



SCREENING CHAPTER 25 SCIENCE AND RESEARCH

AGENDA ITEM 4: SPECIFIC RESEARCH ACTIONS – SCIENCE AND SOCIETY

**Country Session: The Republic of TURKEY
14 November 2005**

PROLOGUE

Since 1920's, science culture in Turkey has been motivated by the following phrase of Kemal Ataturk:

“ The truest guide in life is science”

During the early years, the young Turkish Republic went through a series of reforms, which set bases for the scientific awareness of Turkish society.

- Establishment of secular state secured the rights of women to be educated and be involved in science (1924)
- Change of alphabet (1928)
- National literacy campaigns started at the early years of Republic.
- At early twenties literacy rate was about 10% (mostly males)
- Foundation of first modern university 1933)



A continuous process of reform

- **Rural (Village) Vocational Institutes (1939)**
- **Higher Education Laws (1961, 1982)**
- **Establishment of TUBITAK (1963)**
- **Technology Development Zones Law (2001)**



LEGAL FRAMEWORK FOR SCIENCE AND SOCIETY ISSUES



LEGAL FRAMEWORK

SUPREME COUNCIL FOR SCIENCE AND TECHNOLOGY

Supreme Council for Science and Technology (SCST) was founded with the Decree Law No. 77, dated 4 October 1983.

Supreme Council for Science and Technology is the highest institution in Turkey in charge of *Science and Society* related policies. The Prime Minister chairs the board.



LEGAL FRAMEWORK

SUPREME COUNCIL FOR SCIENCE AND TECHNOLOGY

The tasks of the Council designated by the law are;

- implementation of the Turkish Science Policy,
- assisting the government in determination of long termed S&T policies,
- identification of targets, elaboration of plans and programmes,
- assignment of public organs,
- establishment of collaboration with private establishments,
- elaboration of required laws and legislation,
- provision of human resources development for researches,
- implementation of measures for establishment of research centers,
- determination of fields of research and provision of coordination services.



LEGAL FRAMEWORK

HIGHER EDUCATION COUNCIL

Higher Education Law (No:2547, 1982) assigns the responsibility of Science and Society as follows:

ARTICLE 4

c) As higher educational institutions, to carry out studies and research of high academic level, to promote knowledge and technology, to disseminate scientific findings to assist progress and development at the national level, and, through cooperation with national and international institutions, to become recognized members of the academic world and contribute to universal, contemporary progress.



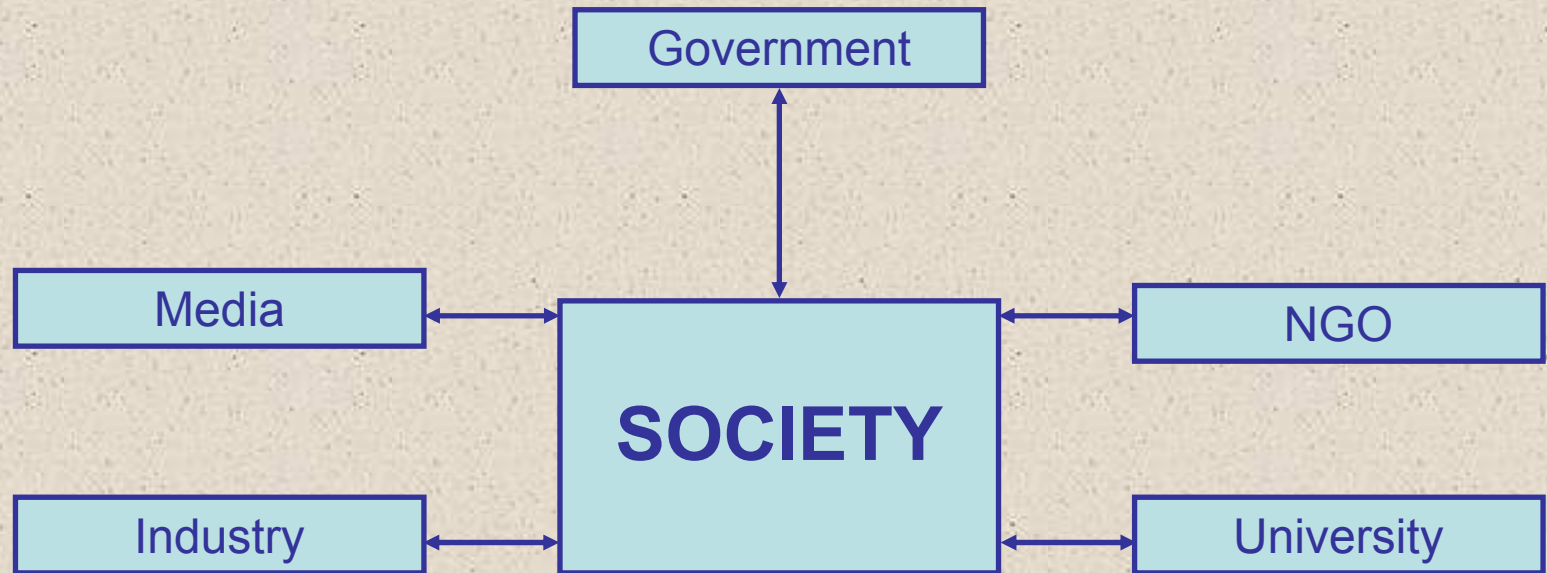
LEGAL FRAMEWORK

MINISTRY OF NATIONAL EDUCATION

is given responsibility for;

CONTINUING EDUCATION, which shall ensure that the individuals can adapt themselves to a changing world as well as the frequently and significantly changing or developing professions, having all the society as its target population, shall be widely implemented.

MAJOR ACTORS IN SCIENCE AND SOCIETY



GOVERNMENT

- **State Planning Organization (SPO) is responsible for e-government projects to create knowledge based society**

INFORMATION SOCIETY DEVELOPMENT

(Implementing agency: SPO, Total financing: (€43million)

- The objective is to support the application of information and communication technologies (ICT) to (1) improve the delivery of public services to enterprise and citizens; and (2) to provide strategic ICT training to senior Government officials.



GOVERNMENT

INFORMATION SOCIETY DEVELOPMENT

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GOVERNMENT

INFORMATION SOCIETY DEVELOPMENT

- The “Turkey e-Transformation Project” was launched by the Government. The development of the Government Gateway is integral to the Government’s aim to deliver improved public services.
- Ratio of IT expenditure to GDP is 0.8 in Turkey, while the average for EU is 2.8. Similarly the ratio of telecommunication expenditure to GDP is 2.4 for Turkey while it is 6.7 for EU. (2004 TUSIAD-Sabanci Univ. Competitiveness forum),



GOVERNMENT

SOME e-GOVERNMENT PROJECTS

Ministry of Justice UYAP (National Network)

Prime Ministry's State Database

- e.Archive

- e.Gazette – Official Gazette

- e.Legislation

- Public Portal of Turkey (www.turkiye.gov.tr)

Nationwide Pharmacies/Prescriptions Automation System

State Statistics Institute Database

Directorate of Police – Ministry of Interior - PolNet

e-Commerce Portal



GOVERNMENT

MINISTRY OF NATIONAL EDUCATION

- Since 1964, MoNE has established Science High Schools to promote science education among the youth.
- Entrance to these schools is highly competitive

CURRENT SITUATION

	Number of Schools	Number of Students	Percent of Girls
State	68	14,940	32.9
Private	96	6,449	40.5
Total	164	21,389	35.4



GOVERNMENT

MINISTRY OF NATIONAL EDUCATION

OPEN EDUCATION

- Enrollments to open primary and secondary education programmes are 581,516 in 2005 (43% Female).
- Open primary and secondary education programmes not only leading to diplomas but also creating scientific awareness through audio visual media.

NON-FORMAL EDUCATION

- 3,451,515 adults are attending to the non formal education programmes conducted by 57,000 teachers.



GOVERNMENT

MINISTRY OF EDUCATION

Support for Scientific and Artistic Research

- Initiated in 2004
- Mathematics, basic and social sciences, information technologies and arts
- 2794 projects submitted

National Scientific Project Competition

- Initiated in 2005
- Countrywide implementation in secondary education in collaboration with TUBITAK
- Implementation in primary education in 30 cities by MoNE



GOVERNMENT

MINISTRY OF EDUCATION

Programme for Research on Education

- MoNE-University cooperation
- Support for PhD studies on education
- Approximately 200 theses funded

Programme for gifted children in formal education

- Training in science and art centres
- Operational in 28 centres

AGENDA ITEM 4: SPECIFIC RESEARCH ACTIONS – SCIENCE AND SOCIETY

Website of Ministry of National Education



Proje aşağıdaki illerde uygulanacaktır:

Antalya	Ankara	Erzurum
Burdur	Eskişehir	Erzincan
Konya	Kırıkkale	Trabzon
Kayseri	Adana	Elazığ
Çorum	Gaziantep	Mardin
İstanbul	Mersin	Diyarbakır
Tekirdağ	Tokat	Malatya
İzmir	Amasya	Bursa
Manisa	Yalova	Kocaeli
Muğla	Samsun	Bolu

- Proje başvuruları internet üzerinden 31/10/2005 - 23/12/2005 tarihleri arasında yapılacaktır.
- Proje başvuruları, proje kapsamındaki illerde bulunan ilköğretim okullarına bildirilen internet adresinden yapılacaktır.

GELECEĞİMİZ İŞİLDİYOR

sorunlarınız için başvurulacak telefonlar



GOVERNMENT

MINISTRY OF NATIONAL EDUCATION

Information and Communication Technology Development Projects

- To create an educational environment for interaction and information sharing among teachers, pupils and parents.
- Through the “Computer Laboratories for Each School Project” 320,000 additional PC’s will be placed in schools. 120,000 of which will be provided by the MoNE, while the rest is expected to be donated.
- In the scope of the project the following components will be realized:
 - Teacher training (Training is provided by universities)
 - Labor force ICT literacy training
 - Educational portal and Decision support system development

GOVERNMENT

TUBITAK's Science and Society Activities

Related Functions

- Identify and encourage scientists of the future
- Award annual prizes to encourage scientific excellence
- Publish scientific journals, popular science books and periodicals



Strategic Objectives

Under National Science and Technology Strategy (2005-2010), two objectives are directly related with Science and Society:

- Development of human resources of scientists
- Raising public awareness on science and technology.



Actions under the Strategy

- Establishment of Science and Society Parks
- Increasing the number and quality of scientific publications
- Establishment of Science Museums
- Increasing the size and number of Science and Technology Centres
- Promoting the Science and Technology Camps
- Science and technology demonstrations for public
- Strengthening science communication in the media
- Organisation of science weeks in schools
- Encouraging publications on national science history

National and International Science Olympiads

TUBITAK's Directorate of Human Resources Development (BAYG) provides scholarships and other supports to potential researchers and organises contests to discover and train future scientists:

- National Primary Education Mathematics Olympiads (6th, 7th, and 8th graders)
- National Science Olympiads (8th, 9th, 10th and 11th graders)
- International Science Olympiads (9th, 10th and 11th graders)
- Contest of Research Projects at High School Level (9th, 10th and 11th graders)
- Contest of Energy Efficiency Projects (9th, 10th and 11th graders)



Scholarship/Fellowships

- Scholarship programs for undergraduate, graduate and PhD students in Turkey
- Supports PhD studies and/or research abroad by Turkish nationals
- Full/partial support to some scientific events, support post doctoral studies abroad and /or in the country

Science Competitions

Research Project Competition for Secondary and High School Students

- TUBITAK in collaboration with MoNE awards original, scientific, applicable, and result-oriented projects and organise exhibitions.

Energy Efficiency Project Competition for High School Students

- TUBITAK organises this competition annually with the collaboration of General Directorate of Electrical Power Resources Survey and Development Administration.

Science Magazines

- *Bilim ve Teknik* (Science and Technology) is a popular science magazine published monthly by TUBITAK
 - Record of publication spanning 37 years and a circulation of over 50.000 copies published every month
 - Turkey's largest selling magazine regardless of category
- A website with a rich scientific content (www.biltek.tubitak.gov.tr).
- *Bilim Çocuk* (Child and Science) addressed to children of 8-15 age group



TUBITAK Popular Science Books

- The single most important publisher of popular science books in Turkey.
- Published since 1993.
- 6,5 million books have been sold.
- More diversified spectrum of books.
- 205 different books are at the shelves.

Advisory Science Instructors Programme

Launched together with MoNE.

Purpose: To promote scientific research among primary and secondary school students.

Instructors have been trained to encourage and supervise students in their scientific studies.



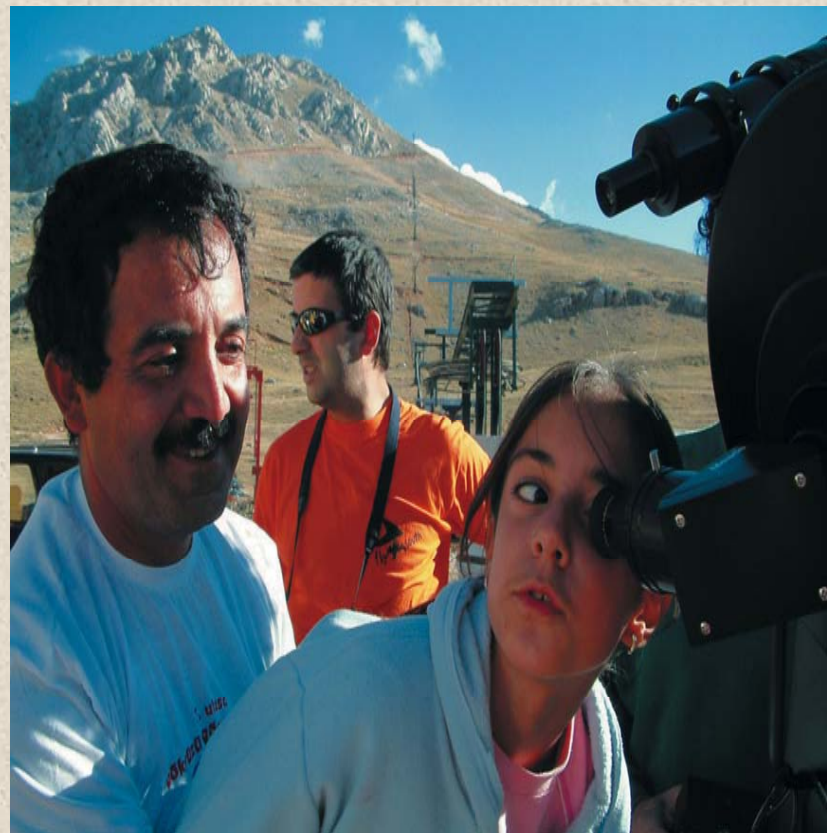
Invention and Science Festival



- The festival has been organized since 2001
- 1600 inventions are exhibited so far.
- Purpose:
 - to promote creativity and scientific curiosity
 - to channel attention to scientific researches
 - to show friendly side of science to the public.

Sky Observation Festival

- Since 1998 every year, hundreds of children, teenagers, adults attended to the festival:
 - to observe the stars, planets, and galaxies
 - to learn astronomy from its experts with seminars, video shows and conversations
- 3200 astronomy curious people attended to the festival



Formula G



- Solar energy automobiles designed by students race in Formula G.
- The first event was organized in 2005 by TUBITAK.
- The purpose is to increase self-reliance at young people, improve teamwork skills and ability to transform science into work and to draw public's attention to this new technology.

National Park Trainings



- TUBITAK organises National Park Trainings with the collaboration of Ministry of Environment and Forest and Ministry of National Education.
- Purpose: Triggering the curiosity of natural sciences.
- 850 people attended to National Park Trainings so far. About half of them were teachers.

Industry Liaison Officers

Initiated in cooperation with the Union of Chambers and Commodity Exchanges of Turkey (TOBB).

40 TOBB staff from 19 cities has been trained in R&D terminology, project management, TUBITAK support programs, IPR and FP6.





GOVERNMENT

ACTIONS:

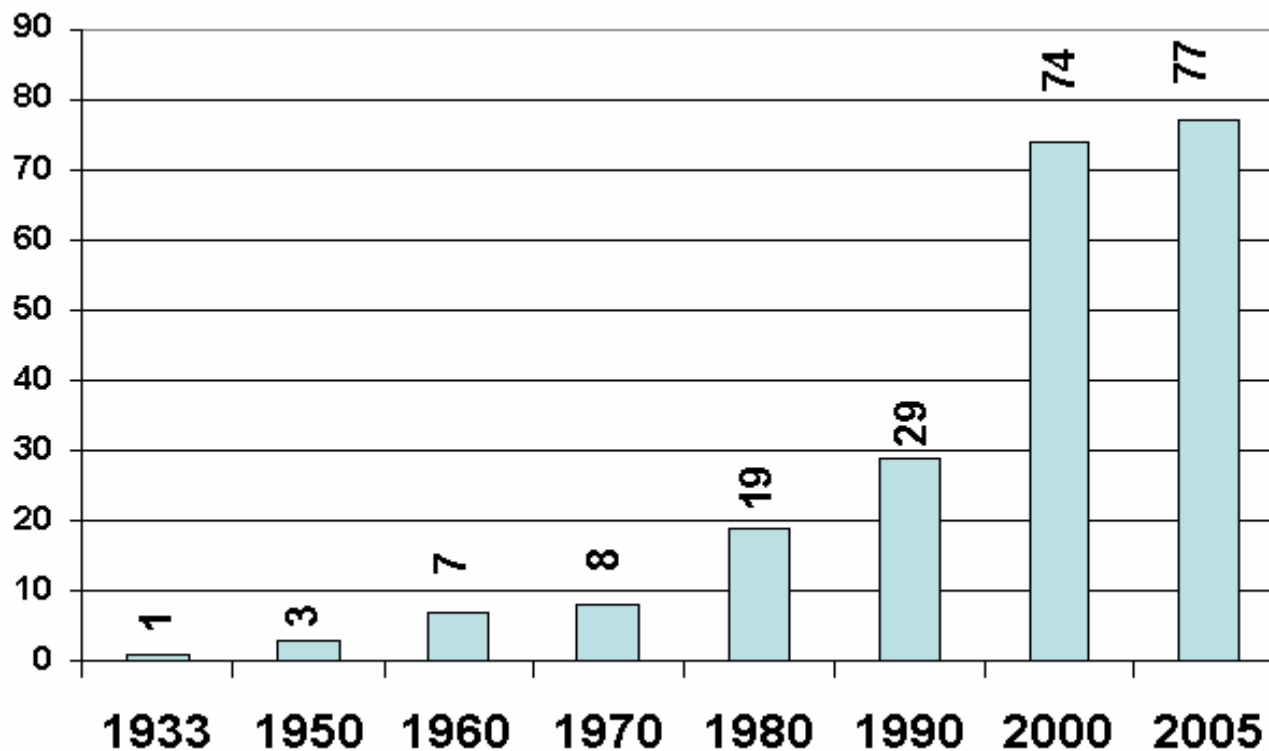
- Strengthening Internet and telecommunication infrastructure
- Increasing adult literacy rate
- Providing cheaper Internet connections
- Improving computer literacy
- Completing Internet connections to all schools
- Increasing the number and quality of public libraries including mobile libraries
- Establishing basic science laboratories in elementary and secondary schools
- Increasing the number of scholarships for science students in universities



UNIVERSITY

- Total number of students at universities (2,073,428; 42,3% Female)
- Universities, faculties, and vocational schools are widely spread throughout the country.
- In every province (81 provinces) there is at least one higher education institute (University, Faculty, Technical Vocational School)
- In 370 cities and districts (Total 923), one or more higher education institutes are located.
- These institutes facilitate interaction of the society with the scientific community.

Number of Universities in Turkey between 1933-2005





Change from 1933 to 2005

	1933		2005
Number of Universities	1		77
Number of Students	2,914		1,900,000
Annual Graduates	321		280,000
Academicians	307		79,000
Population	15,000,000		70,000,000

UNIVERSITY

OPEN UNIVERSITY

- One of the largest in the world in terms of student enrollment (695,591; 44.3% female) in 2005
- One channel of the state TV (TRT) is dedicated to open education programmes.
- Registration fees are negligible.

UNIVERSITY

- e-learning activities: Both degree and continuing education programmes are available.
- Almost all universities have Continuing Education Centres and provide training for local population.
- Student clubs in universities are involved in scientific activities.
 - Examples: Robotics, IEEE, ICT, Aviation, Biology, Chemistry, Computer, Internet, Marine Sciences, Material Science, Mathematics, Mechanics, Physics, Productivity, Research and Development, Science Technologies
- Cultural and scientific activities organized by universities are mostly open to public.
- Summer schools and science camps for high school students.

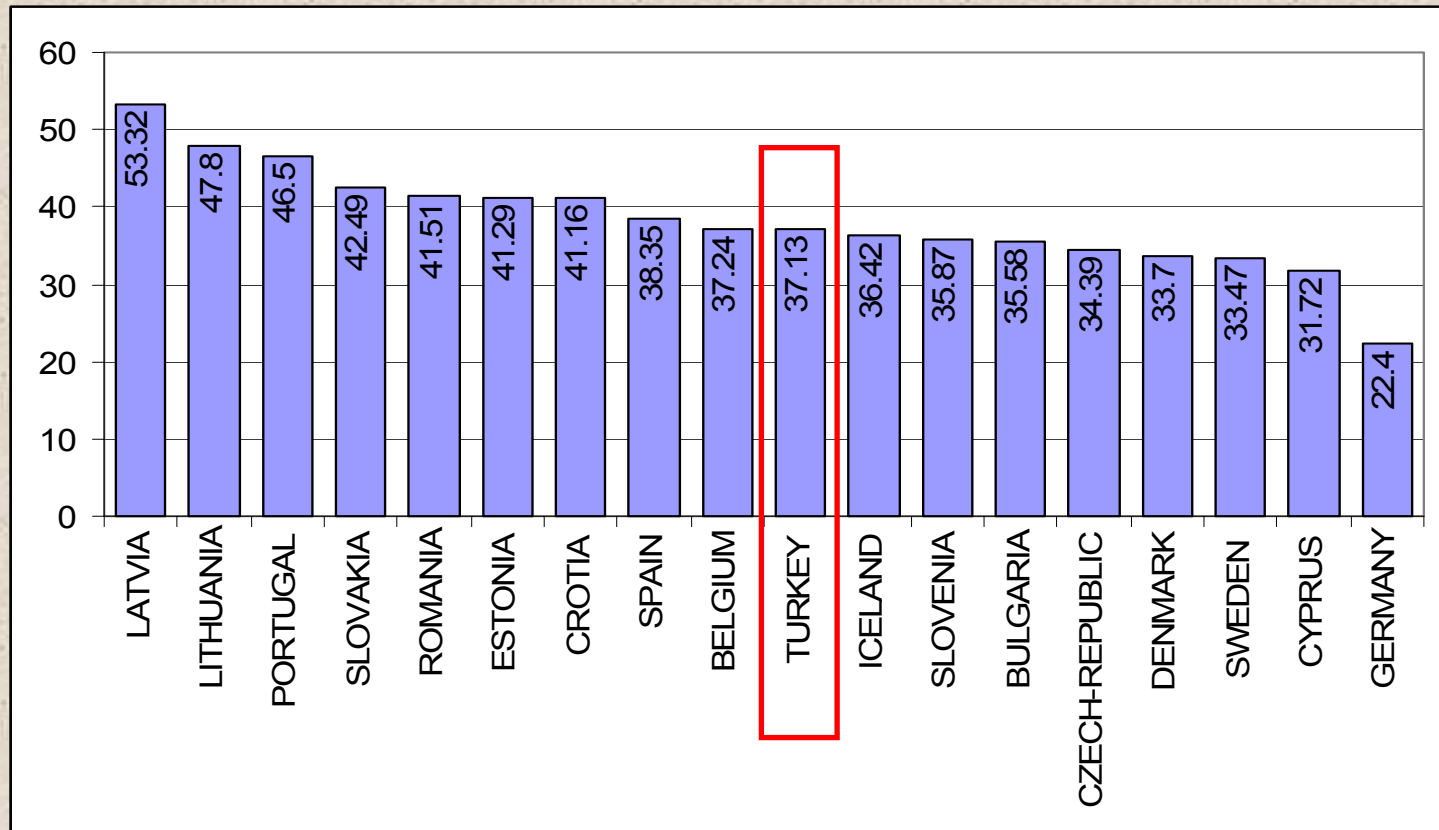


UNIVERSITY

- University TV's and Radios broadcast scientific programmes.
- Participation of faculty members on national TV channels to create public awareness on popular scientific subjects like natural disasters, economy, energy, traffic, etc.



PERCENT OF WOMEN RESEARCHERS IN HIGHER EDUCATION



*The Ratio for EU-15 STATES assumed to be lower than one third.

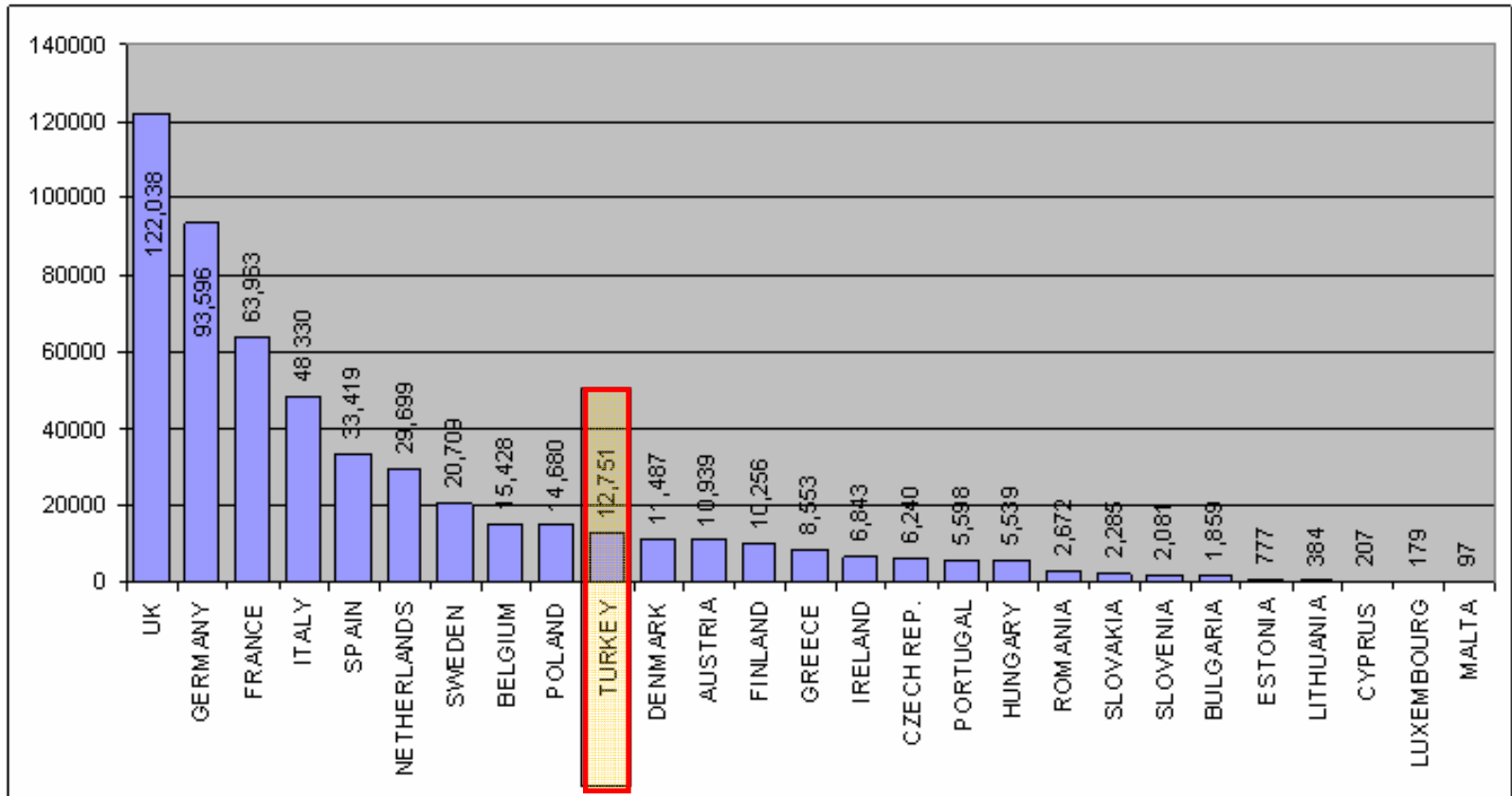


SCIENTIFIC PUBLICATIONS

- Rank of Turkey drastically rose to 22nd place worldwide and 10th place in the EU-25 in terms of contribution to research through publication.



SCIENTIFIC PUBLICATIONS - 2004





AGENDA ITEM 4: SPECIFIC RESEARCH ACTIONS – SCIENCE AND SOCIETY

SCIENTIFIC PUBLICATIONS

	UNIVERSITY %	UNIVERSITY	COUNTRY
AUSTRALIA	64%	97,100	152,531
AUSTRIA	79%	36,269	45,679
BELGIUM	86%	58,080	67,499
CANADA	74%	215,877	291,231
CZECH-REPUBLIC	43%	10,635	24,759
DENMARK	66%	37,800	57,490
FINLAND	84%	51,962	62,159
FRANCE	50%	186,257	376,236
GERMANY	72%	309,486	431,305
GREECE	76%	20,600	27,023
HUNGARY	61%	14,392	23,754
ICELAND	75%	1,460	1,957
IRELAND	70%	8,381	11,930
ITALY	66%	181,152	275,828
JAPAN	72%	413,639	573,063
KOREA(SOUTH)	71%	44,088	62,476
LUXEMBOURG	16%	61	384

MEXICO	69%	17,816	26,007
NETHERLANDS	76%	119,379	157,379
NEW-ZEALAND	62%	17,064	27,634
NORWAY	65%	24,341	37,648
POLAND	73%	35,568	48,695
PORTUGAL	79%	12,034	15,230
SPAIN	70%	99,653	141,443
SWEDEN	85%	104,859	123,147
SWITZERLAND	69%	61,227	88,437
TURKEY	89%	22,213	24,931
UK	69%	348,399	505,413
USA	72%	1,791,543	2,478,044
OECD	70%	4,341,335	6,159,312
WORLD	68%	4,828,355	7,100,076



UNIVERSITY

ACTION:

- Dissemination of e-learning.
- Academic staff should be encouraged to write on popular science issues.
- Universities should publish more articles with scientific content in Turkish.
- Activities targeted to high schools should be organized by student clubs of the universities.
- All universities should be encouraged to organise summer science schools for high school students.



UNIVERSITY – INDUSTRY

TECHNOLOGY DEVELOPMENT ZONES AND INCUBATORS

Contribution of Technoparks to the science and society:

- Awareness building in science and research
- Sensitivity of policy makers and key constituencies towards science and technology issues
- Positive changes in the attitude of universities towards applied research and university-industry cooperation
- Incentives, enacted by the Law, motivate companies to cooperate with researchers
- Technological level of products and services have been improved together with the level of ICT involvement in production process.



UNIVERSITY – INDUSTRY

TECHNOLOGY DEVELOPMENT ZONES AND INCUBATORS

- The university-industry collaboration will flourish within technoparks which will attract the attention of the society to scientific and technological development.
- Attention of the youth should be attracted towards scientific research and entrepreneurship by providing new opportunities through incubators.



INDUSTRY

- Technology based business plan competitions for students– Bursa Chamber of Industry, Arçelik, TUBITAK, METU-Technopolis/Elginkan Foundation
- Awards given on the science projects by some industrial agencies: Koç, MAN, Kal-Der, Sabanci
- Research project markets in Technoparks
- Fellowships/scholarships for scientific human resource development by industry for national and international PhD studies.
- Joint continuing education programmes with universities
- Publications, museums, exhibitions, TV and Radio programmes related to science and technology



INDUSTRY

ACTIONS:

- Promote consciousness for environmental protection and universal design principles
- Create awareness on issues and gender of industrial ethics
- Organize conferences through Continuing Education Centers of universities

NGO

- There are thousands of NGO's operating in Turkey
- Some of them aim to promote science and education.
- Foundations take active roles as NGO's in the country for centuries.
- Sample activities of NGO's
 - Science competitions
 - Literacy campaigns
 - Publications
 - Community activities for integrating science and daily life
 - Scholarships for children and youth
 - Exhibitions, symposiums, conferences etc.
 - Science camps and summer schools



NGO

AN EXAMPLE:

TURKISH INTELLIGENCE FOUNDATION

International Industrial Product Design Competition

Industrial Product Design Competition Organised by Samanyolu Schools and supported by The Turkish Intelligence Foundation, the "Dream Line" titled 1st International Industrial Product Design Competition is directed at multiple intelligence-paradigm-students of primary and high schools. The aim of the competition is to emphasize the feelings, thoughts, comments, skills and designing abilities of students.

Turkish Mental Games Competition

Ministry of Culture, Ministry of Education, METU and TUBITAK have been organizing the Turkish Mental Games Competition annually since 1996 in order to help develop the public's cognitive skills and talent. More than 10,000 applications are normally made during the first stage of the competition through universities, schools, Youth and Sports Local Directorates and the Internet. There are no limitations concerning age or education level and participation in the competition is free. The Turkish Intelligence Foundation offers free accommodation to those competitors who make their way to the Final Game and earn the right to be present at the Awards Ceremony.



NGO

AN EXAMPLE:

TURKISH INTELLIGENCE FOUNDATION

National Intelligence Games Week

For three years the Turkish Intelligence Foundation, in cooperation with Antalya Koleji and Ministry of National Education, has been organizing the "National Intelligence Games Event". The aim of the competition, in which 10 intelligence questions prepared by the Turkish Intelligence Foundation were asked, was to; » Combine together students from different regions who actively participate in thinking, questioning, investigating and discussing and to intensify the friendship and sharing emotion that exists between them. » Introduce the history, cultural and natural beauty of Antalya to students within the framework of "youth week"



NGO

AN EXAMPLE:

TURKISH INTELLIGENCE FOUNDATION

Creative Thinking Project Competition and Science Camp

Maltepe Rotary Club, METU and the Turkish Intelligence Foundation have organized the Creative Thinking Project Competition and Science Camp to encourage creative thinking in young people. 47 teenagers that scored well in the nationwide competition were invited to the science camp in Ankara, during which they participated in practical lessons and social events.

The Presidential Chess Tournament

1999 Presidential Chess Tournament, a joint venture by the Turkish Intelligence Foundation and the Turkish Chess Federation, took place in Ankara between December 1-19, 1999. Players placed in the tournament were given their awards by Süleyman Demirel, then President of Turkey.

Chess Tournament for the Visually Impaired

The belief that the visually impaired benefit greatly from active participation in sporting activities led the Turkish Intelligence Foundation and TURKCELL to organize the 2nd Chess Tournament for the Visually Impaired in Ankara on January 12-13. The tournament was the first one in Turkey to be played in accordance with the World Chess Federation (FIDE) rules and 50 players took part in it.



NGO

SCIENCE CENTERS AND MUSEUMS IN TURKEY

- Turkey Science Center's Foundation
- Institute of Mineral Research and Exploration - MTA Natural History Museum
- Middle East Technical University - METU Science and Technology Museum, Science Park and Science Center
- Yıldız Technical University – Istanbul Science Center
- Municipality of Sisli Science Center
- Feza Gursey Science Center
- Rahmi M. Koc Museum of the history of transport, industry, and communications, in Istanbul
- Rahmi M. Koc Museum in Ankara
- Ankara Railway Museum
- GATA Museum of Medicine
- Museum of Education
- Museum of Communication at TRT
- Free Zone in Izmir
- Related sections of 94 archaeological museums in Turkey

...list can be extended to include other scientific institutions



NGO

SCIENCE CENTERS AND MUSEUMS IN TURKEY

- Being didactic and social in nature promotes dialogue between science and society and increase the familiarity
- Acting as a gathering place motivate the confidence of the citizens and remove science from its immanent isolation from society
- By introducing alternative educational methods motivating an increasing number of the young population to participate in the various opportunities of scientific world.
- By increasing the accessibility to the advanced information and communication technologies

NGO

SCIENCE CENTERS AND MUSEUMS IN TURKEY

- Gained public trust and social reliability which help their sustainability
- Attracted media interest which indicates social involvement, and provides transparency in research; to act as a neutral agent for communication.
- Included support services in their premises, such as science shops, libraries, archives, multimedia halls, etc.; which provide an opportunity for public communication and increase the quality of daily life.



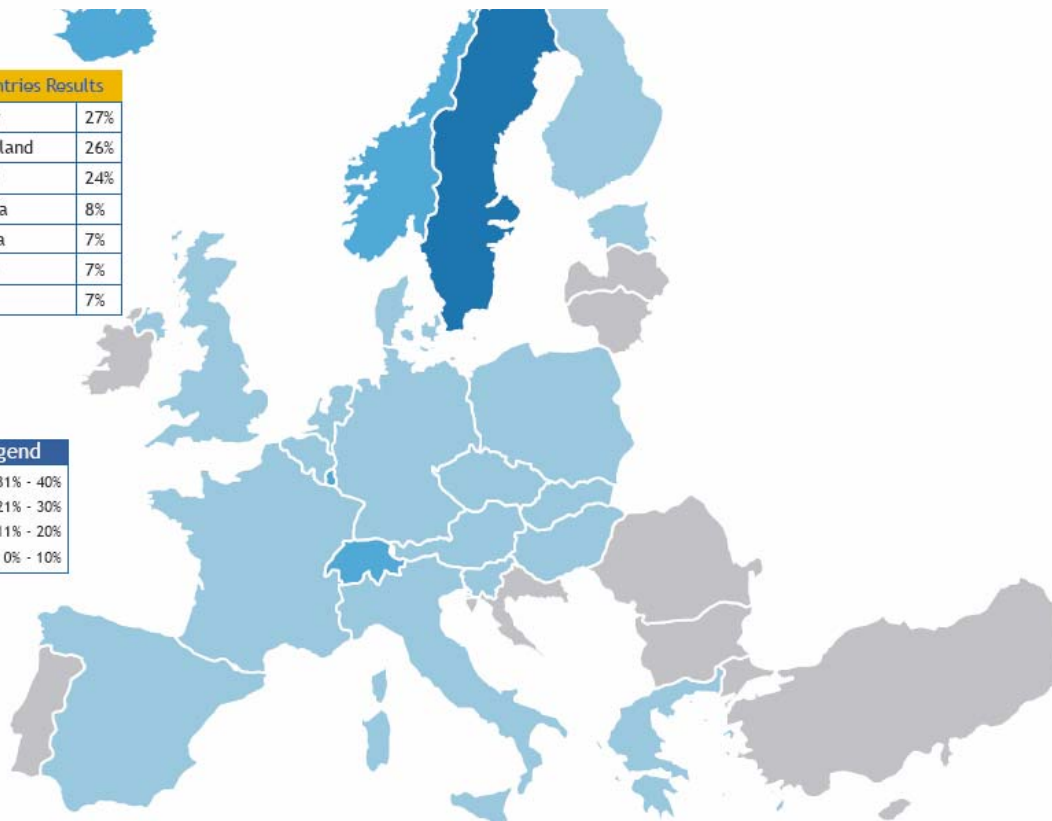
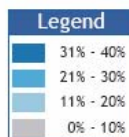
AGENDA ITEM 4: SPECIFIC RESEARCH ACTIONS – SCIENCE AND SOCIETY

Q4 Which of the following have you visited in the last twelve months?

Answers: Science museum or technology museum or science centre

	Sweden	36%
	Luxembourg	24%
	Germany	20%
	United Kingdom	19%
	Czech Republic	18%
	EU25	16%
	Belgium	16%
	Denmark	16%
	Spain	16%
	The Netherlands	16%
	Finland	16%
	Slovenia	16%
	France	15%
	Greece	12%
	Poland	12%
	Italy	11%
	Austria	11%
	Estonia	11%
	Hungary	11%
	Slovakia	11%
	Ireland	10%
	Lithuania	10%
	Malta	9%
	Cyprus	8%
	Latvia	8%
	Portugal	6%

Other Countries Results		
	Norway	27%
	Switzerland	26%
	Iceland	24%
	Romania	8%
	Bulgaria	7%
	Croatia	7%
	Turkey	7%



Source: Eurobarometer

NGO

ACTIONS

- Participation of more people in NGO's at all strata of the society.
- NGO's should be encouraged to participate more in the EU programmes.
- Networks of NGO's should be facilitated.
- Number and variety of science museums and centres established by NGO's should increase.

MEDIA

- **Science and Technology supplements or dedicated pages of Newspapers**
 - *Cumhuriyet*,
 - *Hurriyet*
 - *Milliyet*
 - *Radikal*
 - *Referans*
 - *BT Haber*
- **Magazines**
 - Popular Science
 - *Cozum* News
 - Machine Magazine
 - Infomag
 - *KOBI* Efor
 - Patent World

MEDIA

- **Bilisim Publications – Sectorial Magazines**
 - Automation
 - Elektro-technic
 - Chemical Technologies
 - Construction World
 - Mechanical Technologies
- **TV Stations**
 - TRT (State TV) – Science and Life Programme (weekly)
 - Technology TV – Dedicated channel for Science and Technology
 - Interpro TV
 - Expo Channel – Dedicated to technology
- **Radio**
 - TRT Ankara Radio (State TV) – Internet Traveler Programme

Radio and TV channels are required to allocate 5% of the broadcasting time between 9 A.M-9 P.M to educational programmes as of April 2003.

Science is presented too negatively in the media

distribution of substantial answer categories only, 'don't know' and 'no response' excluded

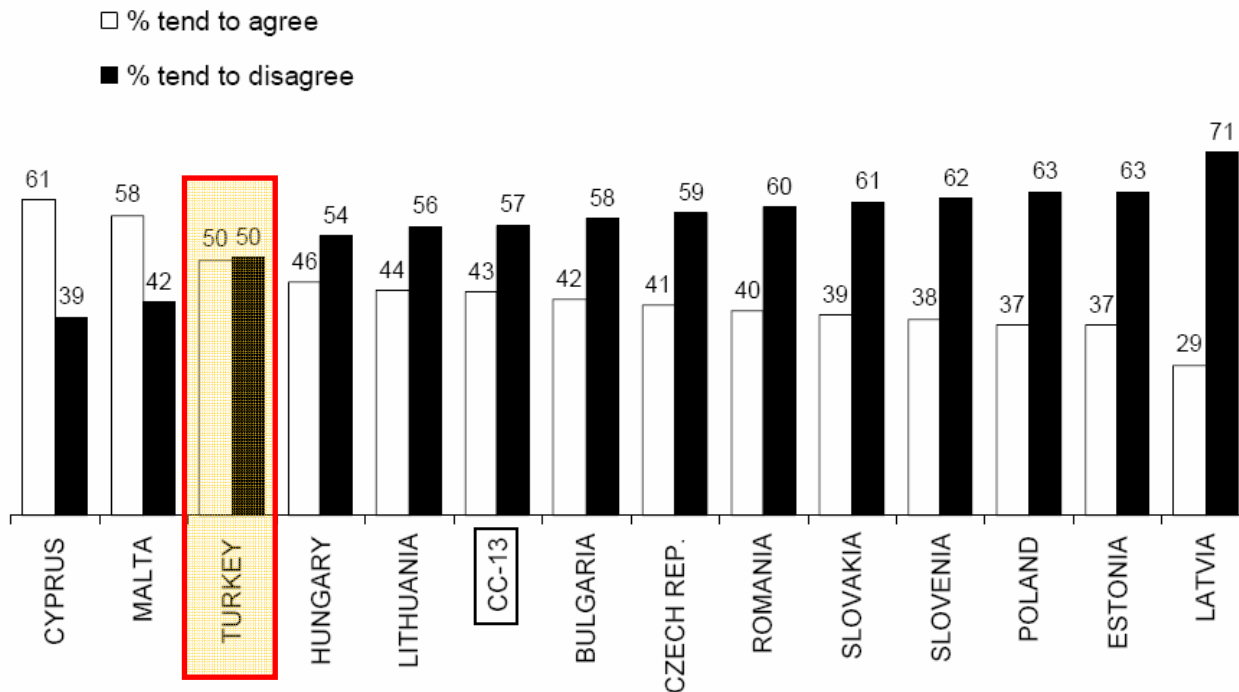


Fig. 1.3a

Source: Candidate Countries Eurobarometer 2002.3 RESEARCH
November 2002

Question: Could you please tell me if you tend to agree or tend to disagree with each of the following statements about the way the media report on science and technology? — Scientific and technological developments are often presented too negatively

Journalists have no sufficient background to report on science

distribution of substantial answer categories only, 'don't know' and 'no response' excluded

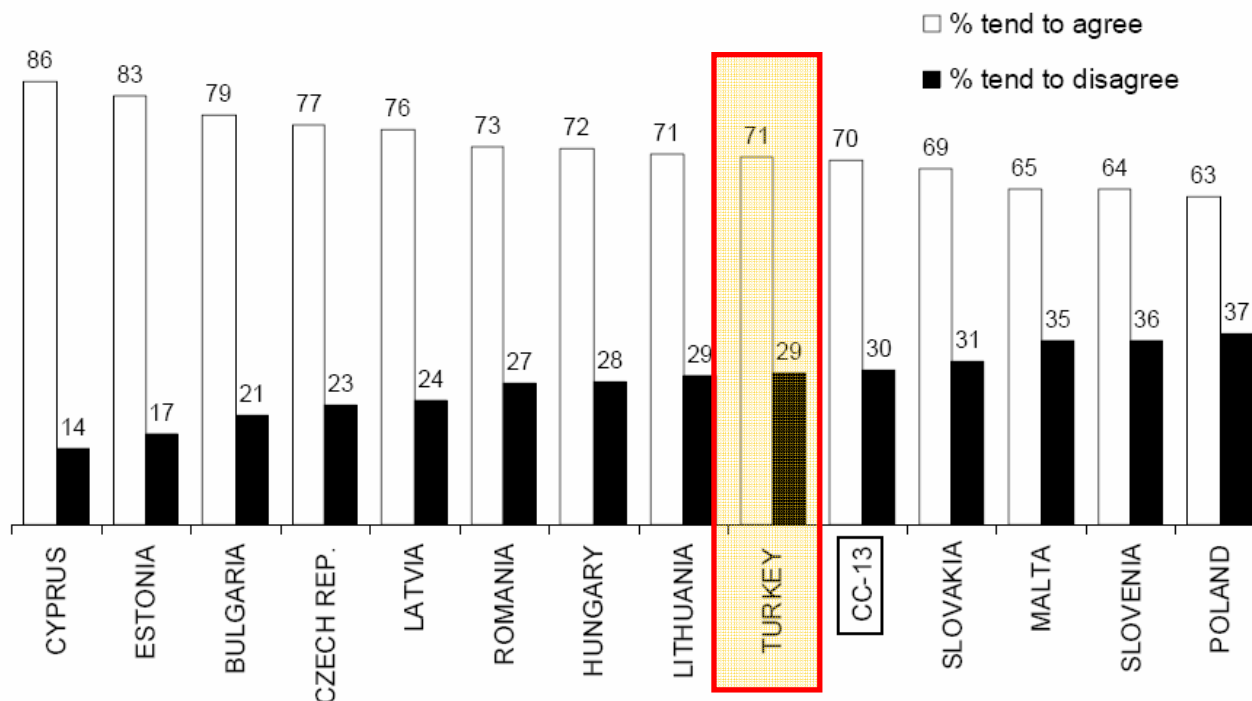


Fig. 1.3b

Source: Candidate Countries Eurobarometer 2002.3 RESEARCH
November 2002

Question: Could you please tell me if you tend to agree or tend to disagree with each of the following statements about the way the media report on science and technology? — Most journalists dealing with scientific topics do not have the appropriate background or training to do so

MEDIA

ACTION:

- University-owned Radio and TV stations should increase their science and technology programmes
- Newspapers and magazines should allocate more pages to science and technology.



ETHICAL ISSUES

Related Articles from the Medical Deontology Regulations of 1961

Article 10: Doctors and dentists engaging in a research cannot implement or suggest a diagnoses or a form of treatment that he or she explores, unless there is a conviction that it is beneficial and will not bring any harmful consequences.

However, they can recommend the exploration, on condition that, notifying the persons concerned about the measures taken during the implementation of an exploration that has not been experienced sufficiently and adding that it is still in the process of experimentation.

It is forbidden to use statements that arouse false impressions about the exploration.



ETHICAL ISSUES

Related Articles from the Medical Deontology Regulations of 1961

Article 11: Any surgical interference can be made on human body with the intention of experience and with the same intention any chemical, physical or biological treatment can be made.

If it is found out that classical methods are not advantageous to a patient, a treatment can be applied, which previously applied on animals and emerged as a useful treatment, on a patient. In order to apply this treatment, it should be understood that it is going to be useful for the patient, or in the situation that it is not efficient, it should be probable that, by ordinary treatment means, more inconvenient solution is not going to be face with.



ETHICAL ISSUES

Related articles from the Ethics of Medical Profession of the Turkish Medical Association

Part 6 on the Medical Research and Publication Ethics

Article 40: on the Research on Human Beings

Article 41 on the Informing the Subject and Getting the Approval

Article 42 on the Approval Procedure for Under Age and *Non Compos Mentis*

Article 43 on the Protection of the Subject

Article 44 on the Publication Ethics



ETHICAL ISSUES

The Regulations on Patients' Rights of 1998

The Articles relating with the Scientific Ethics

PART SIX: MEDICAL RESEARCHES

Article 32 on Consent in Medical Researches

Article 33 on Protecting and Informing Volunteer

Article 34 on Procedure for Having Consent

Article 35 on Situation of Infants and *non compos mentis*



ETHICAL ISSUES

Related Articles from the Regulations on Pharmaceuticals Research

Published in the Official Gazette no. 1480 and dated January 29, 1993.

Article 1:

The objective of this Regulations is to identify recently developed synthetic, herbal and biological materials used for protection, diagnosis, treatment or for a change in any function of the body and to identify the mixtures being made up of these materials; and stages and characteristics of the clinical research conducted on volunteer human beings; and to identify the essentials, principles which these clinical researches are subject to.

Article 8 on Clinical Researches

In medicine researches which will be practiced on human beings Helsinki Declaration and its annexes and Medical Deontology Regulations are complied.



ETHICAL ISSUES

Related Articles from “the Assistant Professorship Examination Regulations of the Interuniversity Council (UAK)” (Official Gazette numbered 24157 and dated September 1, 2000)

Article 12 on the Ethics Commission

The duties of the commission are examining the reported claims for violation of ethics by the Associate Professorship Examination Commission, and submitting their opinions and comments to the Interuniversity Board.



CONCLUDING REMARKS

- Public opinion in Turkey about science and technology issues is optimistic.
- Better infrastructure and new opportunities will motivate society towards science.
- Representation of women in science is relatively satisfactory.
- Ethical issues have always been concern of our society and awareness of scientists and community continuous to increase.
- Visa requirements for researchers travelling between Turkey and the EU should be simplified.

Level of optimism related to science and technology means, by country

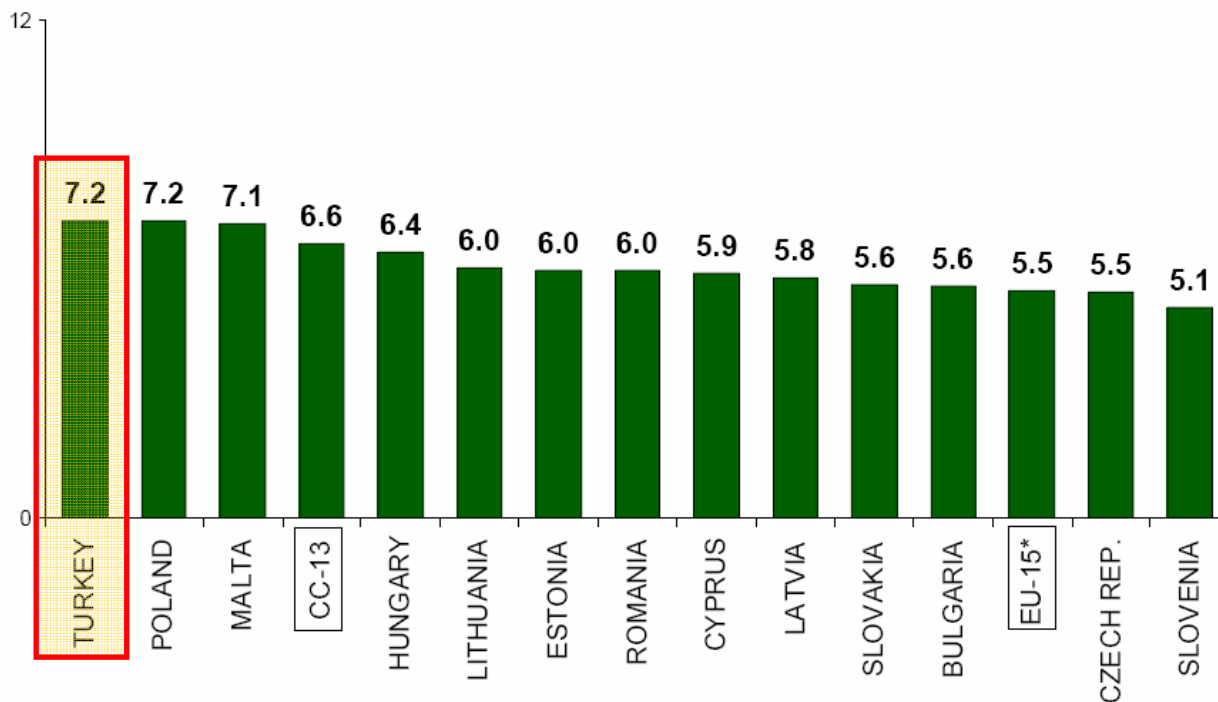


Fig. 2.1b

Source: Candidate Countries Eurobarometer 2002.3 RESEARCH
November 2002

*Source: Standard Eurobarometer 55.2,
May-June, 2001

Question: I will now read out some statements made about science, technology or the environment. For each statement, please tell me if you tend to agree or tend to disagree.
(Show card -- Read out)

Average number of optimistic statements (see Fig. 2.1a) chosen as agreed with; between 0 and 12

Prestige of the scientific profession

% highest regard, by country

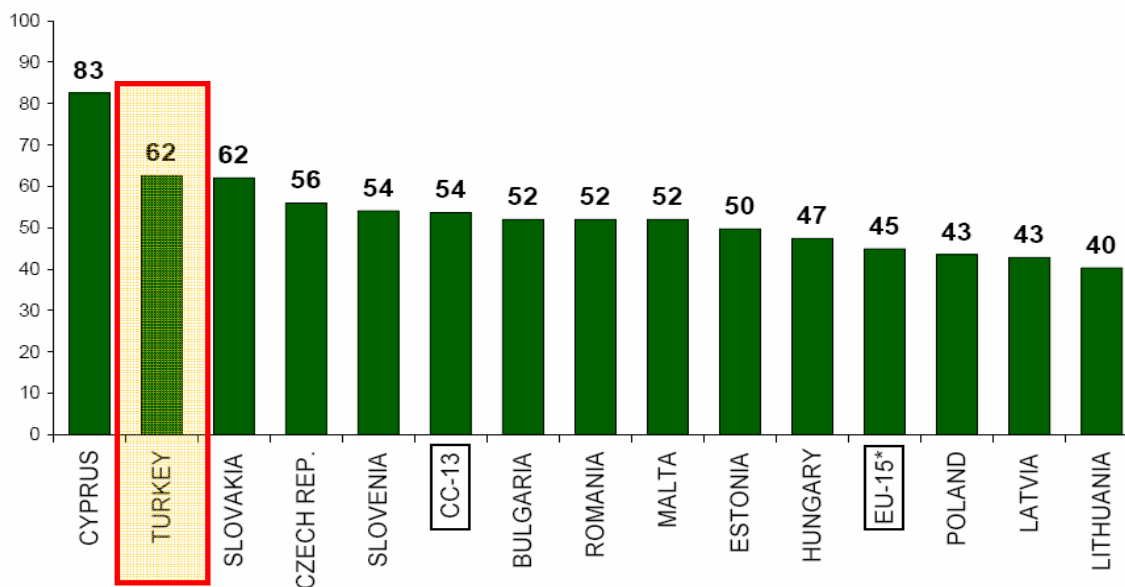


Fig. 6b

Source: Candidate Countries Eurobarometer 2002.3 RESEARCH
November 2002

*Source: Standard Eurobarometer 55.2,
May-June, 2001

Question: For which of the following professions do you have the highest regard?
(SHOW CARD – READ OUT – SEVERAL ANSWERS POSSIBLE) — Scientists

WORLDBANK DEVELOPMENT MARKETPLACE COMPETITION

- Number of submitted projects to competition is an indicator for the interest of our society towards science and innovation.
- “... Development Marketplace is a competitive grant programme of the World Bank that funds innovative, small-scale development projects ... DM competitions are designed to attract ideas from a range of innovators; civil society groups, social entrepreneurs, foundations, academia, and private sector corporations, as well as staff from the World Bank and other donor organizations...”

Number of Projects Submitted at Different Countries

Turkey	: 765
Thaliand	: 80
Guatemala	: 82