

INNOVATION POLICY FOR INCLUSIVE SUSTAINABLE DEVELOPMENT IN THE ARAB REGION

Economic And Social Commission For Western Asia



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Rationale (I)

- Arab countries are currently facing acute socio-economic and near existential challenges
- Innovation is essential for Arab countries
 - To address socio-economic challenges
 - Cannot be effective without addressing framework conditions
- Arab countries are generally characterized by poor conditions
 - Low levels of productive investment,
 - Shortcomings of the education system,
 - Weak support for entrepreneurs

Innovation Policies in Arab Countries (II)

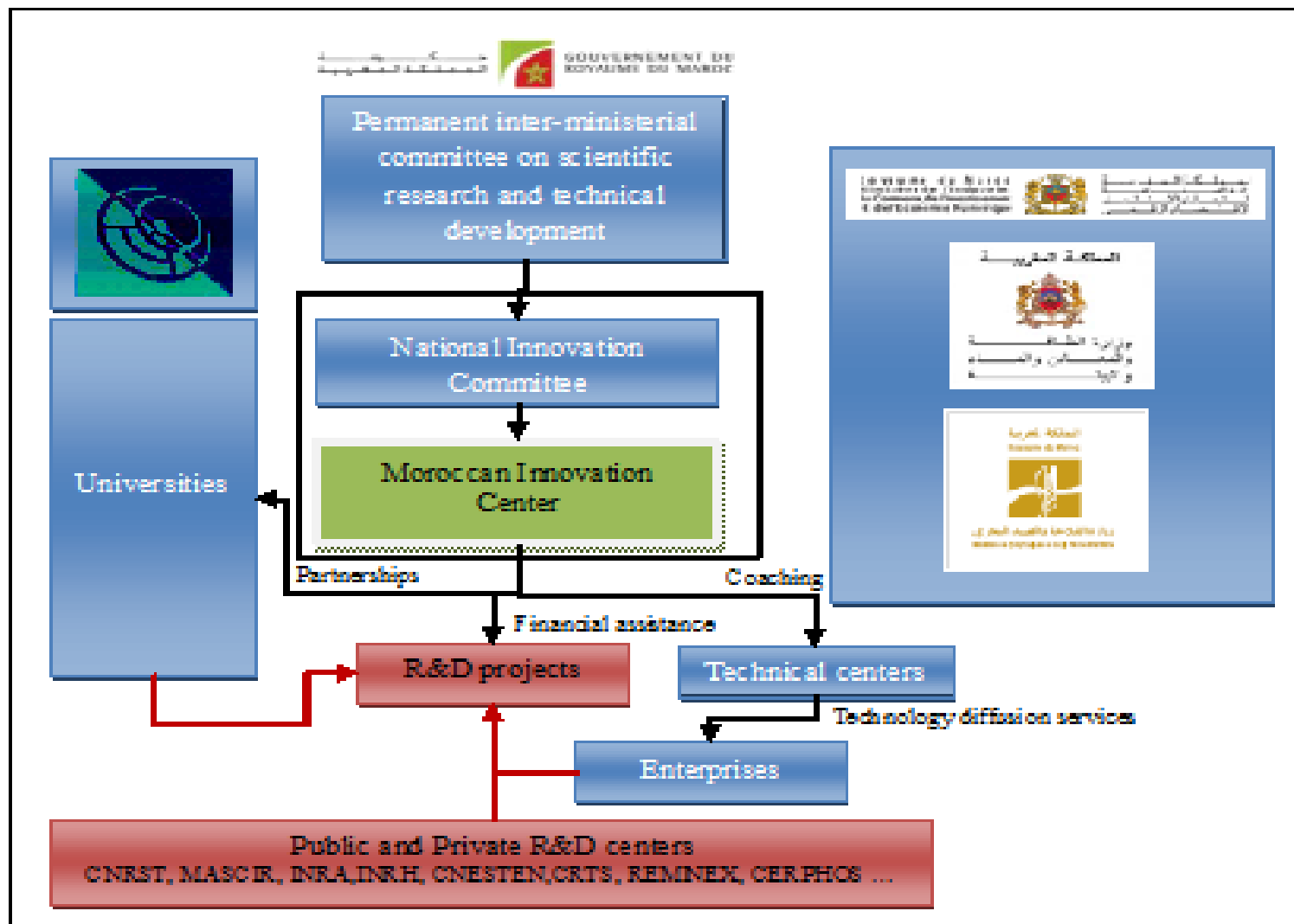


- **Egypt:** National Strategy for Science, Technology and Innovation 2015-2030 (Ministry of Scientific Research under supervision of the Higher Council for Science and Technology chaired by Prime Minister)
- **Jordan:** The National Policy and Strategy for Science, Technology and Innovation 2013-2017 (Higher Council for Science and Technology- board of HCST involves many ministries and chambers of Trade and Industry)
- **Morocco:** Morocco Innovation Initiative (Ministry of Industry, Trade and new Technologies) and National Strategy for the Development of scientific Research towards Horizon 2025 (Ministry of Higher Education)
- **Saudi Arabia:** National Policy for Science and Technology (King Abdul-Aziz City of Science and Technology) and STI included within the 10th National development Plan 2015-2019 (Ministry of Economy and Planning)
- **United Arab Emirates:** Science Technology and Innovation Policy (launched in 2015) and National Innovation Strategy (National Science, Technology and Innovation Committee (chaired by the Minister of Cabinet Affairs)

Case Study : IP in Morocco

- Morocco has **three strategies related to Innovation**: Innovation Initiative, the National Strategy for Development of Scientific Research (Horizon 2025) and Digital Morocco.
- The **National Strategy for Development of Scientific Research**:
 - Focus on scientific research and it has considerable implication for innovation.
 - Aim at increasing the spending on R&D from 0.71% of GDP (2009) to 3% of GDP in 2025.
 - Include activities to ensure inventions and intellectual discoveries in scientific R&D are linked to innovation process.
 - Propose the establishment of National Award for Innovation and research in S&T
 - Focus on 9 sectors such as Tourism, Agro-industry and Textile

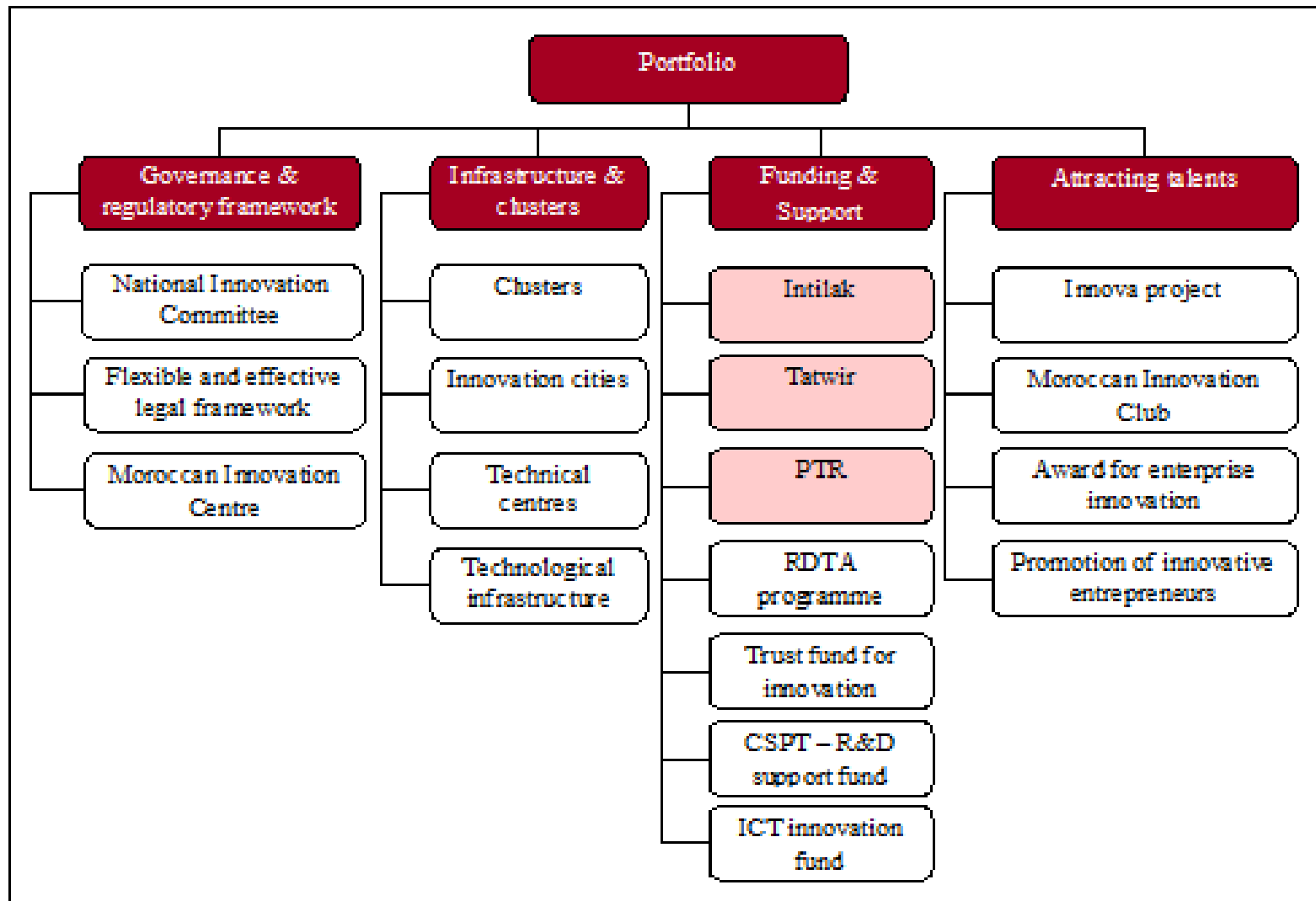
Innovation Ecosystem in Morocco



Case Study : IP in Morocco

- The **Morocco Innovation Initiative** is the responsibility of the Ministry of Industry, Trade and New Technologies.
- Its main objectives:
 - Make innovation a key factor of competitiveness
 - Make Morocco a technology-producing country
 - Make the most of the R&D skills of Moroccan universities
 - Make Morocco an attractive destination for R&D talent and projects
 - Spread a culture of innovation and entrepreneurship
- The initiative aimed to have 1,000 Moroccan patent and 200 innovative start-ups per years starting from 2014.
- The allocated funding was : 50 million MAD to support R&D programme, and 400 million MAD for the innovation support funds.

Portfolio of Moroccan Innovation Initiative



Case Study : IP in Morocco

- The National Strategy for Information Society and Digital Economy, **Digital Morocco** was launched in 2009.
- It had **four strategic priorities**: social change; implementation of user-oriented public services, computerization of small and medium-sized enterprises, and the promotion of the ICT industry.
- The strategy was subject to an evaluation exercise in 2013 by the Higher Audit Council.
- The evaluation reported that **activities to promote RDI in ICT were still in progress**, including the RDI fund, the legal framework for the RDI centre, and building an entrepreneurial culture.
- **Only 22 per cent of the strategy had been implemented**, with 25 per cent delayed, 32 per cent in progress, 18 per cent yet to start and 3 per cent cancelled.



Case Study : IP in Morocco

Exercise

- What are the positive aspects (3 aspects) in the Moroccan Innovation Policies ?
- What are the negative aspects (3 aspects) of the Moroccan Innovation Policies ?

Case Study : IP in Morocco

Evolution of GII indicators for Morocco

GII pillar	2011 score	2011 rank	2016 score	2016 rank
1. Institutions	57.6	80	57.5	74
2. Human capital and research	38.0	61	32.3	61
3. Infrastructure	29.2	57	48.6	45
4. Market sophistication	34.4	84	38.0	98
5. Business sophistication	24.1	110	18.3	125
6. Knowledge and technology output	19.5	87	22.9	72
7. Creative outputs	22.1	109	28.2	67

Source: Cornell University and others, 2016.

Innovation Policies (IP) in Arab Countries

- **Some Arab countries have elaborated a form of Innovation Policy** to improve their NIS
 - Imbued with a ‘technical vision’ and unclear links with broader socio-economic goals
 - Distinct science, technology, innovation, ICT and entrepreneurship strategies co-exist. Better coordination is needed.
- Some countries have a **broader national growth and development strategy** that includes innovation
 - Concrete contribution and link between IP and national strategy should be strengthen.

Major IP challenges faced by Arab Countries

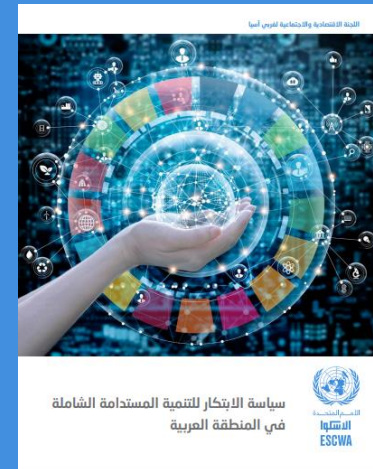
- **Vision and Objectives** are not always clearly specified.
- Education and Training
 - Inadequate methods of learning
 - High levels of educated unemployed & Low levels of VET
- Research and Development
 - Mainly concentrated within PRI and Universities
 - Broken link between R&D and socio-economic needs
- **Regulatory Framework**
 - Low volumes (and quality) of FDI & intra-Arab FDI
 - Low levels of Patenting & Inefficient competition
- **Support to Innovators**
 - Venture Capital and other early financing are still nascent
 - Insufficient business services particularly for SMEs
- Monitoring and evaluation are not always performed

Proposed Framework for the Elaboration of Innovation Policy in the Arab Countries



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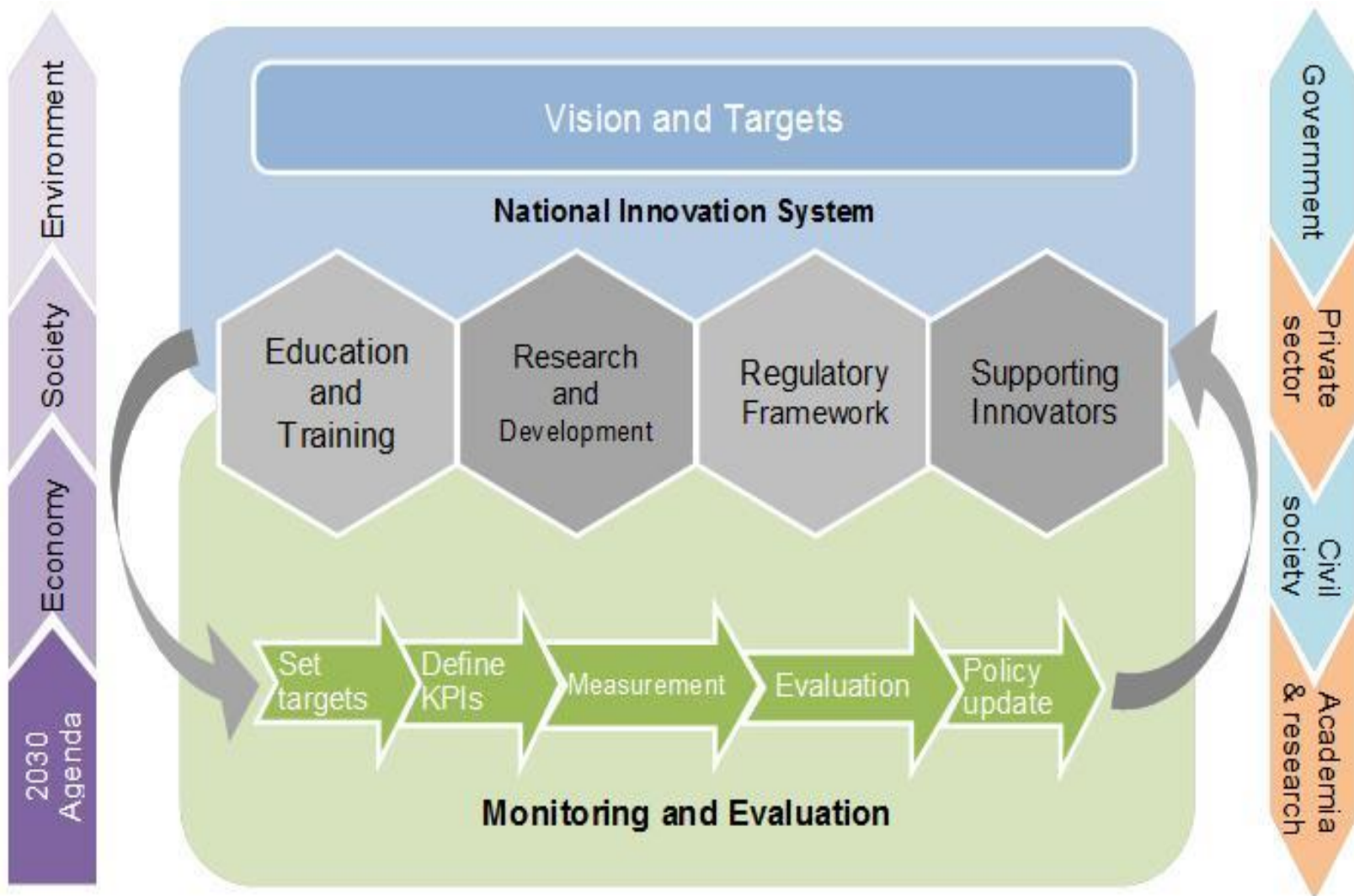


Innovation Policy for the Arab Countries



- **Encourage member countries to formulate innovation policies** that promote the role of technology for inclusive economic growth and support the achievement of SDGs.
- **Bridge the gap between Arab countries and many developed and developing countries** that have made strides in technological and knowledge development and thus enhanced their economic growth.
- **Provide Arab countries with a comprehensive framework** to develop a national innovation system that supports economic growth and contributes to the achievement of the sustainable development goals.

ESCWA Framework for Innovation



Elaborating the IP vision (I)

- Spell out the “**what for**” question articulated around a limited set of strategic objectives
- Next, the “**by which means**” question address shortcomings and gaps in the country
- A third step relates to the NIS actors or, in simpler terms, the “**by whom**” question
- Formulate a **vision and specific objectives** for the which should be linked to other development objectives
- A set of **well-defined targets** and associated indicators.
- Should be elaborated at the **highest political level**

Elaborating the IP vision (II)

Strategic priorities for the innovation policies of **Arab countries** should address a set of interdependent objectives:

- improve the **relationship** between the main actors of the NIS,
- advance an **economic system** that fosters innovation,
- improve the quality of **human capital**,
- deal with **sustainable development** and social issues, including gender,
- and encourage **societal values** that support risk-taking and entrepreneurship.

1st Pillar- Improving Education and Training

- Quality education requires a **new approaches to build skills** away from rote learning and memorization
- Student's well-being and development of their curiosity and critical thinking during the **early stages of primary education** is a must to nurture future innovators
- Develop **Vocational Education Training (VET)** at higher secondary and post-secondary level to address scarcity of mid-level or craft competencies
- Address **Brain Drain** issue with measures aimed at leveraging skilled expatriates

2nd Pillar- Strengthening Research and Development



- Increasing the allocated **budget for R&D** at national level and at university level
- **Open Science** improve efficiency, avoid duplication of effort and enable more research on the same data
- **Technology Transfer Offices (TTO)** to manage this technology transfer of universities' research
- Arab scientists should participate more actively in **international research programs** addressing issues of global concern
- Arab countries might consider **research grants or incentives** to support firm's R&D.

3rd Pillar- Consolidating Regulatory Framework



- **FDI flows:** sharp fall from levels reached in 2008
 - Predictable and transparent regulatory and legal frameworks & simpler business-related procedures
- **Public procurement:** acquire foreign technologies and develop the demand side for local innovation
 - Procurement of innovative goods and services
- **Patenting:** strengthening the patent system, such as:
 - Transparent and accessible opportunities for opposing patents.
- Fair and transparent **competition** is still absent in the vast majority of Arab countries.

4th Pillar- Supporting Innovators

- **Business services** through public-private partnership with private sector specialists to offer a range of business services to young innovative firms.
- Improve efficiency and impact of **Incubation structures**
 - Develop one-stop shop centralized information portals to SMEs
- Develop **early stage financing** of innovative firms.
- **Clusters** are important mechanisms that might create an effective innovation eco-systems.

Measures for implementations

- A **high-level steering committee** to ensure proper stewardship and arbitrate in case of conflict
- A **mechanism to strengthen collaboration** and interactions among various stakeholders
- An **implementation agency** with adequate budget and delegation of authority



Group Work

Exercise

- What do you think is the most critical aspect of the Innovation Policy in your country ?

Innovation Policy & Sustainable Development Goals SDGs



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Technology, Innovation and SDGs

- The **Development Agenda 2030** and its 17 Sustainable Development Goals (SDGs) with their 169 targets are closely related with Science, Technology and Innovation.
- Most relevant goals to technology: Goal 4, 6, 7, 8, 9, 17
- Other goals linked to the use of technology: 1, 2, 5, 12, 13 & 16
- Innovation Policy covering SDGs contribute to the **'triple bottom line'** of an inclusive and sustainable economic growth.



Technology, Innovation and SDGs

The UN Global Sustainable Development Report (GSDR) identified the **most important technologies** for achieving the SDGs:

- **Biotechnologies**
 - Food crops, human health, materials, environment, fuel...
- **Digital Technologies**
 - Development, employment, manufacturing, agriculture, health...
- **Nanotechnologies**
 - Energy, water, chemical, electronics, medical and pharmaceutical....
- **Neuro-Technologies**
 - Health, safety, security, higher efficiency, education...
- **Green Technologies**
 - Environment, climate, biodiversity, renewable energy, clean air.....

Technology, Innovation and SDGs

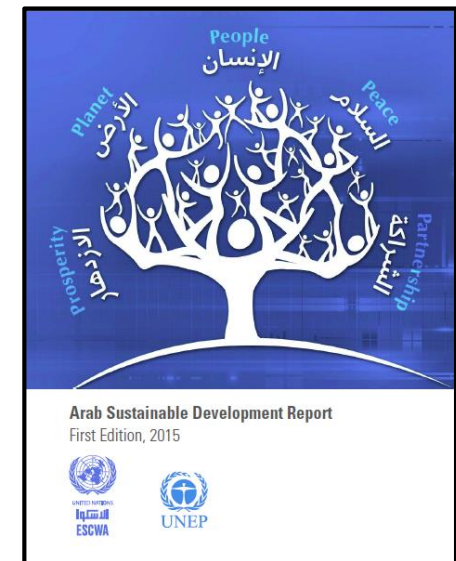
The UN Global Sustainable Development Report (GSDR) identified the **most promising actions** for optimal leveraging of technology for the SDGs:

- **Strengthening national systems of innovation**
 - Barriers to technology deployment and diffusion in developing countries to be removed.
- **Plans, road maps and integrated assessment**
 - STI maps and R&D road maps to agree on priority actions of the science and engineering communities.
- **Putting technology at the service of inclusion**
 - Access to affordable, modern technology for everyone, especially in developing countries.
- **Building institutions that support sustainable technology progress**
 - Institutions need to be reformed to re-orient innovation systems towards sustainable development.

Arab Countries SDGs Priorities (I)

First Arab Sustainable Development Report, 2015

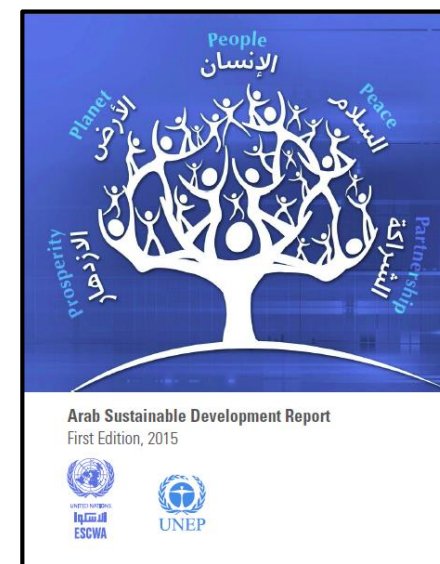
- **Human Dignity and well-Being**
 - Growth with little impact on human well-being.
 - Unemployment remains the highest in the world
 - Educational achievement not leading to employment
- **Peace, governance and institutions**
 - Arab region is the least peaceful part of the world



Arab Countries SDGs Priorities (II)

First Arab Sustainable Development Report, 2015

- **Sustainable and resilient societies**
 - Water productivity and irrigation efficiencies well below global averages
 - Resource consumption increasing at unsustainable rates
- **Implementation and Partnership for Sustainable Development**
 - **Transform Arab region from mostly a user of technology to producer**
 - **Improve statistical capacity** in the Arab region in view of the anticipated 100+ global indicators for the SDGs



Innovation Policy and SDGs: the way ahead

- Provide visionary leadership for **STI as an integral component of SDG** strategies
- Address **social economy** when building an enabling environment for STI
- Provide **funding** for social and environmentally relevant projects
- Provide **incentives for talent** to address social and environmental issues
- Develop **Inclusive Innovation** initiatives

Innovation Policy and SDGs: the way ahead

- Provide visionary leadership for **STI as an integral component of SDG** strategies

Example from Republic of Korea

- To alleviate inequality and unemployment and help the country cope with its **ageing population** and **environmental challenges**, the Science and Technology Basic Plan, emphasizes the role of the so-called **creative economy** in economic growth and the well-being of society while focusing on **incentivizing innovation among SMEs and entrepreneurs**

Innovation Policy and SDGs: the way ahead

- Address **social economy** when building an enabling environment for STI

Malaysia

- In 2015, the Government of Malaysia launched the Malaysian Social Enterprise Blueprint 2015–2018, a three-year road map for **developing a social enterprise ecosystem**, that seeks more impact-driven entrepreneurs who create a social and environmental as well as an economic impact.

Innovation Policy and SDGs: the way ahead

- Provide **funding** for social and environmentally relevant projects

Indonesia

- Over the past two decades, Indonesia's Directorate General of Higher Education has **initiated more than 20 schemes to fund university research and community service activities**. Since the early 1990s, it has fostered **stronger university-industry-government collaboration** and partnership to fulfil the country's economic development strategy.

Facts

- Youth un-employment rate in the Arab region is the highest worldwide: 30.6% (2016).
- Gender difference are notable with a gap between young women and young men: 27.6 percentage more for women in ME.
- “Youth bulge” in almost all Arab countries has led to increased number of youth seeking work, in spite of decent level of education.

Economical objective

Changing the Economic Model

- Macroeconomic policy coherence aimed at economic growth and shared benefits (private and public sector)
 - Promote economic growth and social justice.
 - Model led by private sector's role needs to take account of the public sector's role (PPP).
 - Private sector should operate in competitive and transparent environment.

Innovation Policy Job creation

- Government should enhance legal and regulatory framework to encourage innovation and R&D in private sector and promote the creation of start-ups and entrepreneurs.
- Government can invest in Innovation such as the development of innovative e-government services.
- Arab government should invest in risk-prone or long-term projects in which private sector is reluctant to participate.

Economical objective

- **Well designed employment policies** and active labour market programs
 - Active labour market policies (ALMPs) include employment services, career guidance, job counselling, labour market information and support for micro and small enterprises.
 - ALMPs can help reintegrate youth who are in the forefront of regional developments.

Innovation Policy for Youth Employment in the AR

Innovation Policy should:

- Include mechanisms for **supporting entrepreneurs** and start-ups: such as incubators, accelerators and available seed funding and other types of investments.
- Increased quality and **relevance of education and training** to adapt to a rapidly changing labour market
 - Autonomy and independent thinking and capacity for **lifelong learning**
 - Develop **VET** with active involvement of private sector



Group Work

Exercise

Each group of participant should choose one of the following SDGs and describe how the Innovation policies could support this SDG



THANK YOU!

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