

# QUALITY OF HIGHER EDUCATION IN JORDAN

*A Review*

By

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# The Hashemite Kingdom of Jordan

## *in Brief*

**Area:** 92,300 sq km (80% Arid Land).

**Population:** 6,407,085 (2010 est.)

**Age Structure:** 0-14 years (35.3%), 15-64 years (59.9%),  
Over 65 years (4.8%)

**Population growth rate:**  $\approx 1\%$  (2011 est.)

**Literacy:** 96% male and 90% female

**Unemployment rate:** 12.9% (2008 est.)

**Higher education:**

30 Universities (10 public and 20 private) with >  
300,000 enrolled students (2009/2010)

# Education in Jordan

## Quick facts and figures

- **Overall literacy rate: 93%**
- **Annual expenditure on education: 20.4%** of the GDP  
**Scientific research ranking** according to Nature Journal:  
1<sup>st</sup> out of 57 member countries of the Organization of Islamic Conference (OIC) with about 3000 researchers per million population compared to 500 per million in the other OIC countries
- **UNESCO ranking for gender equality in education: 18<sup>th</sup>** worldwide
- **Global Competiveness Report (2004) ranking for the most number of scientists and engineers vs. population: 14<sup>th</sup>** out of 110 countries

# Higher Education in Jordan

## *Key Dates (Then and Now)*

- 1958 – A ‘Teachers’ House’ or ‘Dar Al-Mualimeen’ established to offer a 2-year training course for teachers
- Now: 54 Community Colleges
- 1962 – The University of Jordan established in Amman by a Royal Decree (first public university)
- Now: 10 Public Universities
- 1989 – Al-Ahliyya Amman University established (first private university)
- Now: 20 Private Universities

# Jordanian Higher Education Management System

- Post-Secondary Education supervised by:
  - The Ministry of Higher Education & Scientific Research which includes...
    - ❖ The Higher Education Council
    - ❖ The Scientific Research Support Fund
    - ❖ The Higher Education Accreditation Commission
- Other institutions supporting Jordan's Higher Education sector:
  - Jordan Society for Scientific Research
  - Higher Council for Science and Technology
  - Higher Education Development Fund
  - El-Hassan Science City
  - Higher Education Development Forum
  - Jordan Higher Education Development Project

# Evolution of the Ministry of Higher Education and Scientific Research (MoHESR)

The main decision making body for higher education in Jordan. It evolved as follows, in answer to the country's needs...

- **1980** - “Law of Higher Education” passed
- **1982** - The Higher Education Council established to supervise higher education institutions
- **1985** - The Ministry of Higher Education & Scientific Research established
- **1998** - The Council of Higher Education replaces the MoHESR
- **2001** - The MoHESR is re-established by His Majesty, King Abdullah II, and given a sweeping mandate

# Responsibilities of the MoHESR

- **Establishing rules and regulations** governing admissions, fee structures, scholarships, support funds, attestation of certificates, scientific research and funding, and all other matters related to HE
- **Establishing and monitoring standards** for curriculum, faculty, and research development.
- **Establishing long-term strategies** for program development, quality assurance and accreditation, international cooperation, and internationally funded projects,

# Role of the (MoHESR)

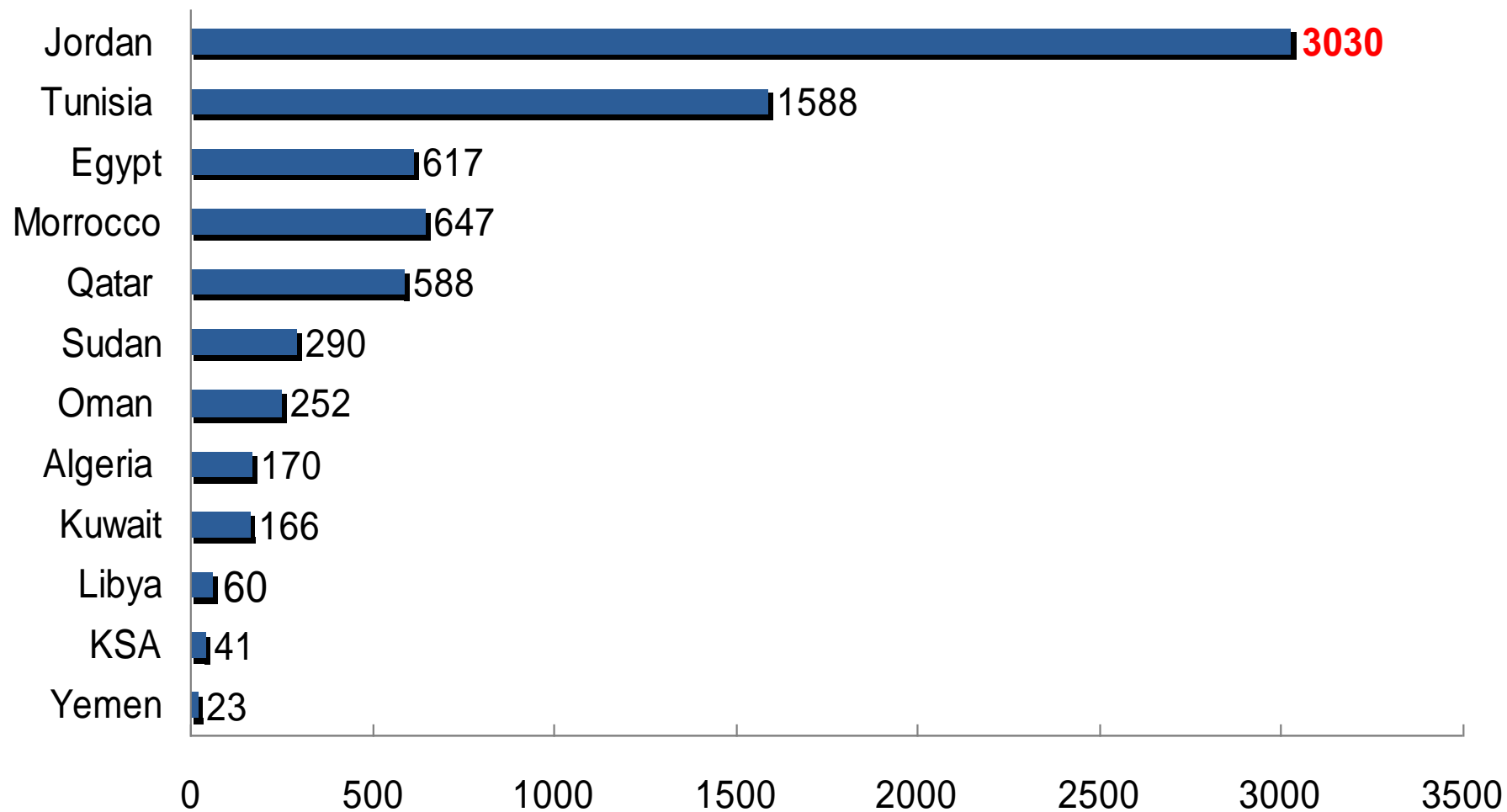
- Identifies and formulates national/regional research priorities
- Promotes scientific programs and creates an enabling environment for research in Jordanian universities
- Offers incentives for technology generation, access, and use
- Encourages cooperation, and exchange of scientific knowledge and research
- Encourages educational and scientific quality
- Facilitates funding for R&D from the region and abroad, and oversees its efficient use
- Facilitates the establishment of multidisciplinary networks
- Promotes creativity, integrity, team-work, critical-thinking and confidence



# Student Numbers

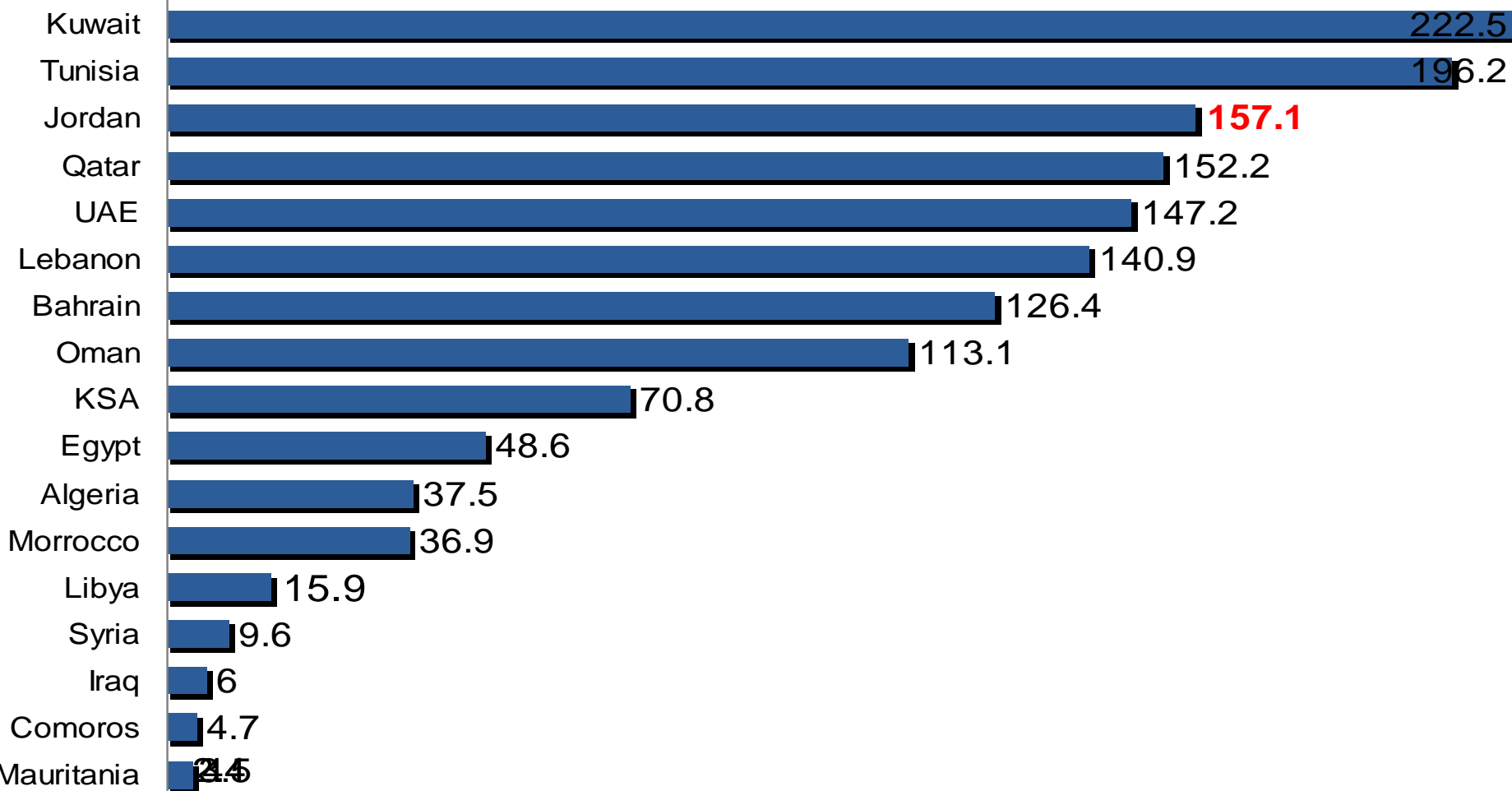
- Number of students passing High School each year with 65% and above (minimum required for public university acceptance): **42,000**
- Student admissions in universities (2009/2010) for Bachelor programs: **54,721** (out of which **28,457** were females)
- Student enrolment for graduate studies including High Diploma, Master's and Doctoral programs in 2009/2010: **19,695**
- Approximate number of students in all programs each year: **300,000**
- Approximate number of Jordanian students pursuing higher studies abroad: **20,000**

## Percentage (%) of researchers per million inhabitants (2007)



Source: UNESCO Institute for Statistics database, July 2010; for Mauritania, Oman, Qatar and Yemen: Saleh (2008) S&T indicators in the Arab States.

# Number of Publications per million inhabitants (2008)



Source: Thomson Reuters (Scientific) Inc. Web of Science. Science Citation Index Expanded, compiled for UNESCO by the Observatoire des Sciences et des techniques for population data; World Bank (2010) World Development Indicators.

# Jordanian Higher Education System – Key Challenges

- Inefficient admission criteria (currently based on high school percentage rather than interest, aptitude and ability). No entrance or qualification tests are necessary except in Fine Arts.
- Very limited financial support from government and/or other sources
- Demand greater than supply because of a growing young population
- Lack of coherent long-term strategy in universities
- Highly centralized control by the MoHESR resulting in very little autonomy to universities, thus stifling initiative and innovation
- Slow implementation of strategic plans when established
- Slow implementation of quality assurance criteria
- Low priority given to research vs. teaching

# Key Challenges in Research

- Academic staff given **heavy teaching loads** which leave little time for research.
- Very **limited financial support** from government and/or other sources for research
- **No coherent research strategy** whether at institutional, local, or national level
- **No adherence to priority research areas** that cater to national needs
- **Lack of incentives or rewards** to scientists or researchers because of limited resources
- **Lack of interest or awareness** among the general public about the importance of research
- **Brain drain** (According to a World Bank report, 50% of graduating doctors, 23% engineers, 15% scientists leave the Arab world annually and 54% of Arab students graduating abroad do not return to their home countries)

# Efforts of the MoHESR to address these challenges through the

## Establishment of the Scientific Research Fund in 2005

- Support scientific research being conducted by Jordanian scientists
- Steer scientific research towards achieving national goals
- Provide financial support for research
- Award outstanding Jordanian researchers, educators and scientists
- Support publication of scientific journals
- Support attendance of conferences and scientific meetings
- Connect businesses with universities
- Promote scientific cooperation at national, and international levels.

# Quality Assurance

The Quality Assurance and Accreditation system in Jordan evolved as a result of a rapid expansion in the higher education sector:

- **1990** – The accreditation system was introduced by the **CHE**, recognizing the need for regulatory steps for academic and administrative supervision of higher education
- **1999**– **The Accreditation Council** was established to
  - Formulate criteria for public and private universities
  - Establish quality assurance measures
  - Establish monitoring system to ensure compliance to criteria
- **2007** – **Higher Education Accreditation Commission** established
- **2011** – Ad Hoc Committee was established for establishing the **Ranking System for Jordan**.

# The Higher Education Accreditation Commission (HEAC)

- The HEAC was **established in June 2007** to replace the AC (Accreditation Council), and granted administrative and financial autonomy
- Its **mandate includes overseeing the development and maintenance of quality in higher education institutions** in Jordan.
- **Runs the National Center for Testing**, which establishes and conducts tests in all specializations



# HEAC Vision and Aims

- **Vision:**

*To raise the standard of specializations and faculty members in Jordanian higher education institutions to internationally recognized standards*

- **Aims:**

- Establishing benchmarks for quality assurance and accreditation in the country
- Monitoring and ensuring adherence to quality assurance and accreditation procedures in universities
- Encouraging Jordanian higher education institutions to cooperate with international research centers and accreditation and quality control commissions

# HEAC's Three-Pronged Focus

## 1. Accreditation:

- Universities
- Community Colleges
- Joint Programs

## 2. Quality Assurance:

- Institutions
- Programs

## 3. National Testing Center:

- Assessments and testing services
- Consultative services

# Quality Assurance Standards

## Higher Education Accreditation Commission (HEAC)

(Vision, Mission, Objectives, and Planning)	
(Educational Programs and their Effectiveness)	
(Students and Student Support Services)	
(Faculty Members)	
(Scholarships, Research, & Creativity)	
(Library and Information Resources)	
(Governance and Administration)	
( Financial Resources)	
Physical Resources)	
(Institutional Integrity)	
(Community Engagement)	
(Quality Assurance Management)	

# National University Ranking System (Under-discussion)

- Gained popularity worldwide because they appear to fulfill demands by students, parents, policymakers, employers, and other stakeholders for information and transparency.
- Often equated with quality, and are now a significant factor shaping institutional reputation.
- About 11 global rankings, experiencing varying degrees of popularity, reliability and trustworthiness, and national rankings in over 40 countries.
- Really, how much do we really know and understand about the influence and impact of rankings?



# Evaluation Criteria

- Academic or research performance.
- Faculty awards, articles published in top journals.
- Student and employers surveys.
- Research performance per capita.
- 'Peer review' system
- Physical, resource and governance infrastructure
- International dimensions.
- Web presence in terms of links and data size!

# National University Ranking System (Under-discussion)

- **Evaluation criteria:**
  - **International standards are applied where ever possible such as**
    - Quality of specializations and programs
    - Academic and research performance of faculty members
    - Student/Faculty ratio
    - Publications in international peer-reviewed journals
    - Fee structures
  - **Local considerations are also taken into account, especially because**
    - Jordan is a small country with limited resources
    - Educational institutions are highly strained because of a huge demand for affordable, quality education in comparison with other countries in the region
    - The growing mix between private and public universities.
- **Issues:**
  - The success of the ranking system cannot be easily measured, let alone cost and mind-set!
  - With so many public and private universities, community colleges, specializations, and programs, it could become necessary for several evaluation models to be experimented with before the right one is found



# **Jordan University Ranking System as Proposed by HEAC 6 Aspects**

- 1) Faculty**
- 2) Research Output**
- 3) Students**
- 4) Facilities**
- 5) Finance**
- 6) University Programs**



# Jordan University Ranking System as Proposed by HEAC

## 6 Aspects

1) Faculty

**2) Research Output**

3) Students

4) Facilities

5) Finance

6) University Programs





# Research Output

Wts.

1	No of indexed research periodicals issued by the University	2
2	Annual average of research papers published in indexed periodicals and journals per each specialty , department and faculty ( college) during the last 3 years.	3
3	No. of thesis ( Ph.D. and MA ) discussed at the university	1
4	The impact factor of the Journals who published the scientific works of the faculty	1
5	No. of the research papers presented in international conferences and published	1
6	No. of the research papers presented in local regional or Arab conferences and published.	1
7	No of books published by local, Arab and international publishers.	2
8	No. of Seminars Conferences ,or workshops held by the university ( locally, regionally , internationally and on the Arab level )	3
9	Value of the support obtained by the university from research entities as grants.	1
10	No. of the main research contributions made by the university towards knowledge development.	1



### Aspect 2 continued

11	No. of articles published by the teaching staff which are referred to and cited.	1
12	No. of patents	1
13	No. of research projects performed by the university in partnership with external research entities.	1
14	The existence of a clear research direction / policy at the university	1
	Total	20

# Urgent Issues that need addressing

- **Reform** of administration and governance in educational institutions
- **Maintaining quality** in the face of reduced government subsidies, severe shortage of funds, and limited resources
- **Attracting private sector investment** and funding without compromising education quality
- **Modernising** the curricula
- **Implementing quality assurance** and accreditation standards on a national scale
- **Establishing specific research goals and improving research quality** to achieve long-term growth in technology, science, business and education
- **Developing programs for community colleges** compatible with national and regional needs

# Partners in Higher Education Reform

- MoHE - Higher Education Council
- Higher Council for Science and Technology
- El-Hassan Science City (Royal Scientific Society, PSUT)
- National Center for Human Resource Development
- National Information Technology Center
- King Abdullah II Center of Excellence

# Partners in Higher Education Reform

- Local:
  - Higher Education Council
  - Higher Council for Science and Technology
  - **El-Hassan Science City**
  - National Center for Human Resource Development
  - National Information Technology Center
  - King Abdullah II Center of Excellence
- European:
  - Tempus
  - Erasmus Mundus
  - CORDIS: FP7
- Other:
  - World Bank (ErfKE project)

# El-Hassan Science City

*Example of Partnership between education, R&D and Commercialization*



PSUT



RSS



HCST



IPCO



EHBP-iPARK



QRCE

## Vision

*El Hassan Science City seeks to catalyse social and economic progress for meaningful improvement in the quality of people's lives through scientific education, research, development and enterprise.*

# El-Hassan Science City

## Strategic Objectives

- Continuity: build a sustainability model that provides a continuous flow of financial/human resources to support dynamic R&D, education
- **Innovation**: create a platform for innovation from research to application in three focus areas:
  - **Information & Communication Technologies**
  - **Clean Technologies (Energy, Water, Environment)**
  - **Human Safety and Security**
- Change: develop a knowledge-based economy, through innovative solutions to challenges facing Jordan and the region through scientific innovation and application

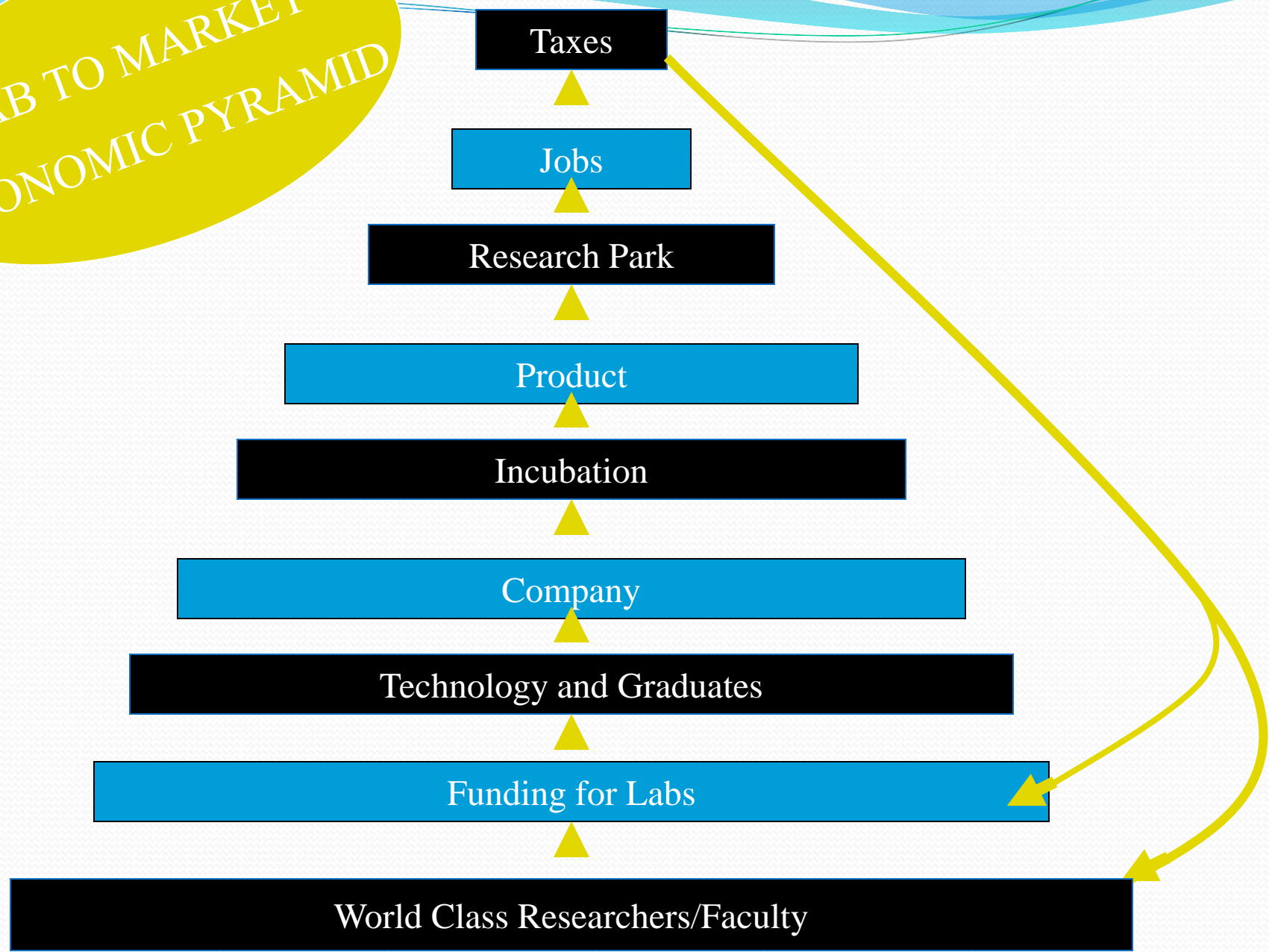


## Big picture goals

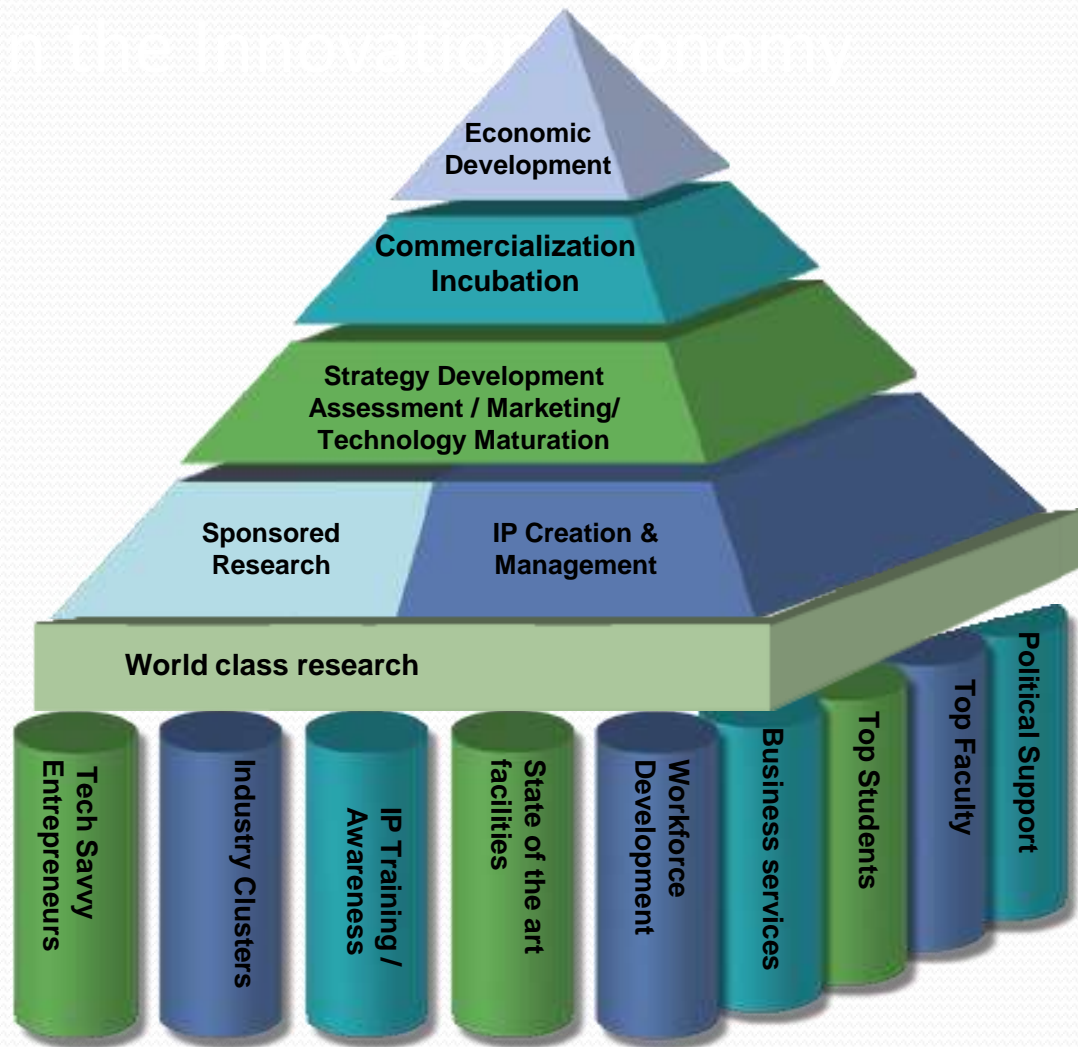
- **Strengthen basic and applied research**
- **Expand high tech industry**
- **Engage the community**
- **Facilitate tech transfer**
- **Collaboration in Jordan and abroad**
- **Economic development in the society –  
*knowledge based society***



**LAB TO MARKET  
ECONOMIC PYRAMID**



1. Build Strong Foundation
2. Strong Partnerships with Industry and economic development agencies
3. Attract and retain the best people
4. Provide them the best facilities
5. Give them the opportunity to compete at the highest level
6. Provide a clear strategic vision - the ultimate goal is economic development



**Must reach a critical mass**

# Lab to Market Strategy

- Start with Smart people
  - Faculty, staff, students, entrepreneurs
- Provide them with the tools they need
  - Labs, training, admin support, time
- Let them compete at the highest level
  - Global economy
- Be proactive in commercialization
  - Fill the gaps in your ecosystem
  - Support entrepreneurs (incubators, etc)
  - Proactive tech transfer staff



JORDAN'S TECHNOLOGY INCUBATOR



# *In 7 Years*

# 38

*Companies  
Incubated*

# 1400

*Direct Jobs  
Created*

**Knowledge-Based**

**ICT, Clean Tech**

**Export Oriented**

**High Value-Added Jobs**



## What next?

- The need to reform university law!
- True ranking system - International recognition of high-quality Jordanian education
- Progress through collective effort
- Identify and focus basic and applied research priorities
- Revamp the faculty assessment and promotion guidelines



**THANK YOU**

*“Education is also an enabler of responsible citizenship and that encourages great thinking and innovation”.*

**King Abdullah II of Jordan**

# Aspect 1 Academic Staff (faculty)

		wts.
1	Academic staff and their ranks	3
2	Student / teacher ratio	3
3	Prizes , performances and Creativities Academic staff	3
4	Financial support received by the faculty for scholarships	3
5	No. of specialized training courses attended by the member of staff during the last 6 months	1
6	No. of sabbaticals provided to the teaching staff during last year	1
7	No. of staff obtaining Postdoctoral	1
8	No. of academic staff who were invited to conduct workshops or participate in joint research projects with researchers from abroad	1
9	Countries where the academic staff qualifications were obtained from	1
10	Academic staff salary average	1
11	Academic staff Qualification	1
12	Part time academic staff	1
	Total	20



## Aspect 3 (Students)

W ts.

1	Ratio of the actual graduates in undergraduate programs to the No. of expected graduates for the same programs and period. ??	1
2	the ratio of actual graduates from a university in graduate programs to the No. of expected graduates for the same programs and period. ??	1
3	The criteria implemented in selecting students for admission (undergraduate and postgraduate if applicable).	0.5
4	Marks of students in standard tests for admission, or for cognitive efficiency .	1
5	Average marks of acceptance for admission.	0.5
6	Average marks required for graduation.	1
7	No. of students who graduated from the University and completed graduate studies and received a Master's or Doctorate Degree.	1
8	Tuition fees	1
9	No. of students who completed their higher education studies .	1
10	Views of the students, graduates and employers about the academic preparation provided by the university.	1





## Aspect 3 continued

11	Curriculum and teaching methods and their role in the professional, personal, and social development of students as provided by the university.	1
12	No. of graduates who obtained local, Arab, regional or international prizes.	1
13	Ratio of employed graduates to the total number of graduates, annually	1
14	Percentage of graduates who have assumed senior positions.	1
15	Number of fights and unlawful practices that have occurred in the university and referred to the commissions of inquiry for investigations .	1
16	Proportion of international students at the university.	0.5
17	Ratio of the number of students who dropped out or left their programs at the university in the last three years.	0.5
18	Proportion of the students who graduated after a number of years less than the number of years required for graduation	1



### Aspect 3 continued

19	Proportion of the students who graduated after a number of years exceeding the number of years required for graduation	0.5
20	Proportion of the students graduated with GPAs of excellent and very good.	1
21	No. of students who obtained local, Arab, regional or international prizes.	1
22	The existence of clear procedures and policies on financial support for students.	1
	Total	20



## Aspect 4 (Facilities Available)

		weightings
1	Facilities provided by the Library ( library resources )	0.5
2	Average space provided to each student	1
3	No. of PCs provided to the students	1
4	No. of PCs. Provided to the teaching staff	1
5	Laboratory and workshops facilities and their efficiency	1
6	availability of play grounds and sport activities	0.5
7	size of the library and spaces available	0.5
8	The Campus and the facilities available.	1
9	proportion of hard copy and soft copy books to the number of students	2
10	Proportion of expenditure on CIT to the university budget	1
11	Non- curriculum activities provided by university to the students .	0.5



#### Aspect 4 continued

12	Frequency of using the university site during the last two years .	.1	2
13	No. of users of the library hard and soft resources during the last two years .	.1	2
14	No. of laboratories available and used for teaching	.1	1
15	championships and tournaments won by the university.	.1	1
	Total		16



## Aspect 5 (Finance)

		weights
1	Percentage of the amounts allocated in the budget for research activities	2
2	Income realized by the university	2
3	Average expenditure on teaching and learning resources and facilities	2
4	amounts allocated in the budget for student activities	1
5	Value of the deficit in the university budget during the financial year preceding the year on which the ranking process took place	2
6	value of the university's loans as on the previous year budget.	1
	<b>Total</b>	<b>10</b>



## Aspect 6 (University Programs)

1	No. of programs provided by the university on the year on which the ranking took place .	1
2	Average number of students in each class room	2
3	(Peer Assessment) Surveys related to Peer review / assessment carried out by President, Dean and the Vice President to programs of a similar university	2
4	No. of community service activities provided by the academic programs at the university	2
5	No. of programs for which ILOs are specified.	3
6	Average number of meetings held by the academic departments during the year preceding the year on which the ranking took place.	0.5
7	Frequency of amending teaching plans of the programs provided by the university.	0.5
8	The existence of objectives related programs, teaching methodology, learning strategies, and students' evaluation	3
	<b>Total</b>	<b>14</b>

# Princess Sumaya University for Technology



Academic arm of the El Hassan Science City

It is a private and non-for-profit university.

PSUT was founded in 1991.

No. of students (2010): ~1900.

No. of graduates up to 2010: 2600.

No. of faculty members: 79.

## VISION

PSUT strives to become a nucleus for a modern Jordanian and Arab Knowledge Industry that enables the process of socio-economic and cultural development.



## Objectives

- Redesign the role of EHSC players in order to achieve the new common vision.
- **Create conducive R&D environment that applies modern management techniques, better international practices and quality.**
- Acquire, develop and sustain a highly qualified pool of human resources.
- **Implement a process that will enable the commercialization of products and services.**
- Focus a postgraduate school that will feed in research and development endeavors
- **Establish a business park within the science city to complete the cycle of innovation**



# Higher Education Strategy 2007-2012

Brainstorming between several entities related to higher education in 2007, came up with the following **five-year, seven-point focus** for reform:

- **Governance and university administration**
- **Admission principles**
- **Accreditation and quality assurance**
- **Scientific research, development, and graduate studies**
- **Technical and technological education**
- **University finance**
- **University environment**