

# Research Strategy for Iraqi Universities

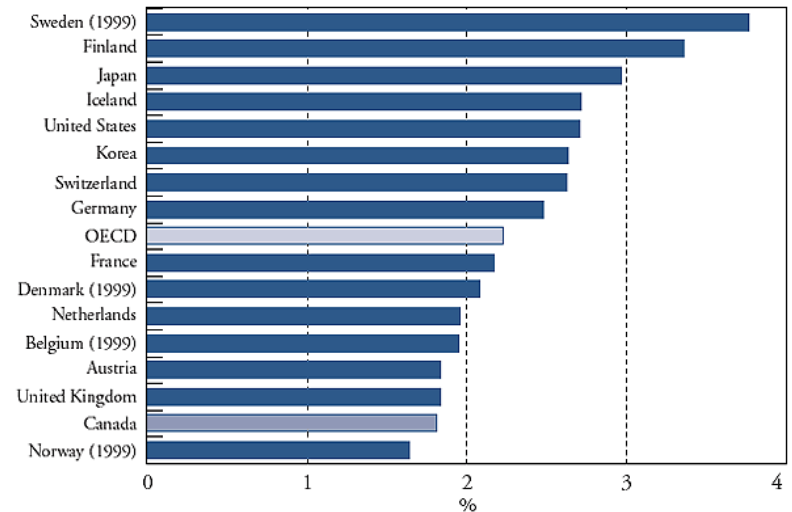
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# Knowledge deficit

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- The entire Arab scientific output is 40% of the Israeli scientific output
- In 2002 Israel published 400 research papers in international scientific journals compared to 21 for the entire Arab States
- South Korea registered in the US over 44 times the number of patents from all Arab countries combined
- Arabic countries constitute 5% of the world population, they produce only 0.8% of the literary & artistic literature

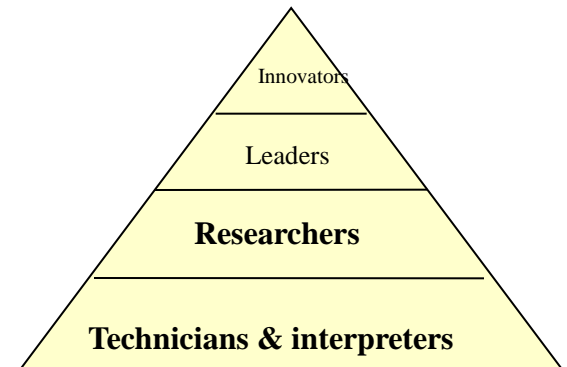


**Ratio of gross expenditure in research and development to gross domestic product in selected countries of the organisation for economic co-operation and development, 2000**

# Failure of Science & Technology System

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- Political reasons
  - Disregard for the knowledge economy
  - Political instability
  - Ignoring scientific trends
- Economic reasons
  - Poor science & technology budget
- Human reasons
  - Poor human scientific resources
  - Inability of Iraqi scientists to keep up with international development in their fields
  - Lack of international links
- Management and organisational reasons
  - Bureaucratic government structure



# Science Strategic Objectives: Uplifting Iraq's international standing

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- Rehabilitation of science to enhance its impact on Iraqi society and on thinking of the decision makers
- Reforming the higher education system: to achieve quality in higher education and scientific research (A Roadmap to Quality, MoHE&SR-KRG)
- The development of scientific research and putting it in the service of society - take knowledge about what influences growth and apply it to the priorities of Iraqi economy
- Building a scientific base of knowledge transfer and indigenization
- The development of scientific culture
- The development of human resources
- Reaching the level of the relatively advanced developing countries like Korea and Malaysia within 10 years

# Research, the way forward

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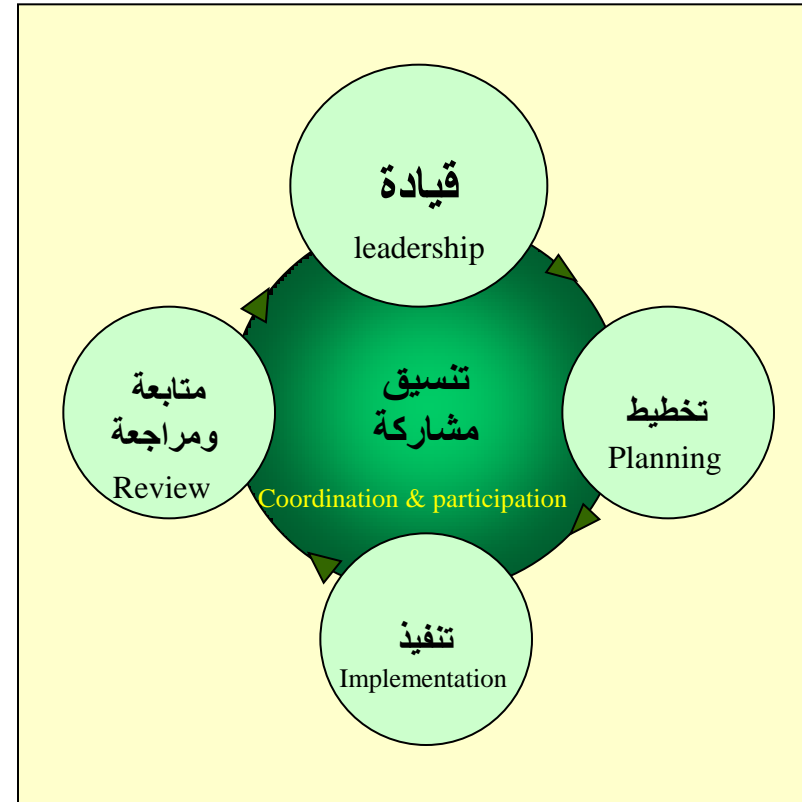
- Malaysian universities are improving their international rankings through international collaboration on research
- UK funding system: “They reward excellence by more funding and if you are not excellent, you don’t get the money”
- Rigour vs. relevance
  - QA programme of MoHE&SR: “Priorities are given to scientific research of financial and economic return to the local community and its institutions”



# Proposed Research Strategy

Toward restructuring and the improvement of research, innovation and development system

- Aims to create the physical and cultural environment that will enable Iraqi scientific institutions and universities to build on their current strengths and establish an international profile based on World class research.
- Realising this objective in an environment characterised by insufficient resources requires the urgent implementation of a sustained programme of radical action.



## **Aim 1: Establish a stable and sustainable financial base**

استحداث منظومة مالية متوازنة ومستقرة لتمويل البحث العلمي

- \$40M allocated this year by Parliament to research. Where is it?
- Government should allocate a separate budget for research, innovation and development.
- An independent research funding agency.
- Competitive funding.
- Establish Research Committees at all levels to review and monitor the action plans.
- Each academic department will develop an action plan for developing a balanced and sustainable portfolio of activities to support their fundamental research.
- New mechanisms for providing incentives for individuals, department and research centre to increase quality of research should be introduced.

## **Aim 2: Ensure that there is effective leadership and management in place at all levels of the Ministry**

تدريب وتأهيل قيادات فاعلة لتسيير وإدارة المؤسسات الوزارية والجامعية

- The Ministry of HE&SR should embed a programme of leadership and management training for the universities' senior academic, research and professional managers.
- Training programmes for research managers cover skills training, performance targets and individual performance management.
- The speed and effectiveness of decision-making should be improved to ensure that the authority and responsibility for decision-making is clarified.
- The Ministry must apply rigorous staff review procedures to promote individual performance.
- Establish research chairs.



### **Aim 3: Create a positive research environment to maximise the potential of staff**

خلق اجواء علمية ايجابية لتنمية القابليات الابتكارية للاكاديميين

- To include an advantageous entitlement to research, relative freedom from unnecessary bureaucracy and administration and good scientific and administrative support.
- Academic staff are expected to deliver teaching and undertake research. World-class research (including applied research) and/or high quality development programme is a pre-condition for the entitlement of Professorship.
- Access to essential published material not held locally and not available electronically should be facilitated by a travel fund.
- Universities should ensure that travel funds are available for staff to attend international conferences.

## **Aim 4: Focus investment in the strongest research and into a relatively small number of key themes**

تركيز مصادر البحث العلمي والامكانيات من بنيات تحتية و تجهيزات و موارد بشرية في عدد اقل من المؤسسات العلمية

- ***Picking research that delivers:*** In setting budgets, priority should be given to building up and maintaining capacity in areas of research that have or will have international impact or significant national economic impact.
- ***Going Global:*** Securing progress in international research and supporting a robust and flourishing environment for world class research.
- The Research Commission/ international advisors should develop schedules of key research themes, which will become priorities in terms of resource.

## **Aim 5: Work collaboratively both internally and internationally**

### **تشجيع البحث العلمي المشترك الداخلي والتعاون العالمي**

- Collaboration between scientists (two or more scientists are better than one) and among Colleges, Departments and Centres are to be encouraged.
- PhD research is to be supervised jointly by internal & external (international universities) supervisors.
- International collaboration is essential for all research grant applications to succeed.
- Funds to be available for recognised Iraqi scientists abroad to supervise research programme inside the country.
- Establish the position of adjunct professor.
- Create/ activate the post of Post-Doctoral Research Fellow.

## **Aim 6: Measure performance and benchmark against international standards on an ongoing basis**

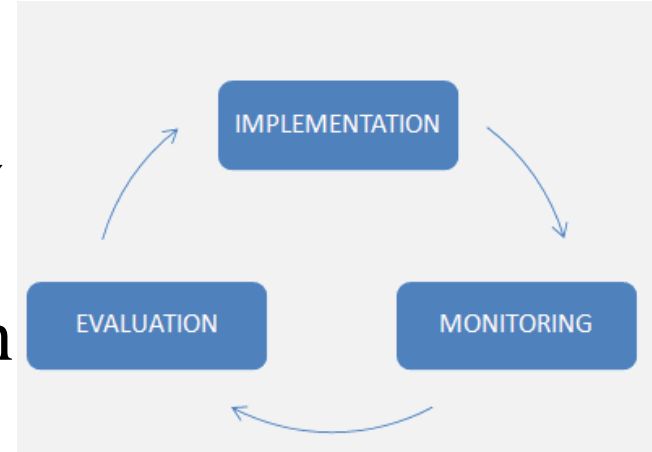
وضع منظومة تقييم بالاستناد الى المعايير العالمية

- The Ministry should monitor research performance on an ongoing basis using discipline-specific indicators such as:
  - International indicators of esteem
  - Collaboration with institutions considered as internationally excellent
  - Interdisciplinarity
  - Knowledge transfer
  - Publication profile
  - Impact factor
- Establish a system to prevent plagiarism & copyright violations
- Prevent publications in on-line fake pay-to-publish journals

## Aim 7: Regularly review the effectiveness of the Research Strategy

مراجعة وتقييم استراتيجيات البحث العلمي بصورة دورية

- A Research and Innovation Committee should act as the Review of this strategy. On behalf of the Committee, the Director of Research should monitor progress in implementing the strategy and achieving the overall objectives, on a six-monthly basis.
- Setting up international panels of experts on the research objectives, policies & priorities at each university.



# Requirements for achieving the strategic goal of high quality research & training

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- Sustained and growing funding
- Effective leadership and efficient management
- Appropriate scientific environment
- Concentration of talents
- Internal and external collaboration and cooperation
- Quality assurance of international standards
- Periodic review to determine the effectiveness of the research strategy

# Finally: Priorities for Implementation

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- Defining research areas and specific issues to focus
- Funding to selected projects and cultivating research culture
- Evaluating output and recognition of research accomplishment
- Coordinating and funding partnership schemes at the grass-roots level between Iraqi and foreign universities