm](http://www.fao.org/WAICENT/FAOINFO/SUSTDEV/2001/KN0901a_en.htm)
- Nasir Z.M. and Nazli H. (2000), *Education and Earning in Pakistan*, PIDE, <http://nt1.ids.ac.uk/eldis/fulltext/PIDE-edearnings.pdf>
- Sardar Z. and Ravetz J.R. (eds.) (1996), *Cyberfutures: Culture and Politics on the Information Superhighway*, New York, New York University Press.
- Schnaars S.P. (1987), "How to develop and use scenarios", *Long Range Planning*, 20(1), pp. 105-114.
- Schön D, Sanyal B. (1999), "Information technology and urban poverty: The role of public policy", in Schön D.A., Sanyal B., Mitchell W.J. (eds), *High Technology and Low-Income Communities*, Cambridge, Massachusetts, MIT Press.
- Shiffer M.J. (1999), "Planning support system for low-income communities", in Schön D.A., Sanyal B., Mitchell W.J. (eds), *High Technology and Low-Income Communities*, Cambridge, Massachusetts, MIT Press.
- Tiwana A., Bush A.(2001), "A social exchange architecture for distributed web communities", in *Journal of Knowledge Management*, 5(3), pp. 242-248.
- UNCED (1992), *Agenda 21*, Rio de Janeiro.
- UNDP (2001), *Creating a Development Dynamic*, Final Report of the Digital Opportunity Initiative.
- UNESCO (1999), *World Communication and Information Report*, Paris.