

المملكة المغربية
Royaume du Maroc



Ministère de l'Éducation Nationale de l'Enseignement
Supérieur, de la Formation des Cadres
et de la Recherche Scientifique

Moroccan politics R & D, Technology and Innovation

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Workshop on the Best Practice in S&T policies between, EU, GCC countries
and the countries south of the mediterranean, december 6,7 2010 Mascat



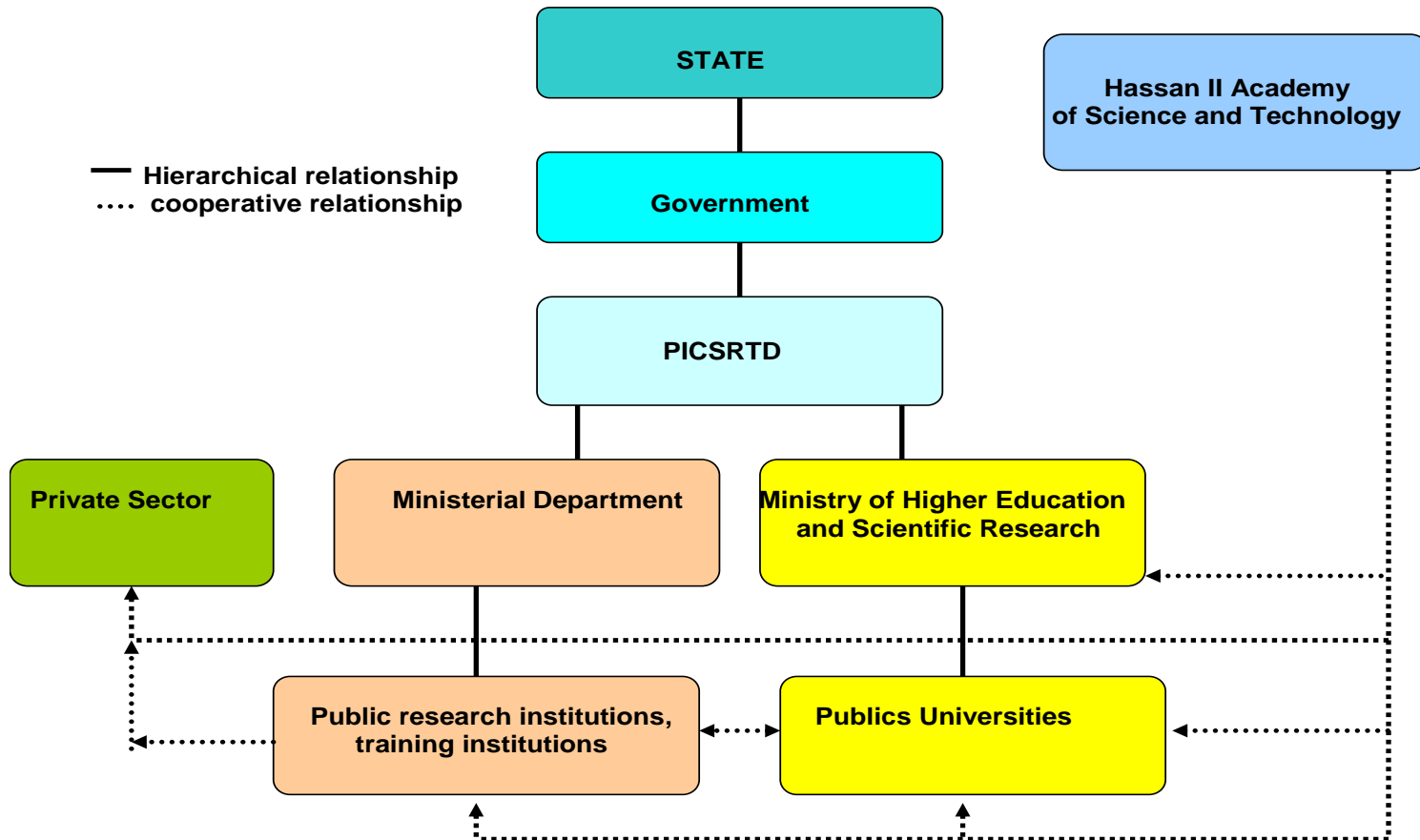
PLAN

- ❑ **Components and structures of national research;**
- ❑ **Government institutions;**
- ❑ **Scientific and technological infrastructure;**
- ❑ **Incentives for R & D in Morocco;**
- ❑ **Research expenditure;**
- ❑ **Human Resources;**
- ❑ **Indicators of S & T;**
- ❑ **National Research Strategy for 2025;**
- ❑ **Project 14 of the Emergency Program;**
- ❑ **Cooperation with EU (PIN Maroc).**



Components and structures of national research

Components and structures of national research



Governmental institutions

- **Permanent Interministerial Committee for Scientific Research and Technological Development :**
 - ★ ensure coordination, consistency and monitoring the scientific research activities and technological development undertaken by the various operators.
 - ★ This committee organizes annual meetings to discuss the achievements of each Department and set an action plan for next year.
- **Science and Technology Administration :**
 - ★ encourage and implement policy in science and technology ;
 - ★ implement measures and mechanisms for technology, innovation and funding research and development;
 - ★ encourage partnerships between universities-public research institutions and between universities-entreprises.



Governmental institutions

- **Hassan II Academy of Science and Technology :**
 - ★ contribute to the development of science policy, evaluate programs in science and technology and finance projects and research programs
- **National Centre for Scientific and Technical Research :**
 - ★ implement the policy in scientific research and technological development ;
 - ★ finance the research activities ;
 - ★ contribute to structuring the field of scientific research and technological development ;
- **Moroccan Industrial and Commercial Property Office :**
 - ★ protect patents ;
 - ★ support universities and research center .



Scientific and technological infrastructure

- **Moroccan Institute for Scientific and Technical Information**

- ★ Allows Moroccan scientists both public and private sector to have a fast and efficient access to scientific and technical information
- ★ Supports the dynamics of technological innovation in all economic sectors .

- **Competence clusters**

- ★ Thematic networks of researchers from universities, the research centers and the enterprises ;
- ★ Currently we have 18 clusters : Marine Sciences, ICT, Biotechnology, Materials, Chemistry, etc..



Scientific and technological infrastructure

○ **Technical Support Units for Scientific Research:**

Three Technical Support Units : chemistry, physical and sciences of health

- ★ Platform technology ;
- ★ Optimize the use of heavy equipment;
- ★ Ensure effective maintenance ;
- ★ Participate in programs of R & D and technology .

○ **16 universities (one private)**

- ★ **320** universities institutions; **64** Training institutions depend on other departments ; **12** public research institutions;
- ★ **178** higher education private institutions.



Scientific and technological infrastructure

o 4 industrial technical centers:

CERIMME: Studies Centre and Industries of Research
mechanical, metallurgical, electrical and electronic;

CTTH : Technical Centre of Textile and Clothing;

CETEMCO: Technology Center and Building Materials;

CETIA: Center of the Food Industry.

These centers provide a home support, collaboration, study and research through the establishment of collective means testing, documentation, training, information and improvement of competitiveness



Incentives for Research Development and Innovation

- **Marwan Network (MARoc Wide Area Network)** : computer network dedicated to the Education and Research connecting all institutions with a flow rate of 155 Mb / s.

This network is connected to GEANT European network ;

- **Public Interest Group** : universities association, research centers, enterprises and others to promote research, training and innovation;
- **Valorization and Innovation**: universities to create a private companies or take stakes in the development and exploitation of patents and technology transfer (Law 01-00 on the Organization of Higher Education).



Incentives for Research Development and Innovation

- o **Investment Promotion Fund:** This fund is partially funding the acquisition of land, infrastructure and external training for investment projects of technology transfer:



ST MICROELECTRONICS : 100 Millions DH,
250 jobs already created on the total of 500 jobs
planned;



MATRA AUTOMOBILE ENGINEERING: 34 MDH,
32 jobs already created on the total of 60 jobs planned



LEAD DESIGN : 17 Millions DH
14/100



TEUCHOS : 120 Millions DH
104/400.



POLYFIL : 100 Millions DH, 100 jobs planned.



Incentives for Research Development and Innovation

- **Strategy FINCOME: (International Forum of Moroccan Skills Abroad):** programmed for the mobilization of skilled Moroccans abroad for development of the country :
 - Two animation cells were created, the first was created at the CNRST and the second at the R & D Association Morocco;
 - Between 2006 and 2010, 140 expertises were conducted by the Moroccan talents abroad
 - Diversification of origin country of those talents : France, Canada, Germany, USA, Belgium, Austria, Great Britain and Sweden..
- **Hassan II Fund for Economic and Social Development:** funds the construction of buildings for the projects of R & D



Incentives for Research Development and Innovation

- **EUREKA Network** (Morocco Associated Country): European network of 36 countries, aiming at the promotion of innovative projects oriented on the market.
- **The Framework Programmes for Research and Development with the European Commission (EC),**
 - For the FP6:
 - ❖ 98 projects (involving 120 research teams);
 - ❖ The financial contribution for these projects is : 10 million of Euro.
 - For the first calls of the FP7:
 - ❖ Until jully 2010, 72 projets were funded (5,6 million of Euro)
 - ❖ Success rate is 16%



Incentives for Research Development and Innovation

- **Technology Dissemination Network:** provides technical assistance and financial help to emerging needs and technological innovation in the enterprise.
- **Industrial Engineering Network:** provides technical assistance and financial support through a network of researchers, academics and engineers to improve the production system within enterprises.
- **Morocco Incubation and Spin-network:** supports the creation of innovative enterprises for graduates of universities and institutions under other ministries.



Incentives for Research Development and Innovation

○ University-Enterprise Interface Structure

The main objectives are:

- to post a direct link between universities and enterprises
- to orient research activities towards the specific needs of business and society

Currently: 26 operational interfaces in the universities and the public research centers

These interfaces universities - enterprises are tasked to identify research needs in the enterprises and facilitate the establishment of relations between the university partners and the socio-economic development in the areas of research and development, expertise, consultation, training, quality procedures, etc..

2009-2010, 137 projects for R & D were realized between the universities and the enterprises

Key to success of these interfaces are :

- chart of these interfaces
- qualification of persons, budget for the operation



Incentives for Research Development and Innovation

- **GRAND PRIZE FOR INVENTION AND RESEARCH IN SCIENCE AND TECHNOLOGY**

The Prize is awarded to inventions or research in science and technology which are made by Moroccan citizens public or private companies in Morocco. The price is MAD 170,000.00 excluding the contribution of sponsors.

- **MEDAL OF SCIENCE AND TECHNOLOGY**

This medal is intended to reward a researcher or a team of Moroccan scientists, who contributed significantly and distinctively in their careers

The price as honorary gold medal and a prize of 250 000.00 dirhams



Research Funding

- Evolution of the share of GDP devoted to scientific research

Year	1998	2003	2005	2006
Research budget MDH	1098	3144	3200	3694
% GDP	0,30%	0,79%	0,80%	0,64%

- Breakdown of contribution for 2006

Public	Privat	Intarnational cooperation
76%	21%	3%



Research Funding

- **National Fund for Supporting Scientific Research and Technological Development**

This fund was established by the Finance Act No. 55-00 for the year 2001.

This law was amended in November 2004 and provides that 0.25% of turnover from operators of public telecommunications networks should be used in funding research projects in telecommunications

Currently, this fund is fed by 239 million DH

The Government also feeds this fund by 25 MDH to finance the sectoral research projects



Human Resources

- **419 089** students in higher education;
- **293 642** Students of Higher Education University;
- **30 541** students of private higher education;
- **19 000** Teacher researchers;
- **17 316** PhD students;
- **982** Research facilities accredited;
- **49** doctoral studies centers;
- More than **400** research teams;



Indicators of Science and Technology

- **0.64%** of GDP: expenditure on research:
- **9%** research students to total students in higher education post Baccalaureate;
- **1397** students per 100 000 inhabitants;
- Enrollment rate (19-23 years) is **12%** ;
- **1550** publications by the researchers in the indexed reviewed (Basic SCI) in 2009
- **1011** patents in 2009 (82% from the foreigners)



National Strategy for Scientific Research in 2025

- Inspired by the vision and overall strategy developed for Morocco (Emergence Plan initiated by the Ministry of Industry);**
- Based on the social and economic demands (National Initiative for Human Development, Emergence Plan, Azur Plan from the Ministry of Tourism...);**
- Takes into account the priority fields for Morocco which have been identified by Permanent Interministerial Committee of scientific research**



National Strategy for Scientific Research in 2025

The strategy is oriented towards four main axes

Improving the quality of education through research

Valuation of assets of Morocco through the strengthening of scientific research

National Strategy for Scientific Research in 2025

Development of niches of excellence Through research and positioning Morocco to the International level

Scientific support and technology for the socio economic sector



National Strategy for Scientific Research in 2025

Recommendation of the strategy are:

- Consider health, agriculture, water, energy, environment, business competitiveness and social sciences as national research priorities ;
- Develop research in the areas of advanced knowledge, nanotechnology, offshoring, biotechnology, automotive, electronics, electrical engineering, ICT, textile industry, using existing research structures (public and private) ;
- Boost the role of public and private research in regional development



Project 14 of the Emergency Programme 2009-2013

The emergency program was established in 2009 by the Ministry, the objective is to give new impetus to education reform in Morocco.

This program includes 23 projects with a single project (projet 14) for the development of scientific research.

This project provides greater resources to support scientific research in universities. More resources are allocated for the first time on a contractual basis between the Ministry and universities.

The contracts are based on regular monitoring by specific indicators to improve system performance of research in these universities.

Among the expected results:

Creation of networks and clusters around universities

Overall budget: 720 MDH over 4 years



Cooperation with EU

- **Association Agreement (1996 → 2000):** Article 47 on the S & T Cooperation
- **Signature of advanced status in October 2008:**
Morocco is the first country in the south Mediterranean region to benefit from an advanced status in its relation with the European Union.
- **Agreement on S & T cooperation (2003)**
- **Twinning Project** "Institutional Strengthening of administrative capacities of the Scientific and Technological Research“ (**Startup project in January 2011**)
- **Creation the PIN Morocco in July 2005,**
EuroMEDANet, Project(FP6/INCO) to create the Network of Information Point's in Morocco, Algeria, Tunisia, Egypt, Jordan, Lebanon, Syria...

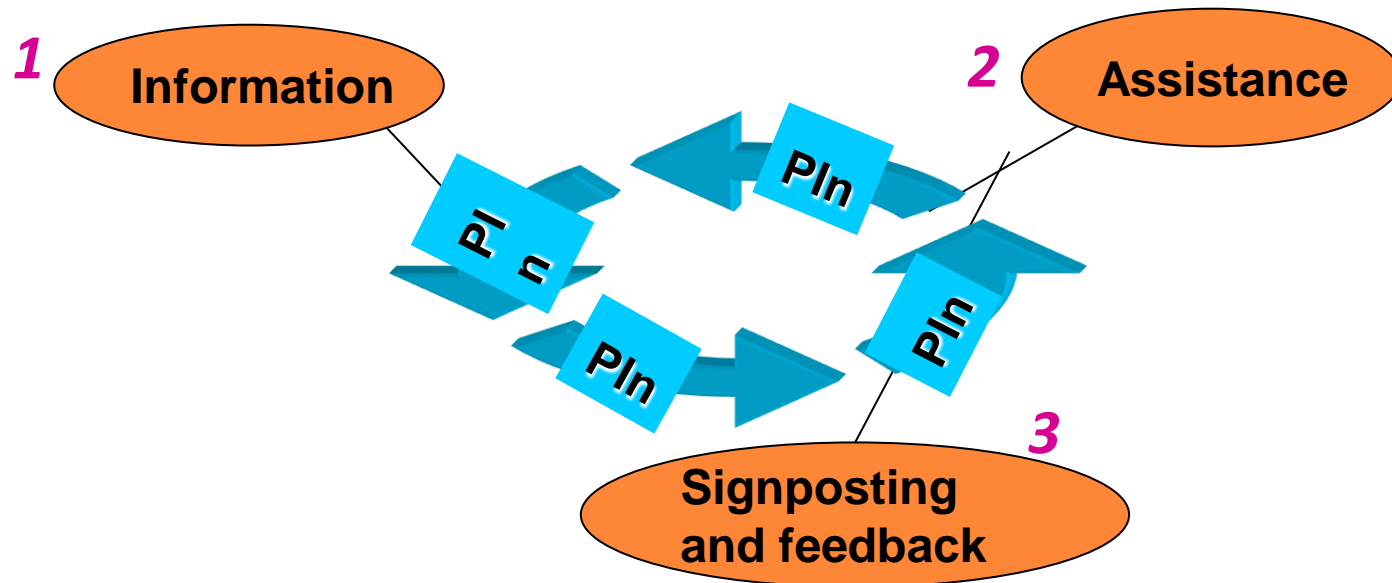


Cooperation with EU

Main objectives

- Enhance the participation of the national scientific community in EU RTD projects (access to the calls, research of partnership, etc).
- Help to the integration of Morocco in the ERA (discussion at) political level

3 MISSIONS....




Cooperation with EU

Project with the EU

MIRA project (*Mediterranean Innovation and Research Action*)

This is a discussion platform for Euro-Mediterranean, this project is funded under FP7 to improve the Euro-Med cooperation in S & T. (MENESFCRS is Co-Coordinator)

The present Coordination Action (CA) aims at developing the objectives of the INCO-Net Mediterranean Partner Countries (MPC) action by, among others:

1. Creating a dialogue platform using the state of the art of the ICT technologies
 2. Addressing training activities to improve the quality of the participation and management of the partners of FP7 from the MPC
 3. Creating discussion platforms and organizing meetings to monitor and discuss the content of the Thematic priorities of FP7
 4. Creating an Observatory of the EU-MPC S&T cooperation
 5. Creating networks of research institutions and technological transfer services from both sides of the Mediterranean
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Cooperation with EU

Project with the EU

M2ERA project (*Morocco to European Research Area*)

The M2ERA project aims to reinforce the S&T cooperation and partnership between Morocco and Europe in order to foster the integration of Morocco into the European Research Area.

The activities in this project will complement previous initiatives implemented at the regional level, such as ERA-MED (Strengthening the European Research Area in Mediterranean Countries) and MIRA (Mediterranean Innovation and Research Coordination Action). They will target specific needs of Morocco, such as supporting capacity building, promoting partnership and reinforcing policy dialogue.

The project includes a qualitative and quantitative assessment of the S&T Moroccan EU cooperation in order to identify motivations, obstacles, and impact of this cooperation. The support of political dialogue in this project will help to identify priorities of collaboration, enhance the quality, quantity and visibility of future actions and set Links between existing S&T programs.

This project aims also to create the thematic focal points:



Cooperation with EU

○ Creation in Morocco the Thematic NCP's

on April 2010 : Launch of a call for expressions of interest aiming to set up 8 thematic NCP's:

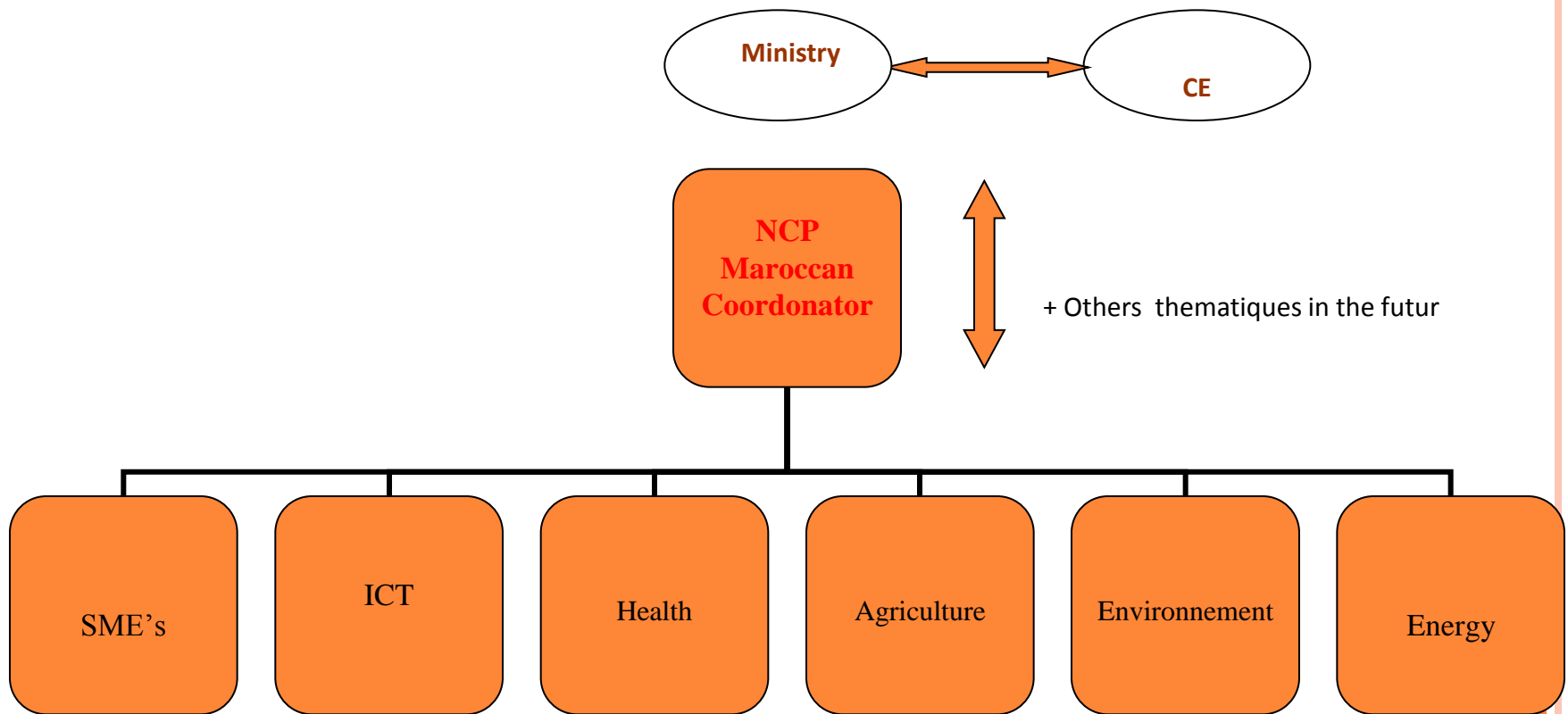
- Health
- Agriculture , alimentation and biotechnologies
- ICT
- Energy
- Environment
- SME's

- 17 applications has been evaluated
- 1st June: nomination of selected NCP's
- June 16-17-18: Organisation of the first training for newly appointed NCP's



Cooperation with EU

Organisation of Moroccan NCP



THANK YOU FOR YOUR ATTENTION

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