



**Improving Interaction between NGOs,
Universities, and Science Shops:
Experiences and Expectations**

INTERACTS WP5 National Report:

The future collaboration between University and Civic associations in Sevilla.

Scenario Workshop held in Spain 24th June 2003.

by
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I. Introduction

As an activity of the INTERACTS European project, a participative Workshop on the **future collaboration between University and Civic associations in Sevilla** was held at the University of Sevilla on 24th June 2003 with the aim of reflecting on “science shops” as European model of scientific mediation; to collect the opinions and expectations of local stakeholders and to facilitate interaction and communication.

The event was convoked by Pax Mediterranea, as Spanish partner of the INTERACTS project, and with the support of the University of Sevilla, the Department of Sociology and the Social Council. The participation of the Social Council of the University of Sevilla in the organization of the event increased its relevance and local and social impact.

This Social Council legally holds the responsibility of the relationships between University and Society. Its collaboration shows its interest in adopting the European participative principles represented in the White Paper on Gobernabance as well as the recommendations of the Science and Society Action Plan of the European Commission 2002.

A selection of 30 social organizations attended the meeting, among them and proportionally represented were: public administrations, research centres, local and civic associations and scientific mediation organizations.

The event was held from 10 to 18 hours on 24th June and was successful in reaching consensus on the strategies and actions to be developed in Sevilla to foster the future collaboration between University and Civic Associations in Sevilla.

A Science and Society Action Plan for Sevilla has been adopted including the agreement to create a “science shop” inside the Social Council of the University of Sevilla, with specific recommendations provided by the stakeholder groups.

This report picks up the framework in which the workshop was held, the summons and organization, the content and opinion of stakeholders on the main question, the conclusions of the event and the recommendations derived for the national and European scientific policy.

I.1 Why a Scenario workshop in Sevilla?

The workshop in Sevilla is one of the activities of the INTERACTS European study 2002-2003 (financed by the RDT Framework Programme of the European Commission). Six workshops have been held from May to June 2003 in different European cities: Vienna (Austria), Berlin (Germany), Iasi (Rumania), Liverpool (United Kingdom), Insbruck (Austria), Sevilla (Spain) and Lyngby (Denmark).

All of them have had the same generic aim but it has been adapted to the different national contexts, analyzed in the first INTERACTS reports on the state of art and on the way of operating of “science shops” in each country. In these first reports, The methodology applied was the analysis of secondary data and in-depth interviews.

In the present stage of the INTERACTS research, workshops on prospective and participative reflection have been organized in different European countries in order to: To pick up new information about the stakeholders’ point of view on the problems and opportunities; as well as to facilitate the debate and consensus on the actions to be developed. An additional aim has been to sensitize stakeholders on the great

European tendencies in the field of the relationships science and society (European Action Plan and science-shops concept dissemination in Europe).

The methodology of the European workshops on prospective and participative reflection is been EASW/BASIS. It was considered by the INTERACTS team as the most appropriate methodology to build up a new information and each INTERACTS partner had a practical guide for its application elaborated by Pax Mediterranea S.L. EASW / BASIS is an European methodology developed by the Gen. Dir. Of Enterprises for the transference and sensibilization on sustainable technologies in local communities. This methodology resembles the debate group, which is typical of social science studies, but the “scenario workshop tool” presents additional advantages such as to achieve the results of the debate in real time which guarantees a bigger independence of the research and a bigger facility to compare the results of the group meetings which were held in different countries and languages.

Each INTERACTS partner has chosen the place in which he was going to concentrate his local study. And in the case of Spain, Pax Mediterranea chose Sevilla where it had previously established relationships with civic associations, as well as with the local scientific and political community. It was a guarantee in order to succeed in the meeting , to assure supports and to have a public interested in the works of diffusion and follow up for the next INTERACTS stages. In Sevilla there is a good environment and disposition of stakeholder to promote “science-shops”

I.2 National background conditions and subjects of the Scenario workshop in Sevilla

Regarding the Spanish INTERACTS workshop, both less and more favorable background conditions were identified and influenced the choice of the subjects

I.2.a. Less favorable background conditions

a.1) Unlike places such as the Netherlands or Denmark, scientific collaboration between Universities and Civic Associations in Spain has hardly had academical or social recognition in the last years. The evaluation of the six years period of research of professors/researchers of all the Spanish Universities are made by the National Agency of Evaluation and Prospective (ANECA), for the different academic fields, and attention to social demands made by the associations has not been considered as rewarding.

a.2) In addition, present Laws such as the Law of Science, the Law of Universities, the Law of Education, the Law of Associations, the Law of State Contrats, or the national or regional technological and Scientific Plans do not refer to the potential work of civic associations to establish the research diary or the priorities of knowledge.

a.3) In order to adapt university students to the demands of the market in a better way, University students practices in enterprises and other associative organizations have been made more widely general in the last years. The student gets some credits equivalent to courses as recognition. But students practices are seldom linked to systematic research works demanded by associative organizations nor carried out co-directed by University scientists.

a.4.) The small response which documents such as the White Paper on Gobernance or the Science and Society Action Plan has had on Spanish Institutions could be explained by the fact that the largest political parties with strongest representation in

the European Union Institutions are too much involved in their own fight for the control of government to announce European tendencies to share decision power with the civic associations

a.5.) Universities in Spain are suffering a financial crisis and at the same time they continue to be overcrowded (the rate of students by professor continues to be amongst the highest in the European Union). The administrative workload of professors increases heavily when they carry out research. Additionally coordinating students research is not a workload recognised.

1.2.b. More favorable background conditions:

b.1. In Spain, the public effort in the promotion of research and technological development has increased for the last 20 years. Innovations are usually incorporated rapidly, mainly if they come from the European Union. That is what happened to the National and Local Science Plan, the collaboration between Universities and Enterprises, Technological Parks, and more recently the Science Museums or the Science and Technology Foundation. The first Science and Technology Foundation has been created inside the Ministry of Technology and it is supporting the "science weeks" events, as well as many other science or dissemination projects for young people. Additionally, the Spanish tendency to emulate European science plans can help in including the Science and Society lines in the new on coming Spanish Science National Plan.

b.2. There is a certain infrastructure and experiences in scientific mediation related to the collaboration between University and Enterprise or public administrations in Spanish Universities. The organizations concerned with mediation in those contracts have been the Technology Transferences Offices (OTRI)¹ in each Spanish University for more than ten years. These offices have data bases on projects, teams of experts and research funds calls for tender.

Additionally, a follow up of the projects of technological transference to enterprises is carried out by the National Plan Office and the Ministry of Technology.

b.3. Today, Spanish citizens are increasingly organized in civic associations of common worries and interests and they put pressure for answers on research and political institutions. Ecologist, neighbours and consumers associations are very active. With the support of internet, associations network are organizing themselves in regional and national Federations and they lobby for participating in decision making in different domains. In the last years the public opinion influence of social movements has increased due to the political and technical "misleading decisions involved in ecological disasters as the heavy metal pollution of Doñana Natural Space, the "Mad Cows" crisis, the sinking of the tanker "Prestige" in the atlantic coasts, and other events.

b.4. Pax Mediterranea, the Spanish partner in the INTERACTS 2002-2003 study has made a great effort to spread the concept of "science shops" which is spreading very fast. The project was spreaded through a circular letter sent via internet to researchers of the University of Sevilla; "Science shops" in different Spanish regions were identified, contacted and studied cases of their way of operating. At national level, contact has been established with institutions such as the Science and Technology Foundation, Ministry of Technology, the Science Policy Research Unit of the National Research

¹ This way the OTRI's experience in each University is a fundamental reference to identify researchers and organizations interested in civic collaboration, as well as to design new instruments of mediation adapted to the Spanish reality.

Council. Additional contact was established with think-tanks on science and society in different regions : University of León (Science Bazaar), University of Valladolid, University of Corunna, University Of The Basque Country, Politechnical University of Catalonia, University of Sevilla (Department of Sociology)

b.5. The new 2002 organic law of Universities has increased the power of Social Councils of Universities. This new frame gives an opportunity for civil society to have a representation inside them and promote their research priorities. The Social Council of the University of Sevilla shall probably be the first one in Spain to include a science shop inside its organs after the result of the INTERACTS workshop organized in June 2003 in Sevilla. The social council of Sevilla also has capacity of influence on the regional government and on the national university domain for being inside the National Federation of Social Councils of Universities. This way its example could soon be followed by other universities.

1.2.c. Subjects of the Sevilla workshop

c.1. Taking into account the context described above about the small diffusion of the concept of "science shop" in Spain, the INTERACTS workshop represented an opportunity to release this concept formally in Spain at local level. Also to discuss with local stakeholders on possible ways of spreading the collaboration between University and Civic associations in Sevilla. This was the reason why the following subject was chosen as the central theme of the workshop: THE FUTURE COLLABORATION BETWEEN UNIVERSITY AND CIVIC ASSOCIATIONS IN SEVILLA.

c.2. Pax Mediterranea discussed and was given advice on the workshop project by the Social Council of the University, with the Technology Transference Office (OTRI) and by the Master on prospective, the School of Engineering of Sevilla and with the Department of Sociology. These institutions gave advice on the thematic approach of the Workshop, application dates and they contributed to identify the social organizations which could represent science and society stakeholders in Sevilla.

c.3. The questions the participants had to answer or comment during the working day were defined as the following: What conditions are required for the functioning of the "Science Shops"?. What conditions for the professors and university researchers to work with associations or NGOs as a part of their research and teachings?. What kind of financing and social spreading?. What kind of methodology of participation of civil society?.

1.3. Summary of the most important workshop results

During the INTERACTS workshop in Sevilla 24/06/2003 a meeting and debate on the subject of the collaboration between University and Civic associations were held between a representation of local stakeholders representing the system of science. The technical aims planned in the INTERACTS study was fulfilled:

- To contrast the technical point of view on the problem with the people interested.
- To get a common view of the stakeholders with their impressions on the obstacles and opportunities.
- To elaborate a short term action plan in the local community.

The most biggest tendencies and problems were confirmed, as well as the similarities of these with the problem in other European Union countries and a local Action Plan was adopted by consensus. The Action Plan conceived to increase the collaboration between the University and Civic associations in Sevilla consists of creating a **Science**

and Society Centre, inside the Social Council of the University in Sevilla, it consists of the following strategic targets and action lines:

1. **Institutional awareness.** To increase institutional awareness in fostering research related to social necessities. Potentiating the role of mediator of the Social Council to direct the information of social demands to institutional responsables (public administrations, University and others). Developing functions as a watchtower on social demands, participation forums and on scientific dissemination training programmes to make scientific information more fluent. Making lists of recognition of researchers.
2. **Citizens Training.** To make possible a teaching which is committed to present Problems. Through: (a) the inclusion of social worries in University training (creating educational contexts with students, institutions and associations) and (b) Let society know how University can solve its problems (with pedagogical materials, mass-media productions and thematic forums).
3. **I+D+i Policy on problems.** To make possible an I+D+i policy oriented to the resolution of social problems which gives a prize to the local impact the results research. Promoting research on risks prevention and make it in collaboration with associations; To create physical and virtual shared spaces where ideas and productions are exposed by researchers and social movements.
4. **Participation of associations and institutions.** –To reach a bigger participation in the process of adequation of scientific and technical production to social demand.. Through the realization of projects of social interest with final character. Being institutions and NGOs the ones which put the problems to research teams, which have to find the solutions. Research teams are mixed, that is , they are made by researchers, associations and institutions. The implementation of the research results is carried out by the institutions or NGOs which planned the project.

Regarding to the functioning of the “Science and Society Centre” Science shop, it was considered that it must have consultative, participative and executive functions. Civic associations must be represented in organs of decision . It was considered convenient to have an office at University and another one in the city. It must function as a cooperation net, imply students through recognition in their curriculum and have a University professors staff devoted to it.

II. WORKSHOP DESCRIPTION

The Workshop was held according to the programme, from 9:45 to 18:15 on Tuesday 24th June 2003. One of the three speakers could not attend the workshop, this way the other two speakers could spread themselves in their introductions: The subjects to be developed by the working teams in the afternoon session were lightly modified in order to incorporate the results of the prospective exercise of the morning.

The tasks of the Workshop organization were shared by Pax Mediterránea S.L. and the Social Council of the University of Sevilla, with the support of the Department of Sociology. Pax Mediterránea carried out the preparation, documentation, summons for participants, planning of events, participant’s folder, material used and report of results. The Social Council of the University of Sevilla, together with the Department of Sociology were in charge of the image of the event (flyer, poster and press release), meeting rooms and other premises, catering and recording of plenary meetings. The

coordination of the event was shared by Pax Mediterránea and the Social Council of the University of Sevilla, as well as the facilitation of the sessions. In this last activity, facilitation, with the collaboration of the University of Sevilla and with ESTIEM International Association of Students.

30 participating organizations attended the Workshop sessions, from 6 to 8 representatives of each social group linked with the subject of the Workshop: the collaboration between University and Civic Associations in Sevilla. A balanced representation of the different stakeholder groups was achieved: public and administrative bodies; researchers; civic associations and scientific mediation organizations. The general satisfaction about the context and methodology of the Workshops, to such an extent that a proposal to celebrate periodical thematic forums using this methodology was adopted by most debate groups.

II.1 Description of the workshop outline and process

The Workshop in Sevilla consisted of a working meeting of 30 people for eight hours and was structured in three different modules: the first one on information and documentation; the second one on views; and a third one on actions.

There was a break at the end of the two first modules, the first one was a 20 minutes coffee / tea break, at 11:10 in the morning; and the other one was a lunch break for an hour, at 14.30. There were also 3 and 5 minutes breaks during the second and third modules; at the end of the group and plenary sessions.

The work programme is described below: (the blue notes are explanatory comments on the development of the programme)

Workshop programme 24th June 2003

THE FUTURE COLLABORATION BETWEEN UNIVERSITY AND CIVIC ASSOCIATIONS IN SEVILLA

Modulo 1 : Information and documentation

9:45 Welcome and documentation. (The participants were given 50 pages with material. A table at the entrance displayed materials provided by the EC, by Pax Mediterránea or various other participating organizations).

10:00 (10:05) Ana M^a Ruíz-Tagle. President of the Social Council of the University of Sevilla. "Citizens access to participate on science and technological decisions. Tendencies".

10:15 (10:30) Alain Labatut. Pax Mediterránea s.l. "Scientific Mediation: The European Science Shop Model".

10:30 (Cancelled) Francisco Fernández. European Commission-DG. Enterprises. "Participative Methods on Technology Transference. GD. Enterprises Experience 1995-2002".

10:45 (11:00) Questions and comments. (remarks by: José-Antonio Borrero-Rubio of the Research Results Transference Office of the University of Sevilla; Ramón Queraltó, Professor of Philosophy and Science Ethics and Valeriano Ruíz, Director of the Andalusian Institute of Renewable Energies).

11:10 Coffee break

Modulo 2: To Glimpse and debate on Views

11:30 Workshop on Views, by social groups

Question: We are in 2010. What has been right or wrong in the collaboration between University and Civic Associations?. What tendencies, opportunities and handicaps can we glimpse in the next seven years?. (Legal, scientific, technical, political and social sphere).

Group 1. Scientists or researchers; (Moderator: Teresa Rojo)

Group 2. Civic associations. (Moderator: Manuel Romero and Luís Rodríguez).

Group 3, Mediator Organizations; (Moderator: Alain Labatut).

Group 4. Politicians / Governmental Institutions; (Moderator: Pedro Moreu de León).

Expected results of the meeting: The participants are distributed in four groups. Each group is requested to offer, as a result; two or three views on the issues which they considered as the most determinant of the change in the future relationship between University and Associations.

13:00 Plenary Session: Groups' results presentations and punctuation of most relevant visiones. Obtaining strategical views. (The speakers of the mediators groups were Valeriano Ruíz, José Antonio Borrero and Luís Zambrana. The speakers of the Politicians and Institutions group were Pedro Moreu and Rosa Hermoso. The speakers of the scientists and researchers were Angel-María Casas-Gragea and Teresa Rojo. The results of the Civic Associations group were presented by José-Carlos Cutiño-Riaño and Vicente Manzano).

14:30 Cocktail-buffet

Modulo 3: Generating ideas on action.

15:30 Workshop on Actions. Teams by strategies. (The session started with a presentation of the results of modulo 2 and introduction to modulo 3, by Alain Labatut of Pax Mediterránea S.L.)

Question: What Actions can be undertaken nowadays to advance in the targets appointed for the future collaboration between University and Civic Associations in Sevilla?. How would we carry they out?. What organizations would be implied?. What sort of financing?.

Team A: Institutional Awareness. (Moderator: Manuel Romero and Luís Rodríguez).

Team B: RDT Policy on social problems resolution. (Moderator: Teresa Rojo)

Team C: Citizen Training. (Moderator: Pedro Moreu de León)

Team D: Participation of Civil Society and other organizations (Moderator: Alain Labatut).

Expected results of the meeting: Each team is requested to elaborate one or two action proposals within its subject and define them in the aspects of what, how and with whose contribution.

16:30 Plenary Session on Actions. Teams' results presentations and punctuation of the most adequate and feasible action proposals. (The speakers on "Research on social problems resolution" were Santiago Ledesma, Francisco Vilches, Valeriano Ruíz and David Gómez. The speakers on-"Citizen Training Team" were M^a Pilar Colas-Bravo, Esteban de Manuel and Pedro Moreu. The speakers on "Participation" were Antonio Córdoba and Vicente Manzano. The speaker on "Institutional Awareness" was Ramón Queraltó.

17:45 Conclusion. Reading on the Future Scenario. Sum up of strategies and actions to enlarge the collaboration between the University of Sevilla and Civic Associations.

18:00 Specific notes and evaluation: (Several participants' final comments: Francisco Vilches,

José-Carlos Cutiño, Pedro Moreu; Ramón Queraltó, Esteban de Manuel and Luís Zambrana.

18:15 Farewell ceremony by the Social Council of the Universities Sevilla: ([Speech by Carmen Gago, General Secretary of the Council](#)).

II. 2 Organizers presentation, staff members and funding

The event was convoked by the Social Council of the University of Sevilla and Pax Mediterránea, as Spanish partner of the INTERACTS project and main responsible of the Workshop organization. The Department of Sociology of the University of Sevilla also contributed to the organization of the event.

Other organizations and people who collaborated or gave advice to the organization of the Workshop were: José Antonio Borrero (Technology Transference Office of the University of Sevilla); Manuel Romero and Luís Rodríguez (Students of the School of Engineering and members of the International association of Engineers ESTIEM); and Pedro Moreu de León (Director of the Master Programme on Prospective Technology of the University of Sevilla and Professor of the School of Engineering of Sevilla).

Pax Mediterranea s.l.

On the part of Pax Mediterranea <paxmed@arrakis.es>, the persons who contributed to the Workshop were Alin Labatut (Ph. D. on Physics and Chemistry and coordinator of the project). Inelia Ahumada (expert on communication) and Adán Sánchez (administrative support).

Pax Mediterránea is a private consultancy firm and a “part time” Science Shop. The firm is familiar with the organization of these type of Workshops on prospective and participative reflection. The firm applies currently the different European forecasting methodologies like EASW and BASIS issued by EC-DG Enterprise, and has contributed to their development and spreading application both in Spain and other EU countries (Portugal, France and Italy).

The Department of Sociology of University of Sevilla

The collaboration of the Department of Sociology of the University of Sevilla in the INTERACTS Workshop has been carried out by Professor Juan Maestre Alfonso juanmaes@us.es and Full Professor Teresa Rojo <trojo@us.es>. They have collaborated with Pax Mediterránea S.L. in specific research projects requested by civic associations along the last two years.

Its specialities are cooperation on development (Latin America, Mediterranean and Spanish Regions); public opinion and scientific communication; social structure and social change.

Juan Maestre is also director of the review “ANDULI” and director of the collection of books, both edited by the Department. Among other positions he has held the representation of Spain in the ESF (European Science Foundation) Social Science Committee 1988-90.

The Social Council of the University of Sevilla

The collaboration of the Social Council of the University of Sevilla in the INTERACTS Workshop was carried out by its President, Ana M^a Ruíz-Tagle and her General

Secretary , Mrs. Carmen Gago-Bohorquez <bohorquez@us.es>. Apart from being the main responsible in the organization, they are members of the Council in representation of La Junta de Andalucía which is the Regional Government.

The Social Council of the University of Sevilla is an organ created in 1986 on the basis of the Law of University 1985 and has the power conferred by Law of being the “organ of participation of society in the university. Its function has been reinforced by the Law of Universities 2001 and a greater role attributed.

“It corresponds to the Social Council the supervision of activities of economical character of the University and of the efficiency of its services; to promote the collaboration of society in the financing of the University, and the relationships between University and its cultural, professional, economical and social surrounding in the service of the quality of university activity, for this purpose it will have at its disposal the appropriate information from the National Agency of Evaluation on Quality and Accreditation (ANECA)” (Article 14.2, LOU 2001)-

The Social Council is mainly formed by “personalities from the cultural, professional, economical, labour and social life, who cannot be members of the University community”. (Art. 14.3 LOU 2001).

Chart of distribution of tasks and responsibilities among the organizations which collaborated in the Sevilla Workshop 24.06.2003

Task	Organization in charge
Preparation of the project and documentation (editing of materials and Workshop approach)	PAXMED
Participants summons and programming (sending and calls to participants)	PAXMED and Department of Sociology
Coordination of the event	PAXMED, SOCIAL COUNCIL and Department of Sociology
Group Monitors (4 experts)	PAXMED, School of Engineering, Department of Sociology, ESTIEM ASSOCIATION
Catering (coffee and lunch for 35 people)	SOCIAL COUNCIL
Meeting Rooms and sessions recordings	SOCIAL COUNCIL and Department of Sociology.
Participant's folder and material (photocopies, bindings, pannels, cards)	PAXMED
Image and Communication of the Event (flyer, poster, press release)	Department of Sociology, SOCIAL COUNCIL and Press Office of the University of Sevilla.
Reports on results	PAXMED (english version). Dpt. Sociology (spanish version).

II.3 Participating local stakeholder groups

Next the characteristics about 200 organizations which were informed of the celebration of the Workshop and the selection list of about 30 organizations which attended the Workshop on 24th June 2003 are related.

- **Local Community civic associations:** civic associations of Sevilla in different domains like environment, specific illness, cultural, gender, students of different specialities, charity foundations.

Attended: Consumers Association Federation of Andalusia, Sevilla; Casa del Pumarejo Platform Association; Labour Union Comisiones Obreras Andalusia (CC.OO); Ateneo Verde; University and Social Commitment; Engineering Students International Association (ESTIEM); “Ecologists in Action” Association of Sevilla.

- **Administration / Policy makers:** different institutions on scientific policy or social demands, regional, local and University administrations.

Attended: Woman Delegation of the Town Council of Sevilla ; Volunteering Service and International Relationships Service of Social Affairs Division of Junta de Andalucía; the Community Assistance Service (SACU) and Master Studies on Technology Management and Prospective Studies, School of Engineering, Univ. of Sevilla.

- **Researchers / University professors:** researchers from different faculties and technical schools of the University of Sevilla;

Attended the following Departments: Sciences of Education; Physics of the Matter; Full Vegetal Biochemistry and Molecular Biology; Publicity and Journalism; Philosophy and Ethics of Science; Applied Economy (Univ.Huelva); Biology and Food Quality; systems organisation, renewable energy and Sociology.

- **Science Mediation / science-shop like centres:** mediators on research activities organizations which are playing a role at present, inside or out of the University, between research and enterprise or citizens in general

Attended: Architecture and Social Commitment (Students and Professors Association of the University of Sevilla); the Social Council of the University of Sevilla ; “Andalusia Investiga” (electronic and paper magazine about scientific spreading created by the government of La Junta de Andalucía); Regional Development Institute (One of the oldest research centres in the University of Sevilla); University and Social Commitment (University Professors Net teaching a subject with the same name); Renewable Energy Andalusian Institute; Research Results Transference Office (OTRI).U.S. and Pax Mediterránea S.L.

II. INFORMATIVE MATERIAL

The Workshop was held in the best possible location: the emblematic Meeting Hall of the University of Sevilla. The main part of the activities could be held in the same roomy and well equipped hall. The catering was displayed in the neighbourhood creating a surrounding for breaks and informal exchange of participants.

The sending of information on the Workshop to the organizations was wide, including about 200 organizations. After the response of some of them, there was a telephonic follow up and final selection of about 30 participants who proportionally represented social groups.

When arriving at the Workshop location each participant was given a nominative folder with documentation expressly synthesized for the meeting and a copy of the Science and Society Action Plan recently edited in spanish by the European Commission.

The main communications were in charge of Ana M^a Ruíz-Tagle, President of the Social Council, who informed on the national and European legislative and political opportunities framework; and Alain Labatut of Pax Mediterránea, who spoke about the origin and ways of science shops in Holland and other countries, including USA and Canada, and presented the DAFO analysis on Science Shop development in Spain.

III. 1 Location where the workshop took place

The Workshop was held in the Meeting Hall of the University of Sevilla, placed in its Central Building, in the centre of the city. It is a beautiful hall with a big oval table, around which the 35 people who attended the workshop could easily enjoy the room and see each other faces when speaking, creating a participative atmosphere. One of the table ends, the farthest from the general entrance, was disposed as Presidency.

Apart from the oval table, the hall has three meeting tables, for 8 people arranged in line to the wall. These tables were used to celebrate the meeting of three of the debate groups. The use of a fourth table available inside the own office of Ana- M^a Ruíz – Tagle, President of the Social Council was authorized by herself.

Some movable pannels were arranged in line to one of the side walls to set the posters which were presented in the plenary sessions.

The access to the hall consists of a wide corridor or lobby at the end of which the table with different informative material and the table of welcome to participants were displayed.

The catering service for the coffee break and buffet was placed In this very corridor or lobby. This proximity and the nice atmosphere of the buffet and resting area facilitated social relationship among the participants and their full time dedication to the event.

The importance of the place and the quality of the attention which was paid gave additional credibility to the event and enhanced its character of meeting on collective reflection and democratic decision making on the future of science and society relationship in Sevilla.

III. 2 Chronological list of awareness materials sent to the participants.

Firstly, Pax Mediterránea elaborated a Workshop organization project to request formally the collaboration and support of the Social Council of the University of Sevilla.

The mailing list for the diffusion of the information was elaborated with Pax Mediterránea data base and adding the suggestions picked up in interviews with the Social Council, the Department of Sociology, The Technical Transference Office of the University (OTRI) and the Department Of Enterprises Organization of the School of Engineering of Sevilla. Besides local organizations, the data base also included relevant national organizations

Once the date was fixed and the programme elaborated, forty days before the event, a circular letter was sent via e-mail announcing the celebration of the event and including information and references of web sites² on the INTERACTS study. This information had been elaborated as a part of the Workshop project that Paxmed made

² www.scienceshop.org ; http://europa.eu.int/comm/research/science_society/scientific-awareness/scientific-awareness_en.html

to introduce the Workshop. The letter was signed by both Pax Mediterránea and the Social Council of the University of Sevilla.

Once the letter was sent, some participants answered via e-mail showing their interest in participating or apologizing for not being able to do it despite their interest. A telephonic follow up of the organizations and people in the list was made. This follow up was shared by the Social Council and Paxmed. This way the Social Council specialized in the contacts with public administration organizations or the University management and the rest was in charge of Paxmed.

A week before the event a formal summons with the definitive programme and the place of the celebration was sent, in a selective way, to those whose availability and particular interest had been personally confirmed.

As the event was convoked for Tuesday, on Monday a reminder call to all the participants was made, so that some organizations could make the last adjustment and compromise the person sent as representative.

Content of the participant's folder

The day of the event, when registering in the morning, each participant was given a folder with a 45 pages information dossier, a copy of the Science and Society Action Plan of the European Commission and two flyers: one of the General Direction of Research and another one about the Workshop being held in Sevilla.

The forty five pages were distributed in two different documents: one of twenty pages which contained: 8 pages explaining the EASW/BASIS methodology adapted to the case and explaining the sessions and the protocol of participants tasks in the working groups; 6 pages with the DAFO analysis (SWOT) on strengths and weaknesses of the present system of science and society relationships in Spain and 3 pages with the list of participants in the different working groups.

Another 22 pages document which contained: 4 pages introducing the Science-shops (text elaborated on the basis of the SCIPAS reports), 6 pages on INTERACTS and other studies such as SCIPAS and ISSNET; and 9 pages introducing the main organizers of the event (The Social Council of the University of Sevilla and Pax Mediterránea).

Contents of the folder given to each participant the day of the Workshop

Title	Content
Brochure: INTERACTS Workshop (2 pag.)	Presents <ul style="list-style-type: none"> • the contents and aims of the Workshop. • the programme of activities and • the INTERACTS project
Action Plan: Science and Society. E. C	Picks up the proposals of actions promoted by the European Commission on bringing near science and society in Europe
Brochure: Science and Society in Europe (2 pages)	Includes <ul style="list-style-type: none"> • the principles of the European Research Space and of the Sixth framework programme and • the contacts to link with the DG Research, Science and Society of EC
Report: Prospective and participative reflection Workshop (20 pages)	Includes <ul style="list-style-type: none"> • the presentation of the Workshop methodology • the DAFO analysis made by Pax Mediterránea on the Science-Shop model for Scientific mediation in Sevilla and the list of participants
Report: Science shop model for	Informs on: <ul style="list-style-type: none"> • Science Shop model for Scientific mediation and its spreading in the

scientific mediation (22 pag.)	world. <ul style="list-style-type: none"> • the European INTERACTS project • the activities and functioning of the Social Council of the University of Sevilla.and Pax Mediterránea
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Follow up and public dissemination

The day after the celebration of the Workshop a brief summary of 5 pages on the Workshop and the results was sent to the Social Council. A week later a letter of gratitude and a similar summary was sent to all the participants in the workshop.

Three times a press release was sent to the media. A first one announcing the event one week before the event; a second one giving the full program the day before; and a third one the day after with a five pages note referring main results. The material for the media was elaborated by the Department of Sociology and supervised by the Social Council of the University who forwarded it to the media through the Press Office of the University of Sevilla.

The local station of a national radio became interested to interview the President of the Social Council the same morning of the event. Brief notes appeared published in different journals before and after the event.

Different reviews have become interested to publish articles on the results of the Workshop, such as "Andalucía Investiga" and "Anduli", the review of the University of Sevilla.

III. 3 Speakers' contributions and documentation work

The following two speakers contributed to the introductory and information session of the Workshop: Ana-María Ruíz-Tagle, President of the Social Council of the University of Sevilla, who introduced the issue of the accesibility of citizens to decision making in science and technology. A second presentaton by Alain Labatut of Pax Mediterránea on the European science-shop model for science and society mediation.

It was expected a third presentation, which had to be cancelled, in which Dr. Francisco Fernández was going to expose participative methods, like EASW and BASIS, which have been developed since 1994 under EC-DG enterprise programmes to contribute to technology transfer and social involvement in innovation processes.

Contribution of Ana María Ruíz-Tagle, US Social Council.- Ana María Ruíz-Tagle emphasized in her introduction the new national and international legislative framework which lets the Social Council set up bolder aims for the next years, specially about incorporating civic associations as a new speaker in scientific decissions.

About this new legislative framewok, Ana-María Ruíz-Taggle made specific references to:

- The Law of Universities 2002, which extends the competences framework of the Social Council of Universities.
- The White Paper on Gobernability adopted by the European Commission in 2001 which decidedly bets on the incorporation of civic society to decissions.
- And the Science and Society Action Plan of the General Direction of Research of the European Commission passed in 2002 and which gives priority within its three

aims to make a science policy closer to the citizens through the participation of the civil society.

According to Ana-María Ruíz-Tagle, the reason why the Social Council of the University of Sevilla convoked the different social groups in this Workshop on prospective reflection was to obtain a consensus answer to the Question: “*What aims can be achieved in Sevilla in the next year in the collaboration between University and Civic Associations? And what instruments or actions can we advance with in short term?*”.

Contribution of Alain Labatut, PAXMED.- Alain Labatut spoke in representation of Pax Mediterránea, and emphasized the following questions:

- *the origin and way of operating of the science-shops in Europe like mediation centres to bring science near society.* He specially emphasized its importance in Holland, where they have reaped a wide academical and public recognition. He specially pointed out “The vocation of Science-shops of being unities which provide NGOs in an independent way with a participative research to answer a social demand”. Alain Labatut commented on the different types of Science Shops which coexist: **University Based Science-Shops** (in the Central Office or by the Faculty in Europe; or the Community Based Research CBR in USA; or other types such as the Canadian which is a mixed type university-society called CURA (Community University Research Alliance) and the type **Science Shops not based on University** (mainly association or NGOs with university links or also small private firms.

- *the role of this workshop, inside the INTERACTS European study and the proposal of comparing the results with other countries.*- Alain Labatut exposed the content of the INTERACTS study and the importance of the results of the Workshop. He compromised himself to put the report on results at the disposal of all the participants and transmit the recommendations of the meeting to the European Commission.

- *Introduction of the DAFO analysis made by Pax Mediterránea for the INTERACTS study, that is, the analysis of strengths, weaknesses, opportunities and threats which can put a limit or favour the development of science shops in Spain (see chart below).*

Synthesis of the DAFO Analysis

As internal **weaknesses** of the existing science shops, stand out many cases of “spontaneous and informal initiatives” among acquaintances and without professional mediation; which results in “little research independence” and lastly, with low recognition and “limited capacity of implementation or diffusion of results”

As external **threats** and which hinder the development of the science shops in Spain was emphasized the “scant financing and political intention”, as well as the situation which was recently made clear in the national debate on the law of Universities, “the poor public image of university and research” as well as a tendency that “civic associations are more interested in political mobilization than in the technical debate”.

DEVELOPMENT OF THE SCIENCE SHOPS IN SPAIN DAFO/SWOT ANALYSIS: weaknesses, threats, strenghts and opportunities

Internal Weaknesses	Internal Strenghts
SPONTANEOUS AND INFORMAL INITIATIVES	INTERACTIVE COMMUNICATION OF SCIENCE

LITTLE RESEARCH INDEPENDENCE	RESEARCH BENEFITS SOCIETY
SCANT CAPACITY OF IMPLEMENTATION OR DIFFUSION OF RESULTS	ACTIVATION OF UNIVERSITY RESOURCES
External Threats	External Opportunities
SCANT FINANCIATION AND POLITICAL INTENTION	EUROPEAN COMMISSION IMPULSE (WHITE PAPER ON GOVERNABILITY SCIENCE AND SOCIETY ACTION PLAN)
POOR IMAGE OF UNIVERSITY AND RESEARCH	DIFFUSION OF EUROPEAN SCIENCE SHOPS VIA INTERACTS AND ISSNET (SEVILLA CONFERENCE/MEETING 2005)
ORGANIZATIONS MORE INTERESTED IN MOBILIZATION THAN IN STUDY OR TECHNICAL DEBATE	IMPULSE LOCAL/REGIONAL TECHNOLOGICAL INNOVATION

As **opportunities** which can favour an increase of science shops in Spain, the “European Union impulse” to this model through documents such as the White Paper on Governability and the Science and Society Action Plan, the diffusion of the Science shops through INTERACTS³ and ISSNET was emphasized. Another opportunity to be emphasized is the tendency to “Impulse the technological innovation in local/regional domains⁴² which would benefit science shops as long as they have capacity to “mobilize intentions” in local surroundings.

As science shops **strengths** it is emphasized the fact that they make an effort in “interactive communication of science” for which they implement participative methodologies which make a kind of “research which benefits society” represented in the fact that its applicants are civic associations; and which “activates scientific and University resources” producing an out-put to the researchers, students and professors work.

³ INTERACTS has at present, as a plan, a work on diffusion of its results and inside ISSNET it is expected to celebrate the II Living Knowledge Conference/Meeting in Sevilla 2005.

⁴ “specific solutions to specific problems; to detect specific necessities and find appropriate solutions” Patricia Rojo, Pax Mediterránea

IV. WORKSHOP RESULTS

The results can be summed up in a specific “Science and Society” Action Plan for Sevilla, which was collectively elaborated by the organizations participating in the Workshop held in Sevilla on 24th June 2003.

The Plan aims to increase the collaboration between University and Civic Associations in Sevilla and consists of four strategic axis with specific lines of action, workprogram and activities. The Social Council of the University has been appointed as the leading institution for the implementation of the Action Plan to reach a desirable Scenario, horizon 2010.

Sum up of the Science and Society Action Plan recommended to the Social Council of the University of Sevilla

Strategical Axis	Action lines	Workprogram	Activities
INSTITUTIONAL AWARENESS	PROMOTING INFORMATION VIAS	-Mediation organ Social Council -Watchtower of social demanfs	-Participation and debate forums -Scientific spreaders training -Researchers recognition.
CITIZENS TRAINING	TO BRING SCIENCE/ TECHNIQUE NEAR SOCIETY	-I+D+i diffusion -Mass-media diffusion	-Publications (comics for young people) - TV documentaries -Thematic halls, forum
I+D+i POLICY ORIENTED TO LOCAL PROBLEMS	“SOCIAL CENTRE OF RESEARCH” (Social Council)	- Research on risks prevention -Mediation and financial management office -Integrates students and professors in projects	-Rewards and diffusion of good examples -Markets and fairs -Physical and virtual spaces shared by Researchers and social movements
ASSOCIATIONS AND INSTITUTIONAL PARTICIPATION	PARTICIPATION IN SHARED PROJECTS	-In raising the problem -Mixed research teams -Implementing solutions	Institutions and NGO's

Source: Elaborated with the best scored posters at the Workshop on the future collaboration between University and Civic Associations in Sevilla, 24/06/03

The chart above picks up the synthesis of the Action Plan, starting with the four strategic axis to be promoted, namely; institutional awareness, citizen training, research oriented to social problems and associations and institutions participation.

The results of the different Workshop sessions are exposed more detailed on the following pages. Firstly the social organizations list and participants are detached, classified according to the social group they represent: institutions, mediation organizations, scientists and civic associations. Secondly the contributions of each social group to the elaboration of strategies or priority views are exposed. Lastly, the aportation of ideas of each thematic team to the list of actions finally selected are stated.

In the exposition of results of groups and working teams, literally expressions of the participants have been picked up, as far as possible.

Participants list classified by social groups summoned

Mediation organizations or SCIENCE SHOPS

NAME	SURNAME	ORGANIZATION
Esteban	De Manuel Jerez	<i>Architecture and Social Commitment</i>
Carmen	Gago Bohorquez	<i>Social Council of the University of Sevilla</i>
Ana María	Pérez Moreno	<i>"Andalucía Investiga". Junta de Andalucía</i>
Paula	Rodríguez Modroño	<i>Regional Development Institute, F.U. (US)</i>
Luís	Andrés Zambrana	<i>University and Social Commitment. US</i>
Valeriano	Ruíz Hernández	<i>University of Sevilla. Renewable Energy Andalusian Institute.</i>
José Antonio	Borrero Rubio	<i>Research Results Transference Office. OTRI</i>
Alain	Labatut	<i>Pax Mediterránes s.l. PAXMED</i>

Institutions: political organizations and administrations

NAME	SURNAME	ORGANIZATION
Rosa	Hermoso Martínez	<i>Sevilla Town Council. Woman Delegation</i>
Miguel	Presencio Fernández	<i>Consejería de Asuntos Sociales. J. Andalucía</i>
Santiago	Ledesma Martín	<i>Andalusian Research Plan. J. Andalucía</i>
Rosa M ^a	Muñoz Ramón	<i>University of Sevilla. University Community Assistance Service (SACU)</i>
Dolores	Mantecón Romero	<i>University of Sevilla, University Community Assistance Service (SACU)</i>
Pedro	Moreu de León	<i>Master on Technological Management and Prospective. Studies. School of Engineers</i>

Scientists and researchers

NAME	SURNAME	ORGANIZATION
María Pilar	Colas Bravo	<i>Education Sciences. U.S.</i>
Antonio	Córdoba Zurita	<i>Physisc of the Matter. U.S.</i>
Antonio J.	Márquez Cabeza	<i>Vegetal Biochemistry and Molecular Biology. U.S.</i>
Francisco	Sierra Caballero	<i>Publicity Journalism. U.S.</i>
Ramón	Queraltó Moreno	<i>Philosophy and Ethics on Science . U. Sevilla</i>
Ángel María	Casas Gragea	<i>General Economy and Statistics U. Huelva</i>
Francisco J.	Heredia	<i>Colour and Food Quality. U.S.</i>
Teresa	Rojo	<i>Sociology and Public</i>

		<i>Opinion. U.S..</i>
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Civic Associations

NAME	SURNAME	ORGANIZATION
José Carlos	Cutiño-Riaño	<i>Consumers and Users Associations Federation of Sevilla</i>
Luís	Hornillo Pulido	<i>Casa del Pumarejo Platform.</i>
Esther	Polanco Yaque	<i>Labour Health and Environment Secretary. Workers Commissions Trade Union. Andalusia</i>
José David	Gómez Blázquez	<i>Ateneo Verde</i>
Vicente	Manzano Redondo	<i>University and Commitment</i>
Manuel	Romero Velázquez	<i>Engineering Students International Association ESTIEM</i>
Luís	Rodríguez Herrador	<i>Engineering Students International Association ESTIEM</i>
Francisco Gabriel	Vilches Lara	<i>Ecologist in Action of Sevilla</i>

IV.1. Vision making results of the four social groups

The considerations on future issues and trends made by the four social groups are described on these pages: researchers, associations, institutions and science-shops. Each group, 6 to 8 people, reached specific conclusions after discussing for two hours on “handicaps, tendencies and opportunities they glimpse in the future collaboration between University and civic associations in Sevilla” (horizon 2010).

On the whole of the eleven strategical visions glimpsed by the groups its hits were marked, obtaining this way the four strategical axis of the Science and Society Action Plan for Sevilla.

Next the introductions of each social group are reviewed, and finally the best marked views are detailed.

IV.1.1. Mediation Organizations or Science Shop Group’s Views

The mediation organizations group presented three views or challenges for the next years: To make a I+D+i policy adapted to social problems; to train “citizens” and the fulfillment of “science-shops” mediation.

Mark: 14
RESEARCH: I+D+i POLICY ORIENTED TO SOCIAL PROBLEMS RESOLUTION
Society and its participation are not presented in decisions on research policy. The local impact of results is attached little value

Regarding the view on “Research policy oriented to social problems resolution” Dr. Luís Zambrana, *University and Social Commitment* explained that “ The group looked for the meaning of research at the service of the market to conclude that it was due to foster a research with social ends to balance the present tendency”.

The challenge faces a first handicap in the lack of incentives to local scientific work (research, development and I+D+i innovation). According to Eng. D. Valeriano Ruíz, *Director of the Renewable Energies Institute of Andalusia*, “ the appraisal which is given to the scientists devoted to produce everything in English, for international reviews whose production has no repercussion at national level” –and added- “the small repercussion of these researcher in its local community should not only be prized but punished”.⁵

A second handicap is that “Society and its participation are not represented in the decisions on research policy”- pointed out Valeriano Ruíz.

Mark: 16
CITIZENS TRAINING
<ul style="list-style-type: none"> • Teaching committed to present problems (global and local)

The second view introduced by “Mediation Organizations” refers to the University challenge on training for citizenship, with “committed to present problems (global and local)”. Mediation organizations consider precisely the collaboration with civic associations is an opportunity to develop this task.

Mark: 6
MEDIATION, requirements
<ul style="list-style-type: none"> • Budget Endowment; Institutional recognition • Functioning in a cooperation net, with an office in the university (students) and in the city (NGO’s)

The third view refers to the requirements for mediation to be carried out: budget endowment, institutional recognition, functioning in a net and with offices in the University and in the city: They were in favour of taking out the word “shop” in the Spanish version of the “science shops”.

José Antonio Borrero, *Subdirector of the Research Results Transference Office, OTRI*, added in his introduction that: “A Science Shop must minimize expenses. And a way of doing it is by means of the students implication (recognition in their CV) and to have a full professors staff devoted to Science Shop”.

IV.1.2. Political and administrative institutions views

Political-administrative institutions presented two views on future: a large institutional awareness and a bigger participation of associations and institutions. Both of them were considered a strong priority by the rest of participant groups.

Mark: 16
INSTITUTIONAL AWARENESS
<ul style="list-style-type: none"> • Fostering research related to social needs

First and according to Eng. D. Pedro Moreu, *director of the Master on Technological Prospective and Innovation Management of the U.S.* “There is a bigger institutional awareness to develop a research more related to social needs which can be observed by research data registered by the OTRI, by the 2003 forum on fostering research in Andalusia held in Málaga.

Mark: 11
BIGGER PARTICIPATION

⁵ The evaluation rules of researchers work are made by ANECA, the National Agency of Evaluation and certainly international contribution tends to be exceedingly valued more than local contribution. These rules tend to be reproduced in contracts to teaching staff in most Universities.

- Of associations and institutions in the process of adequation of scientific and technological production to social demand.

Secondly, added P. Moreu: “It can be expected an increase of participation of civic associations in the technological supply and demand study in the next years. It is a question of adequating scientific and technological production to social demand”.

On “how to get that participation?”, Pedro Moreu refered to the fact that it was a question also raised in April 2002, at the European Conference on Scientific and Technical Prospective held in Sevilla, in the IPTS and praised the qualities of the EASW/BASIS methodology of the Workshop for that end, saying:

“The ‘scenario workshop’ tool (methodology EASW/BASIS) we are using here today is an instrument that has been developed to make any users, organizations and civic associations be able to participate in the reseach that is being made”.

Rosa Hermoso, *Woman Delegation of the Town Council of Sevilla*, stated that “in the future, scientific processes shall be more participative, counting on reality and the stakeholders who know social reality”. And added: “The idea is to go hand in hand and not back to back and counting on, not only formal researchers but also no-reseachers or not recognised researchers (with those associations which are working in the streets: many local or regional administrative professionals or any other kind of administration) have to make a contribution and it would be more productive for the results of the research”.

IV.1.3. Civic Associations Group’s Views

The Civic Associations says their contribution came from: “...our daily practice what we find, what we can believe and what we can trust” as José-Carlos Cutiño-Riaño stated, *Consumers and Users Associastions Federation of Andalusia*. And two views were pointed out: one related to the increasing private control over research and the other on the tendency of civil society to self-managing on knowledge and action:

- | |
|---|
| Mark: 7 |
| SCIENTIFIC KNOWLEDGES ARE CONTROLLED |
| <ul style="list-style-type: none"> • Hope is in the individual |

In words of José-Carlos Cutiño: “The question is if University leaves other projects behind for giving an answer to private projects. It is a question of dedication: the more it devotes itself to some projects the less it is devoted to big social needs. Additionally the tendency we are watching is that this is more and more denounced and indictable and civil society is more aware”.

“Scientific, institutional University knowledge (as research and professional training) is submitted to, and so it is written in the present legislation in the LOU, to the demands of the market, which is increasingly harder and aims with top priority”.

To explain what they meant by “the hope is in the individual”, J.C.Cutiño explained that “Nowadays there are some connections or relationships between university and civil society because there are **individuals inside the University who take care of being in touch**. They are possibly individuals with a certain schizophrenia because they are working for the University and at the same time for civil society”.

“This way, in some years if things go on like this until 2010 we will find a **civil society which has no answers**, a university more centred on the market and those individuals (the ones who are left) so implied in society that did not care of increasing their ANECA curriculum will be out of it”.

Mark: 6

(Drawing: Pirates' flag)

- CIVIL SOCIETY SELF-MANAGES IN KNOWLEDGE AND ACTION

Regarding the second view above by civic associations, Vicente Manzano of *University and Social Commitment* said: "We have illustrated our view with a pirate flag. What is happening?. A civil society which is articulating itself and is finding elements of knowledge, is creating its own parallel ways of transmission of knowledge, even scientific research through the professionalization of its own structures." –

"If we follow this line obviously it is going to take us to a self-managing society. A society, parallel to **institutional society**, which is going to provide itself with these ways to an alternative society and spreading a **society of knowledge outside of the system**, as we can conceive it. A civil society which manages itself in knowledge. Probably divergent from an institutionalized knowledge society. An alternative society which is able to be organized beyond what was known 50 years ago. It is a clear tendency".

The challenge of the University is "to be able to find social speakers who are able to provide the service of what the organized civil society demands". stated Vicente Manzano of *University and Social Commitment*.

And he ended saying: "For us this tendency of society to articulate, vertebrate and provide itself with its own mechanisms is irreversible. I wish it were through University. I wish it were through "science shops". But if not, science shops are going to be created by more and more powerful social organizations of a bigger base and organization with capacity of action.

IV.1.4. Group's views: Scientific and research organizations

Researchers emphasized among their views: the probable acceptance of scientists to the new demand; the handicap of financing, the need to raise citizen sensitivity and the interest in potentiation of "science shop" existing activities already in progress at U.S.. The speakers of the group were Angel Casas, Economy Dpt. University of Huelva and Teresa Rojo, Sociology Dpt. Univ. of Sevilla.

Mark: 9

RESEARCHERS WILL ADAPT THEMSELVES

- Giving them more time and support research in the University
- Lack of incentives for scientists
- Breaking with the tradition that University is in the service of elites

"Whenever there are resources for researching, researchers will adapt themselves to research for civil society as well as for enterprises, in the same way. Certainly, we would have to solve handicaps such as the recognition of the time devoted to research. There is also a lack of incentives and academic recognition".

Mark: 7

A CONSTANT FINANCIATION TO ATTEND DEMAND

- Risk of talktiveness and few instruments. Problematic interrelation between politicians and researchers (mutual contempt, only matter of self-interest).
- The European Union is granting funds. But tendency to the concentration of financing in private operators

"The question of **financiacion** has been seen as a main handicap: now you have the project, but no financiacion, now you have financiacion but not the people...". "If there is no financiacion for the research demanded by civil society, we run the risk of not being implemented and becomes talktiveness. Another political fashion: talking about

“science/society”. The contribution of the European Union in the VI framework programme was considered as favourable to encourage financing.

Mark: 6
SEVILLIAN SOCIAL SENSITIVITY TO
<ul style="list-style-type: none"> • Ignorance of the role of the scientist. Research understood by Society • Training: main element in the relation science and society

The third vision of scientists, “Civic sensitivity to science” is glimpsed as a challenge. “It is the adequately sensitive citizen?, we refer to sevillian society, or there os a problem of citizen training which he does not know? (Prof. Pilar Bordas has researched on this). In this ignorance about science that citizens show is also included their ignorance about scientists and what they do. And the fact that research is not understandable by them. There is neither enough communication, nor understanding”.

Mark: 5
SCIENCE AND SOCIETY ACTIONS IN PROGRESS
<ul style="list-style-type: none"> • Mass-media (<i>“Andalucía Investiga”</i> web site), and associations inside University (<i>University and Social Commitment</i>). • Offer in the University of Sevilla (University Extension; OTRI web; Master on Technological Management and Prospective, The Social Council of the University).

The fourth vision introduced by the group of scientists referred to the opportunity in building “science shops” mediation on the existing structures inside University. Existing structures⁶ on training and mass-media and diffusion of the research results “useful instruments to link the relationships between University and Civil Society”.

Synthesis of the most important views

Of the eleven views presented, the next four views were considered as the most determinant questions of the future change in the collaboration between University and Civic Associations in Sevilla:

- INSTITUTIONAL AWARENESS in the promotion of research related to social needs.
- CITIZENS TRAINING: A teaching committed to present problems (global and local).
- RESEARCH: I+D+i POLICY ORIENTED TO SOCIAL PROBLEMS RESOLUTION.
- BIGGER PARTICIPATION of associations and institutions in the process of adequation of associations and technological production to social demand.

These four priority axis were present in the views of nearly all the groups, in some or other way, but the enunciates made by institutions and mediation organizations had a better acceptance because of its accuracy to indicate the common target and expositive clarity.

IV. 2. Action plan result of the four participatory theme teams

The debate on actions was carried out by mixed teams. Four tables were made, one to deal with one of the axis of intervention selected in the session on views: institutional

⁶ Most representatives of the Mediation organisations group were in fact representatives of University departments or divisions who have recently started to play a “science shop” role.

awareness, citizen training, research policy oriented to social problems and associations and institutions participation.

The action proposals presented by each team are summed up next:

IV.2.1. “Research policy oriented to social problems” Team Proposals:

The team which conceived the actions to carry out a “research policy oriented to social problems” was made up of representatives of six organizations: two associations (Ecologists in Action and Ateneo Verde), two mediation organizations (Regional Development Institute and Andalusian Renewable Energy Institute, both of the University of Sevilla), a scientist (Department of Sociology of the University of Sevilla) and an institution (Andalusian Research Plan of la Junta de Andalucía).

The action this team proposed consist of setting up a “science and society” research and management centre, called “Social Centre of Research”. As Valeriano Ruíz, *Director of the Andalusian Renewable Energies Centre* said: “It is proposed to create this centre, potentiating the action of the existing Social Council of University”.

SOCIAL CENTRE OF RESEARCH (under the protection of the Social Council)		Mark: 12
Evaluation Criteria: <ul style="list-style-type: none"> • To promote research on risks prevention and co-participated by associations and university. • To integrate students and professors in projects as a part of their courses • To function as mediation and financial management of projects office • To incorporate civic associations to research decisions 	Activities: <ul style="list-style-type: none"> • Rewards. Diffusion campaigns of good examples of research for society (ex. ISOFOTON) • Markets and fairs. (Ex.Madrid, Science museums) • Communication channel between researchers and social movements (physical and virtual shared spaces) were “ ideas”and products are exposed by researchers and social movements 	

Santiago Ledesma said about the name of the centre: “Instead of calling it science shops, it can be called Social Centre of Research in the sense that what we seek is society to participate in research. Then the way for society to participate is finding the centre in which this participation can be made”.

The centre is also expected to be – according to Francisco Vilches, *Ecologists in Action* - “a management office dealing with financing of the ideas that can arise, and dedicated to the integration of students with a need of learning to make a living”. Also to incorporate civic associations to research decisions.

Program: Priorizing research on risks prevention

Francisco Vilches of *Ecologists in Action* stated: “We have seen that a basic principle of research is that it be directed towards what human knowledge would be, to respect the basic principle of prevention, to prevent future problems”.

“The importance of this centre is what it offers to the present research model. A model that nowadays answers to two lines:

- One is research for economic development, which takes advantages of the administration’s support on private interest (...)The role of social movements in this

research is that of ‘auditors of ecological and social disasters’ that are caused (The “Prestige” case⁷).

- And another line which comes as a consequence of the defects that economic development causes. It is that of research on evaluation, which argues about social and environmental impacts that private interest causes (capital). “And in this second case, the role of social movements is that of a social instrument that can transfer this research for everybody: catalysts for prevention”

Activity: Rewarding and spreading good examples of research

Among the incentives of this scientific policy, Valeriano Ruíz, *Andalusian Renewable Energies Institute*, emphasized that “an action could be the diffusion of positive research activities, some of them have had good results for society (Ex. ISOFOTON⁸). Even to establish some reward or prize.

Activity: Virtual research market

David Gómez, *Ateneo Verde*, stated that: “The Social Centre of Research should favour the creation of a physic as well as virtual space for the knowledge of both communities, scientific, research and teaching community, as well as associations and organizations. In this centre we are conceiving, information would be gathered, almost advertisements, in which particular researchers or research groups could offer their research for whom is interested. And associations and people interested could also expose the problems we have and do not know how to deal with. That is, helping to make the two spheres meet, this is one of the functions of this social centre of research”.

IV.2.2. “Citizens Training” Team Proposals

The team that dealt with designing actions on “Citizens Training” was made up of representatives of seven organizations : two associations (Andalusian Consumers and Users Association and Casa del Pumarejo Platform), two mediation organizations (Architecture and S.C., University and Social Commitment), a scientist (Faculty of Education Sciences of the University of Sevilla) and two institutions (Master of the Vicerectorate of Research of the University of Sevilla and Volunteering Service of the Social Welfare Consejería of la Junta de Andalucía).

Two complementary actions were proposed, according to Pedro Moreu, “the first action refers to the inclusion of social worries in University training and the second action refers to the fact that society knows how University can solve its problems. For that reason the main idea in the first one is the workshop (ex. Architecture and Social

⁷ “Nowadays when problems arise and must be evaluated, such as the recent “Prestige” case we have seen how the sinking of a ship is managed and then the disasters that are caused. If a preventive case was made, from the scientific world it would be considered what kind of ship can cause disasters of this kind and the role of administration is legislate, to prevent this kind of ship from sailing and causing these problems” – said Francisco Vilches, *Ecologists in Action*.

⁸For example, the case ISOFOTON which is the European enterprise that makes more solar pannels in Europe and is placed in Málaga, and it sprang from a doctoral thesis of the University Complutense of Madrid. It is an example of how an applied research ends up giving big social profits , in this case more than 500 workers and the environmental benefits of the replacement of a conventional energetic and polluting source by another energetic source such as solar energy”

Commitment), and the forum in the second one (in a thematic way, this kind of forums –EASW/BASIS- in such a way that the researcher can get involved”.

Program: *Inclusion of social worries in university training*

M^a Pilar Colas Bravo, *Professor of Sciences of Education of the US*, exposed the first proposal on “Changes in University teaching”: “We have come to the conclusion that many disciplines orientations should be changed, giving the contents a more dynamic view, more open and with more social influence. That would suppose a change in the curricular structure of university teaching⁹.”

Mark:4
Action: CHANGES IN CURRICULAR STRUCTURES IN UNIVERSITY TEACHING
<ul style="list-style-type: none"> • Admitting the citizen view • Participation in the teacher training programme • Forum to know social worries • Practices in associations

The pedagogical instrument (curricular workshop) proposed to dynamize learning is, according to Pilar Bordas: “The creation of educative contexts where a real and social problem serves to set all the pedagogical space, such as the student’s professional and technical projection. It favours the fact that the student has to feel and live; that his university training is marked by the experience of social reality”.

Activity: *Curricular workshop and coordination of interdisciplinary practices*

Esteban de Manuel, of *Architecture and Social Commitment*, exposed the usefulness of their experience with the curricular workshop: “what we want is to transform university students attitudes to train citizens. And, for that reason, these attitudes are framed in a kind of commitment, creating educative experiences in which through experience they have to state their opinions, and this way they are being aware of their responsibilities”.

Mark: 1
Action: SOCIAL PROBLEMS WORKSHOPS
HOW:
<ul style="list-style-type: none"> • Practices • Transversality • Transdisciplinarity • Human rights, nature and development
WHO:
<ul style="list-style-type: none"> • The space is made up of University, organizations and administrations

“The framework for educative situations is created by social problems, the University must be open to take advantage of , for example, the moment of the elaboration of a strategic plan, or city land plan, to reflect on these questions in lectures and practices” in different domains.

“For example, if we are going to talk about the energetic plan or about the urban land arrangement plan of Sevilla, obviously, we can get into touch with neighbours associations which are going to propose actions for their neighbourhood, with ecologist associations which are going to raise transverse subjects and, at the same time, we establish a link with public administrations which are going to make political decisions in the end”.

⁹Pilar Bordas recommended that “we are in a very important moment of change in the university as a result of the confluence of university studies in the European Union and it is a moment for the organization and commissions in charge of these changes also meant a change for the students practices to be carried out in organizations and associations”.

Esteban de Manuel added: “This way, in the University framework the practices of the different subjects of the same course can be coordinated around a transverse subject.¹⁰ We conceived a pilot ‘lecture room’ about the subject ‘city and development’ two years ago and studying the specific case of Sevilla and that of Tetuan (Morocco) with different but close problems, drawing was taught in this context, another one taught construction, another one on History, all of them under a global view. The result is that students gain a global view of all the problems and also of their attitudes”.

Program: Let society know how University can solve its problems

Pilar Bordas, *Science of Education U.S.*, emphasized: “There is a need that, out of the educative system, there must be a confluence or very fluent relationship between what the creation of scientific knowledge is and citizens; It is not a knowledge that ends up at University, but University has to offer to solve social and citizens problems”.

“We have discussed on what kind of actions to bring society near, how they could be trained. We have seen that **we have to create in our culture and our tradition, the production of pedagogical and educative materials for a more individual reading** and create that shared culture through instruments such as fairy tales, essays, comics, and also media documentaries”. Pilar Bordas proposed as an activity: “To make a big pedagogical production of documentaries that can serve, for citizen training as well as to incorporate them in curricular materials”.

Mark: 9
<p style="text-align: center;">Action: BRINGING SCIENCE-TECHNIQUE NEAR SOCIETY</p> <ul style="list-style-type: none"> • I+D+i Diffusion • Publications (comics for young people) • Mass-media diffusion • Thematic halls

“Let citizens know what Science is, what University is and what is what University can bring for the resolution of their daily problems and their own reality. It is important to know what research is and what it serves for and make “meetings”, “forums”, “halls” possible in which there is a meeting between citizens and the scientific world.”

“Let research spread through mass-media, such as press, television and so on, It is a way for University to state its opinion on subjects in which society is interested, and let see that society is also interested in those social subjects”.

IV.2.3. “Associations and Institutions Participation” Team Proposals

The team that conceived the actions to obtain “the participation of associations and institutions” was made up of representatives of six organizations: one association (Workers Commissions of Andalusia), two mediation organizations (University and Social Commitment and Pax Mediterránea S.L.), two scientists (Department of Physics of la Materia Condensada and the Department of Molecular Biology of the U.S.) and one institution (The University Community Assistance Service of the U.S.)

They proposed three actions: a campaign to spread science through University and through leisure culture; mixed research teams; and the creation of an university institute of citizens. The second proposal “mixed research teams” was the best valued by the rest of participating teams.

¹⁰Architecture Curriculum picks up a model that is the “ Practices Coordination space” which gives each professor cause for, instead of planning his practices in an independent way, all of them can be planned in a coordinated way, around a subject.”

Science Spreading Campaign

Action: SCIENCE SPREADING From University and Leisure Culture With educative ends		Mark: 3
HOW: <ul style="list-style-type: none"> • Students internal projects • Lectures, Informal lectures and debates • Masters oriented to social subjects • Guided cultural city routes • Guided cultural routes in Nature • Educative contents in Mass-Media (press, radio, TV, brochures) 	WHO: Students Professors Citizens University, private enterprise and organizations	

This action proposal was exposed by Antonio Córdoba, *Professor of Physics of the U.S.* with the following words: “ Spreading science **from University through internal projects** of the students, informal lectures, lectures conferences, debates, forums from University, Masters oriented to social subjects, summonings, rewards to research subjects with a certain significance in social problems or seen by society in this way”.

“To spread science **promoting leisure culture with educative ends**, consists of – according to Antonio Córdoba- promoting **cultural routes**, as an example, to recover History, literature, all the culture of a city or regions and villages, which is also abandoned with respect to the city. The same happens with **guided routes in Nature**; something which does exist in most European countries while here the organizations or groups teaching this kind of cultural activities are few.”

“And above all **mass-media**, press, radio, television with educative contents: And brochures, which is another of our biggest differences with other European countries, there are **brochures** everywhere, in supermarkets, trains, schools..... you get 20 brochures, you see what is going on. And here there are none, if only a single sheet is needed.”

“We think students, professors, and other citizens organizations could be involved, from University or bachelors who can organize enterprises and organizations, obviously supported by organizations and public organizations from the very beginning”.

Action: PARTICIPATION IN SHARED PROJECTS Setting up research of social interest projects		Mark: 8
HOW: <ol style="list-style-type: none"> 1. Institutions and NGO's detect and raise the problem 2. The research team is mixed 3. The planned solutions are implemented by institutions and NGO's 	WHO: <ul style="list-style-type: none"> • Promotes: Institutions / NGO's • Sets up: mixed research teams 	

Regarding the above proposal for action, Antonio Córdoba *Physics of the Matter U.S.* explained: “An idea is the realization of social interest projects with a final character, a clear social interest. Institutions or ngo's are then in charge of raising problems to research teams which have to find solutions. The second idea is that this research team has a mixed character, that is made up of researchers belonging to the

University, as well as people who come from associations or institutions that can participate in the project. “

Action: UNIVERSITY INSTITUTE FOR CITIZENS		Mark: 2
HOW: <ul style="list-style-type: none"> • Following legislation for I.U. • Steady financing and by Projects • Identification of needs • Intervention programmes • Citizen training • Research promotion • Science Shop 	WHO: <ul style="list-style-type: none"> • University • Civic associations • Public institutions 	

A last proposal of action bears big resemblances with the proposal of Social Centre of Research made by the Research Policy oriented to social problems team.

The proposal was presented by Vicente Manzano, of University and Social Commitment and consists of : “Creating an Institute for citizens¹¹”. Stakeholders would be University, civic associations (giving its name of this new institute) and the financing organizations needed to carry this on. In financing, on the one hand, a steady financing must be secured and, on the other hand through research projects, in the same way as research groups work.

The institute would be in charge of raising research needs, through surveys or debate groups, and of setting intervention programmes in motion easily, with a special concern on evaluating, on citizen training and research promotion.

IV.2.4. “Institutional Awareness” Team Proposals

The team which studied “How to make social institutions aware of the need of relationships between them and civic associations?” was made up of representatives of different organizations: an association (Engineering Students International Association), a mediation organization (Social Council of the U.S.), two scientists (Department of Philosophy of Science of the U.S. and Department of Economy of the University of Huelva) and two institutions (Scientific Spreading Programme of la Junta de Andalucía and Woman Delegation of the Town Council of Sevilla).

This team presented a single action proposal, based on information. According to Dr. Ramón Queraltó, *Professor of Philosophy of Science of the University of Sevilla*: It would consist of “Promoting information vias (channels) of social demands towards institutional responsables and here, no administration domain can be excluded”.

Action: PROMOTING INFORMATION VIAS (CHANNELS)		Mark: 9
of social demands towards institutional responsables (university, local, regional and national government)		
How?:	<ul style="list-style-type: none"> • Mediation organization of social representation with consultative participative and executive functions • Watchtower of social demands with participative forums and debate, 	

¹¹ If that proposal was a clear rival for the proposal of setting up a Science shop inside the Social Council, it was worse received because of its small viability. The University Institute was rejected because it setting up is stopped by la Junta de Andalucía (according to Professor Ramón Queraltó)

scientific spreaders training,(recognised with a decrease of teaching time and if there is no recognition, it must be obtained)

“The Social Council of the University of Sevilla or the commission of the same council, at the moment of institutional awareness, would become, **a mediation organ, never of intervention on the research direction**, with institutional representation of the different organisations, which could participate in University, Town Council, Local Government, Municipalities Federation, and so on. For these institutions to bring social demands. For information on social demands to be inside that mediation organ”.

And Ramón Queraltó added: “This mediation organ would have participative functions because there would be representatives of the different civic associations, public institutions, and so on., and it could have consultative functions, promoting some lines of social demands that would be seen as a priority”.

Other instruments to accomplish the above action would be (...) a watchtower of social demands/needs; the organization of participation and debate forums; and **scientific spreaders training program**¹².

The team conclusions includes, according to Dr. Queraltó; “To make institutions aware with respect to researchers. They are two specific proposals, a decrease of professors or researchers teaching time, to researchers officially recognised, in a way controlled to evaluate results, for them to be able to dedicate more time to research.¹³ The other proposals, for officially non-recognised researchers, consists of making lists of recognition. It is not that you have a creative idea and you already have a recognised research design, but to establish mechanisms of recognition on the value of that research for being more effective with the training of those officially non-recognised researchers.”

Most feasible actions selected

Of the eight actions designed by the different groups, the following four action proposals received the highest mark, each one referred to one of the strategic targets:

1. Setting up of a Social Centre of Research
2. To promote the information vias of social demands towards institutional responsables, from a renewed Social Council
3. To bring Science / Technique near society through a diffusion campaign
4. To implement participation in research projects of social interest with mixed teams (researchers, associations, institutions)

The details of the workprogram and activities to be promoted inside each action line defined above, are summoned in the table at the beginning of chapter IV.

¹²Ramón Queraltó insisted on the need of “Asking institutions that scientific spreaders to be trained in order to be connected, to have enough fluency of information, which goes beyond research and reaches society adequately, about the nature of research, ways of application, possible benefits, and so on,”

¹³ This team coincide in the fact that the research workload and bureaucratic weight was too hard.

V. Commentary on the results

The results of the Workshop in Sevilla are commented by Pax Mediterranea in this chapter from three points of view. Firstly, the lessons to learn from the Workshop results. Secondly, the commentary on the methodology applied and its possible improvement or development for further applications. Third, the conclusions relating to what can be done with science shops at local and national level and the encouragement of the science and society relationships are exposed, that is, the proposals of scientific policy.

V. 1. Lessons to learn from the workshop results

The participants analyse the handicaps that the collaboration between University and Civic Associations face. They also specify the opportunities indicating the way to follow. Each social group emphasizes different aspects:

- Civic associations were critical with the present scientific policy and proclaim their tendency to self-managing in knowledge as the only choice, and declare they are connected to University at individual scientist level. They are prepared to create their own science-shops if University does not assume its role as a mediator.
- University scientists are prepared to attend social pressing needs if there is a recognition to their dedication. They understand that a constant financing is necessary if not it would be political talkativeness. They request a financial effort to sensitize citizens about science and scientist work; and are in favour of building up the University Science-shop network supported by mediation initiatives in progress, inside and out of the University.
- Mediation organizations aim at the recognition of scientific dedication to social problems. They are also in favour of taking advantage of the collaboration between University and Associations through mediation organizations to offer a teaching on "citizens" training by researching on present problems (global and local). The conditions they point out for the functioning of a mediation organization is that it must be financially provided, and must have an office in the city and at University, as well as devoted staff.
- Institutions consider as highest priority to increase institutional awareness through mediation organizations and making an effort to obtain the participation of associations and institutions applying participative methods.

Regarding the proposals of the thematic groups work, we have to comment the following:

- It can be confirmed that we assist to the elaboration of the 'draft certificate of foundation' of a Science shop in Sevilla, inside the Social Council with a very specific programme oriented to participatory research on risk prevention. And that the new centre is supported by the existing structures and initiatives for the development of activities. That is, on the one hand the Social Council management and on the other hand civic associations and existing mediation organizations in the University can participate. Those researchers, who attended the Sevilla Workshop, constitute a potential talent for scientific collaboration from the University.
- Many of the activities proposed are relatively easy to apply so they could be implemented in the 'take off' stage. This is the case of rewards to research and researchers who have solved social problems. (Example. Isofoton); the creation of a

virtual space of supply and demand of research on risks prevention; or support the launching of some projects following a participatory model conceived in the workshop.

- Attaching a watchtower to the Science shop is also a question of interest since its role of elaboration of specific science indicators ¹⁴ which permit analyse researchers efficiency, social needs of research. and so on. This coincides with the proposals on the necessity of incentives for researchers made by other groups. Additionally, the idea is stongly supported by the Senior Professor of Philosophy on Science of the University of Sevilla, Ramón Queraltó, who has experience in directing research on ethics of science.

- The activity of promoting pedagogical materials to train citizens: fairy tales, comics and documentaries is also something quite easy of being carried out through contests. The same can be said about the proposals to spread science in leisure culture; an aspect which attracts mass-media.

- A strong lack of scientific spreading was detected in the knowledge citizens have about University and scientific work, in the degree of citizen sensitivization to science. This question received proposals of all the thematic groups, recognizing that in the lack of groups and organizations which spread science in Spainn there is a phase out wih respect to the average of European countries. The preparation of pedagogic material and media documentaries was seen as urgent.¹⁵

- It calls the attention that two teams stress in their single action proposal that the Social Council of the University of Sevilla be the leader of implementation of the Action Plan.

- It is important not to foreget that in order to achieve the development of the Action Plan proposals, the presence of the organizations that have planned and conceived them through the workshop is an obligation. Because there are always many nuances that cannot be transfered in just a meeting day and of their collaborative attitude.

V.2. Further development of the workshop tools

This Workshop has managed to bring positions near and exchange opinions about the future collaboration between science and society. The results show that the Science Shop scientific mediation model has been understood and that Sevillian society aspire to count on a mediaton structure of this kind. The method EASW/ BASIS has been succesfully applied.

INTERACTS has made a process of development of participative methodologies to collective reflection on science and society at local level. The flexivility of the method has let each partner adapt the subject and programme to his national context. That is, each workshop chose an enunciate and subject lightly different according to the local issues at stake. In the end of its workpackage 5 (WP5) INTERACTS can count on six methodology adaptation experiences to different localities and national situations. After comparing the results of the 'experiment' carried out in the six countries, the methodology will be considered a standarized utility and an application guide produced to assist in the design of local Science and Society Action Plans.

¹⁴Activities such as civic associations participation in forums or the participation in mass-media which are, at present, not recognized at all.

¹⁵ A programm supporting these kind of activities is included in the draft of the Spanish National Science Plan 2004-2007 as well as in the calls of the Foundation of the Ministry of Technology.

In the case of the Sevilla Workshop, the participants representativity was achieved because proportionality criteria had been respected in the following aspects: the four social and thematic groups (6 to 8 members each), the scientific interdisciplinarity and the influential political-territorial domains (local and regional).

Local and regional community level were represented, referring to institutions as well as to civic associations. Since the government of the Town Council of Sevilla and the Government of la Junta de Andalucía were present, and because local associations of Sevilla and regional domain associations such as FACUA and Ecologists in Action were present.

Women participants represented a 30%, and those under 40 represented a 31%.

Apart from the basic requirements of the method, informative and plenary sessions were recorded in a tape. Pictures were taken too. We have also to value positively the programme schedule, which was right and fulfilled, as well as the organization by means of a catering in the hall in the same place of the celebration of the meeting, which permitted a continuity and the success of moments dedicated to formal interaction.

Participants attending the workshop are active representatives of the local science and society system and showed a great interest and commitment. They contributed and exposed their knowledges and intuitions about the need of a qualitative change in science and society relations. The workshop lasted eight and a half hours in one day and the participants workload contribution represents an effort equivalent to 210 men/hours or 30 men/day.

The methodology of meeting and debate carried out have been so appreciated to the point that they can be found at least in two groups which have proposed this kind of workshop to be held like thematic forums to establish the collaboration university / associations in specific knowledge domains.

V.3. Conclusions addressing the local and national level

The conclusions express changes which could be desirable to reach in the local and national domain for a bigger efficiency of the Spanish science and technological system. These desirable changes have been clearly stated by the participantes in the workshop and refer to the following four issues: institucional awareness; citizens training; a research policy oriented to local problems solving and the participation of associations and institutions in research and dissemination activities.

Concerning **institutional awareness**, the mediation role of the University Social Council has been requested. For such purpose, these Workshop proposals must specially be informed and transferred to documents and political organizations which are now elaborating procedures to spread science and to increase Universities efficiency, both at National and Regional level:

- The organizers of the Workshop must make the effort to elaborate the report on conclusions in the national language and that it be spread by the Social Council of the University of Sevilla to society through the Workshop participants and mass-media.
- The Social Council of Sevilla must announce their compromise and spread this report in two other domains: the National Council of Social Councils of Universities and the Scientific Research Planning Departments of la Junta de Andalucía and the National

Government which must finish the new national I+D+i plan¹⁶ before the end of 2003. The Andalusian Regional Research Plan is also under construction.

Regarding the desirable change in the direction of **RDT policy oriented to local problem solving** and the creation of a Science Shop function inside the Social Council of the University of Sevilla, the following is concluded:

- The Social Council shall take a formal stand about its “science shop” creation project in its plenary session and assume the mission of developing it, with the support of the workshop participating organizations. It is recommended to make steps forward to complete the composition of the Social Council with a representation of Civic Associations and to upgrade Spanish Universities to the democracy level recommended at the White Paper on Governance and Science and Society Plan of the European Union.

- The interest of the civic associations in science shops and the increasing degree of irritation of civil society should be an opportunity for the University to reach partnership agreements and raise civic association collaboration in performing its science-shop mission. The suggestions of double office, in the city and in the University, or the network model conceived by the participants are both good proposals to combine the double input. Transparency in all the process is important in order to avoid conflict inside the scientific community.

- The new calls for tender issued by the European Commission to dynamise the science shop model, can be an opportunity for the University of Sevilla to obtain both technical support and international exchange in the build up of this new experience. The celebration in January 2005 of the II Living Knowledge Conference in Sevilla, organised by the ISSNET project offers an additional opportunity for spreading the science shop concept in Spain under the leadership of the Social Council of the University of Sevilla.

Regarding the desire of **participation of associations and institutions in research**, the conclusion is clear: some general interest projects should be launched and supported from the Social Council of the University in order to generate good practices in independent research. The University of Sevilla shall consider these projects an opportunity to potentiating itself and a way to systematize its contribution to civil society.

Regarding the desire for **citizens training or training for citizenship**, a clear conclusion has been the realisation that science and technique has to be brought nearer to society and likewise a strong campaign urgently launched including publications (comics, fairy tales), media documentaries and fora organized. For this aim, the National Program for the Promotion of the Scientific and Technological Culture (included in the new Spanish RDT plan) remains as a possible financial frame together with the periodical calls of the Foundation of Science and Technology.

¹⁶2 The I+D+i National plan has not been passed out yet and at the moment it only includes, in the line science and society, a National Plan on Fostering Science and Technological culture. This consists of “actions in museums, educative areas and mass-media which globally spread the interest and knowledge of the Spanish society to science and technology”. Additionally it is suggested to spread this experience through the Science-shop brochure which the Science and Society European Commission GD. And also to propose the inclusion of this Social Council Centre inside the cases which the European project ISSNESS supports taking into account that the II international “Living Knowledge” Conference is expected to be held in Sevilla in January 2005.