

A decorative graphic on the left side of the page consists of a vertical blue bar with a fine grid pattern. To its right, there are several blue circles of varying sizes, some overlapping, and a few thin vertical lines. The largest circle is positioned in the middle of the page.

**ENGINEERING SCHOOLS CONTRIBUTING  
TO REGIONAL DEVELOPMENT**

***A GLOBAL PERSPECTIVE***

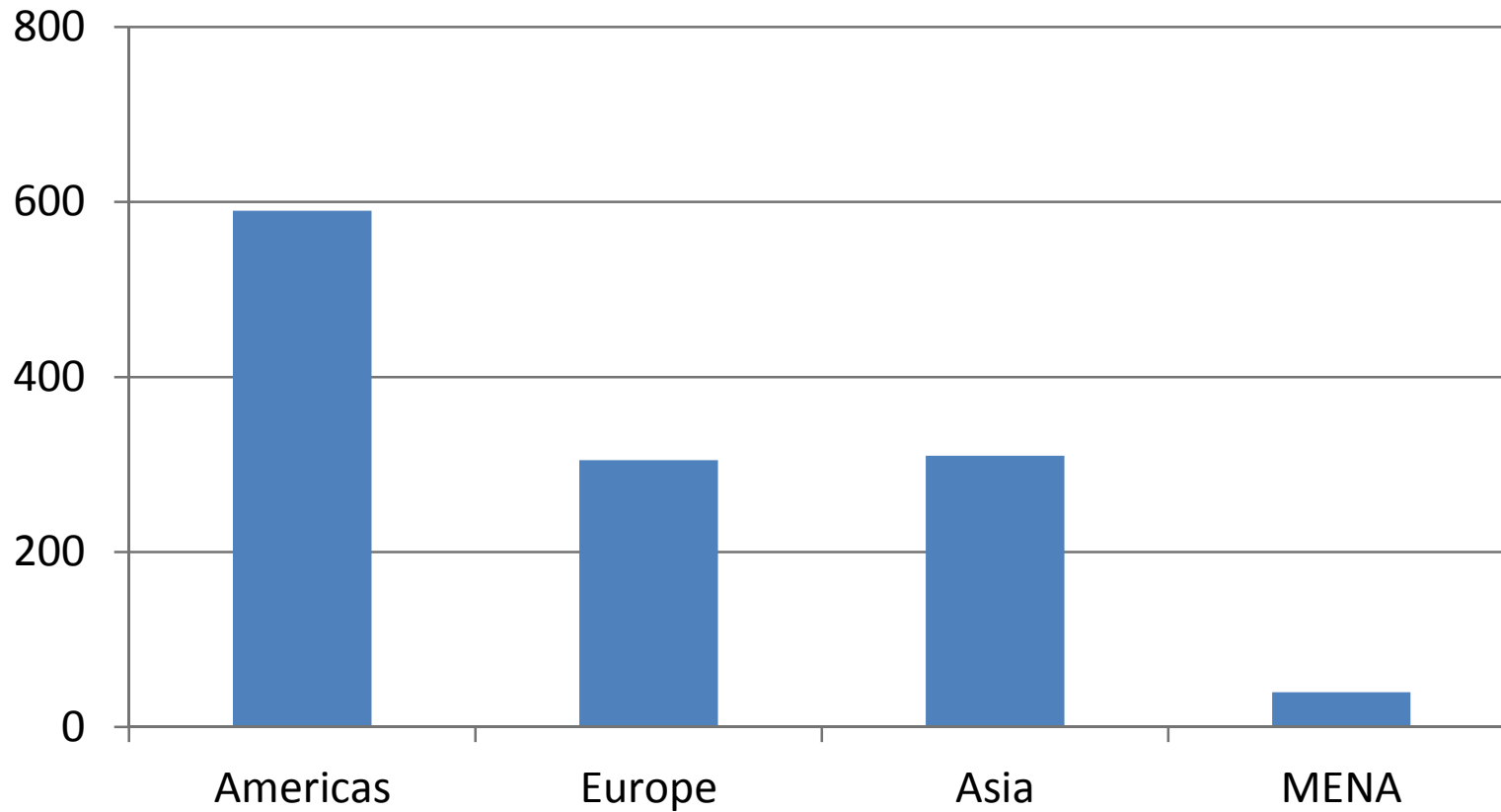
**2011 ASEE Engineering Deans Institute**

# MIDDLE EAST & NORTH AFRICA (MENA)



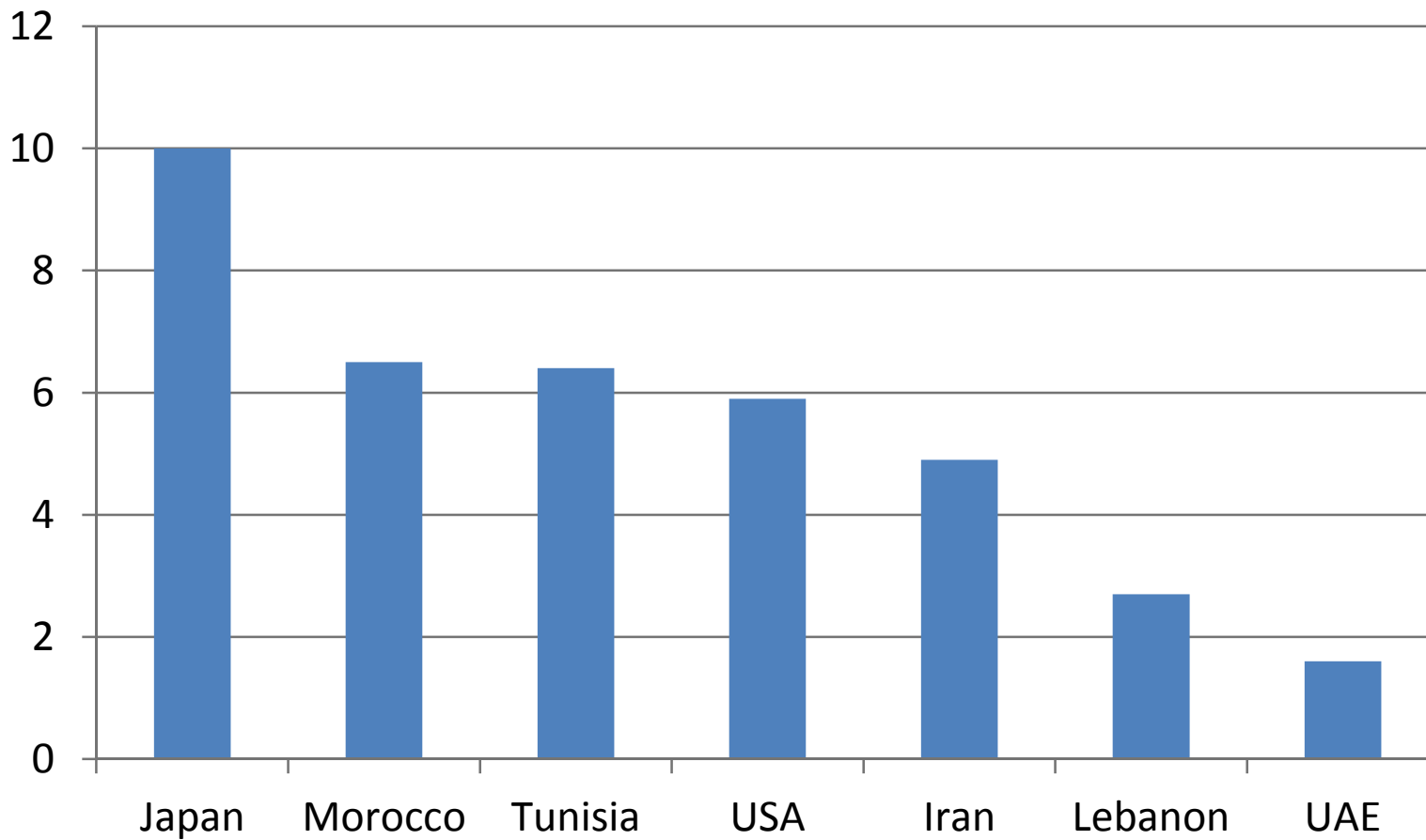
# MENA EDUCATION AND SCIENTIFIC RESEARCH

**Education spending in billions of dollars**  
*Annual average 1995-2010*



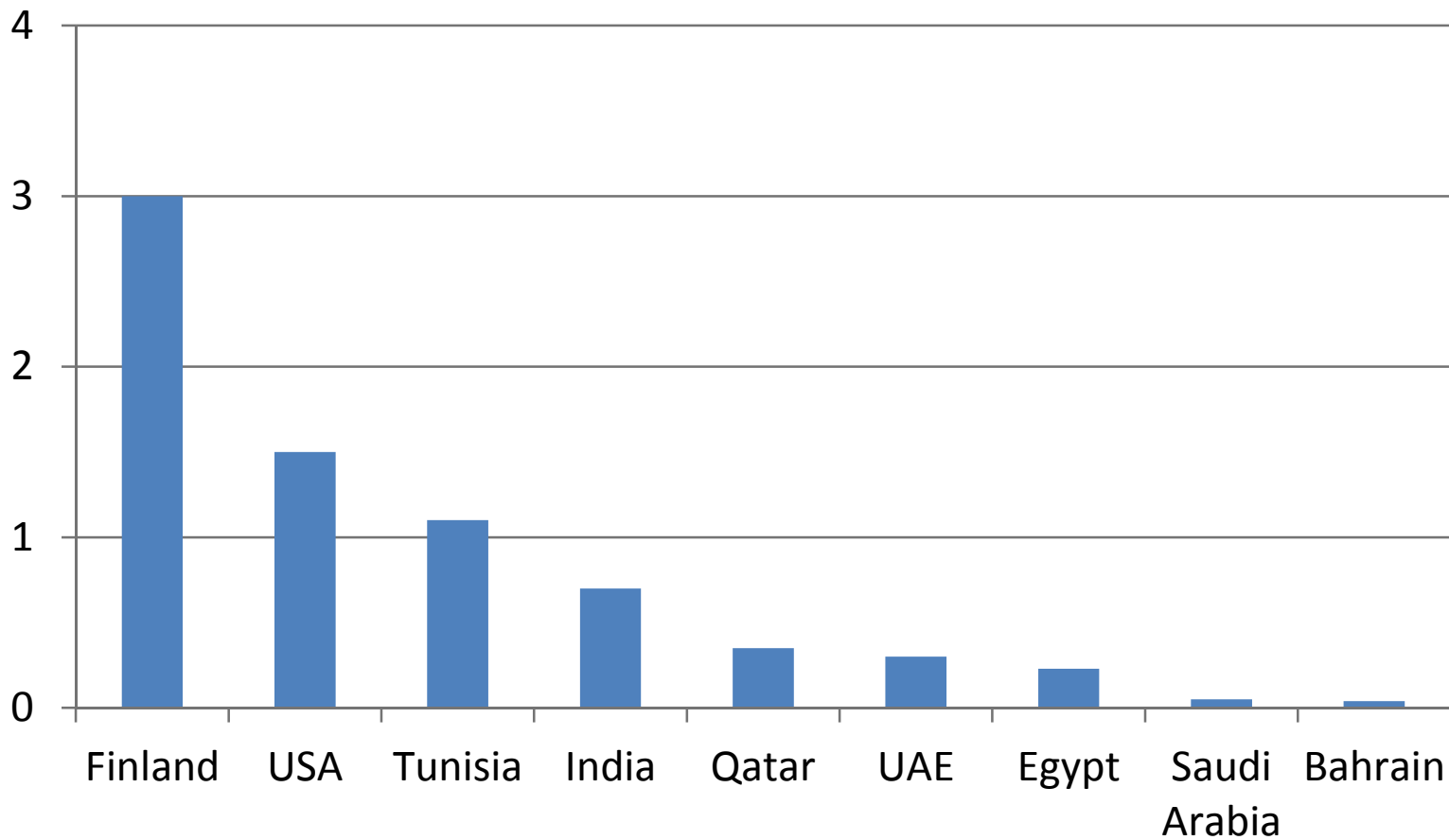
# MENA EDUCATION AND SCIENTIFIC RESEARCH

## Education spending as percentage of GDP



# MENA EDUCATION AND SCIENTIFIC RESEARCH

## Higher Education & Scientific Research as % of GDP

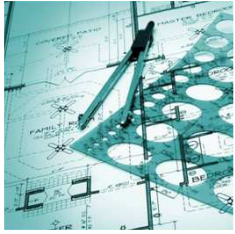


# MENA EDUCATION AND SCIENTIFIC RESEARCH

- UNESCO 2010 Science Report on scientific research in MENA:
  - “Basic education fails to tackle national and regional issues such as food, water and energy shortages, public health services, or infrastructure improvement”
  - Qatar and Saudi Arabia committed to increasing scientific research expenditures over the next 5 to 10 years
  - Number of researchers is less than 400 per million capita in MENA, compared to a global average of 1000+
  - Most MENA researchers live outside their home countries, thereby not contributing to national GDP

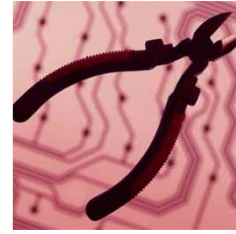


# POSITIONING OF ENGINEERING SCHOOLS: EDUCATION & RESEARCH



## Strengths and Opportunities

- Public perception
- Intake quality
- Government support
- Industry and consulting
- Political progress

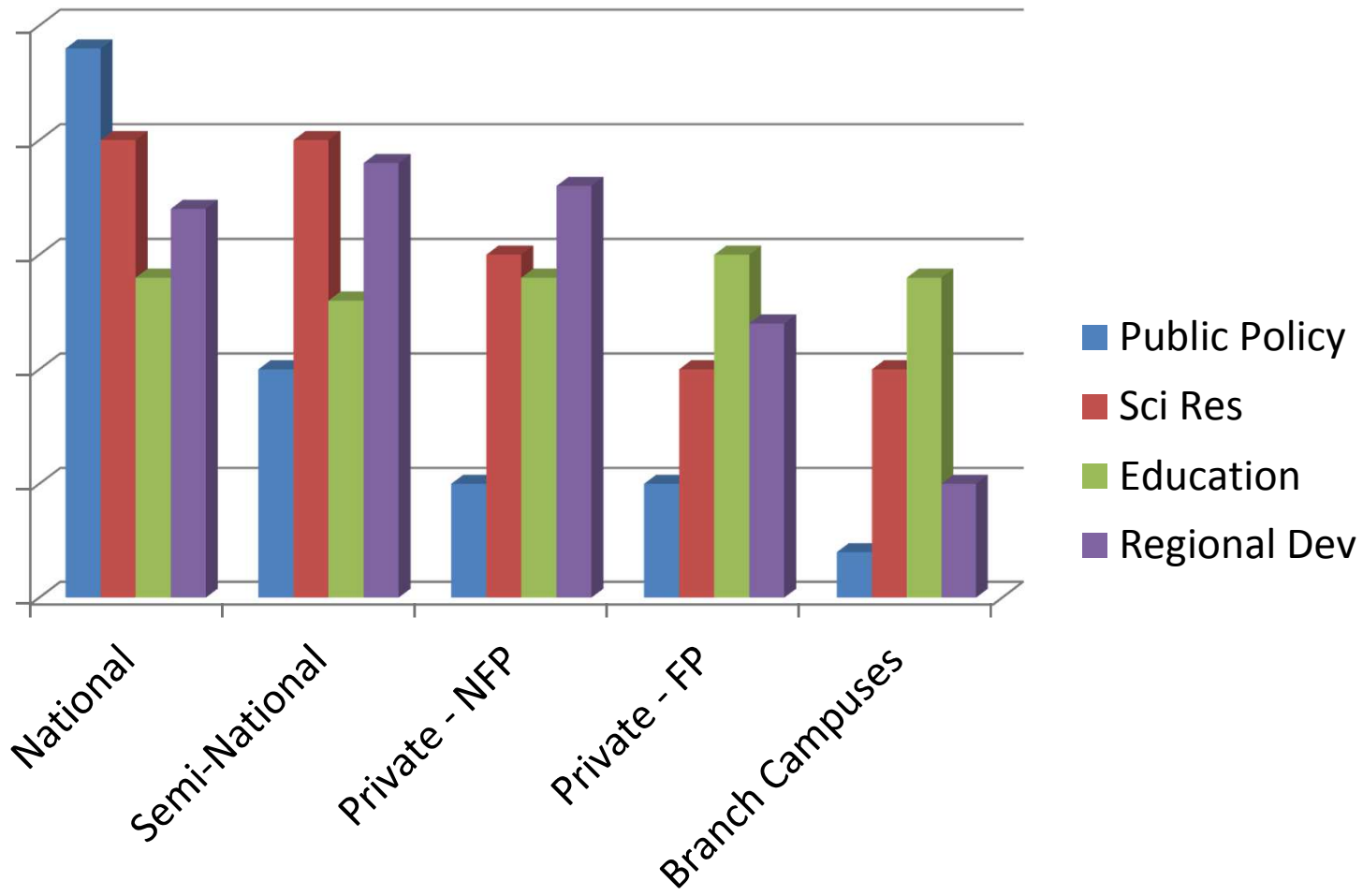


## Weaknesses and Challenges

- National priorities
- Cultural appreciation
- Public perception reversal
- Resources



# MENA UNIVERSITIES – A CASTE SYSTEM





# PROBLEMS FACING MENA COUNTRIES

## “Oil” Economies



## “Non-Oil” Economies



# FOCUS: NATIONAL UNIVERSITIES

- UAE University
- Zayed University
- Higher College of Technology
- Kuwait University
- Cairo University
- Lebanese University



# FOCUS: SEMI-NATIONAL UNIVERSITIES

- KFUPM
- Petroleum Institute
- KAUST
- MIST
- KUSTAR
- AUS
- Nile University



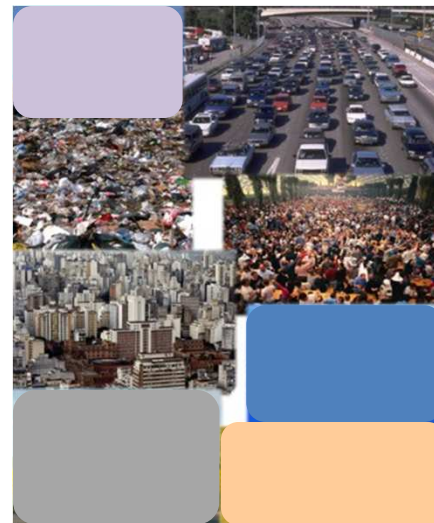
# FOCUS: PRIVATE NFP UNIVERSITIES

- American University in Cairo (AUC)
- American University of Beirut (AUB)
- German University in Cairo (GUC)



# FOCUS: PRIVATE FP UNIVERSITIES

- AUD *Georgia Tech*
- BUE *Loughborough*
- MUST *UAB*
- MSA
- Modern Academy
- BUiD *Bath*



# FOCUS: BRANCH CAMPUSES

- Texas A&M – Qatar
- *UOWD*
- BITS-Pilani
- Azad University
- *GMU*
- *MSU*
- RIT
- NYUAD
- Waterloo



# AMERICAN UNIVERSITY IN DUBAI

- Student and faculty demographics
- Infrastructure Sustainability and Assessment Center
- Center for Applied Simulation and Testing
- Regional Development activities in:
  - Public policy
  - Transportation
  - Remote Sensing
  - Green Building
  - Infrastructure Management
  - Hardware Design
  - Industrial and System Automation

# SUMMARY

- National investment in higher education and research is well below global average
- Synergies between engineering schools and government exist at a much higher level than in the US
- Role of Engineering Schools in regional development varies significantly by institutional type and role
- Efficiency of partnerships between US universities and local universities varies by model and incentive

