

In the Name of GOD

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

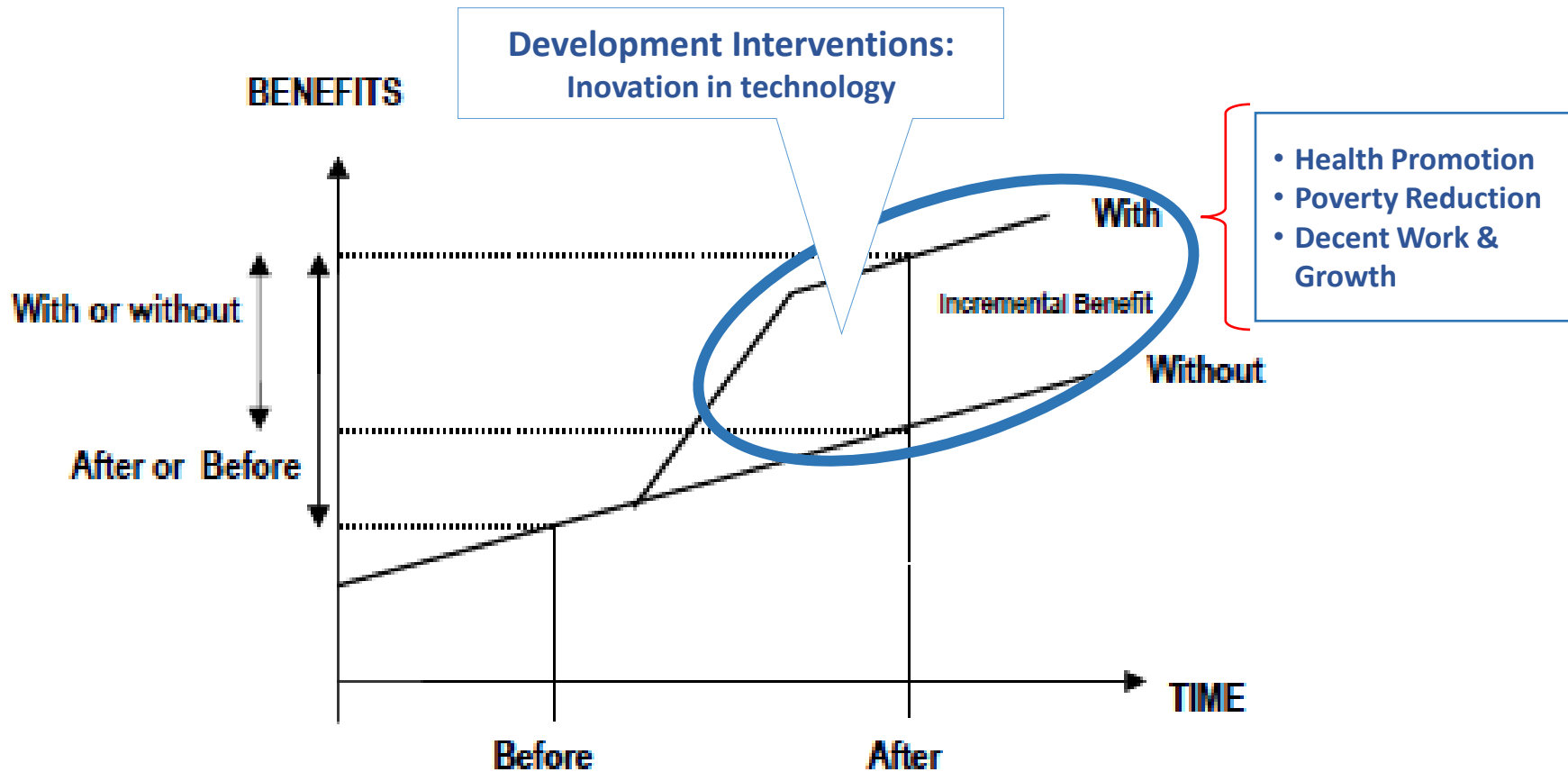
Science,  
Technology and  
Innovation in Iran:  
A Brief Review

IRAN  
2023 

Iran's initiatives on the Path to the  
Regional Scalable and Science-  
Based Sustainable Development:

**Focusing on the Poverty  
reduction, Improving health,  
and Economic growth  
innovations**

# The Programme and the Context



## Good Health and Well-being 1



- Iranian Electronic Health Record called “**SEPAS system**, which stands for the "**Health Electronic File System of Iran**," aims to centralize the health information of citizens across the country. It enables the archiving of health records from childhood to adulthood, regardless of whether individuals have specific health conditions or not.
- This system is managed by the Ministry of Health's Center for Statistics and Information Technology around 97.%. Medical prescriptions are done through ES.

# Good Health and Well-being-2

- **Implementation of a Telemedicine System for Rural, Remote, and Underserved Areas**
- This initiative is being executed through the **National Health Network**, which has been active for over four decades. Under this system, a **rural health worker (Behvarz)** collects and transmits the patient's medical history remotely from the village health center to higher-level physicians via a virtual platform. The physician then provides medical instructions, including **prescriptions and treatment plans**, which are relayed back to the patient through the Behvarz, ensuring necessary medical actions are carried out at the health center.
- Additionally, **health services such as ECGs and dental X-rays** are transmitted online through this system, utilizing **artificial intelligence (AI)**. The received medical instructions are then implemented in remote areas by **trained health workers**, improving healthcare accessibility and efficiency.
- **Implementation of a Medication Supply Service for Patients with Rare and Hard-to-Treat Diseases** Under this initiative, prescribed medications for these patients will be delivered directly to their homes through a specially designed system.
- This approach aims to enhance accessibility, prevent smuggling, and reduce costs, ensuring that patients receive their necessary treatments with greater ease. This initiative aligns perfectly with ESCAP's core principle: "Leave No One Behind."

## Iran have health and social support systems :

subsidies and cash assistance, but these systems require improvement and better targeting



# Poverty reduction 1

## ❖ Iranian Welfare Information Database :

❖ This data base provides appropriate socio – economic information on household in Iran :targeting subsidies is based on this database.

## ❖ Establishment of the Unified Support Services Window by the Government.

This Window aims to providing quality services to the poor households eliminate overlaps, reduce costs, and enhance synergy covered by the governmental and public non-governmental supporting organizations. Initiatives for Poverty Alleviation and



# Poverty reduction 2

## ❖ **“The Progress Plan of Deprived Areas .“**

This Plan is conducted by the public non-governmental institutions (Foundations) in Iran.

❖ **The Social mobilization and microfinance for poverty reduction .This plan** Like the plan by the East and Southeast Asian countries, this initiative has been implemented in Iran with the collaboration of multi-stakeholder partners, including governmental and non-governmental entities, international development organizations, and certain foundations. The innovation of this initiative lies in its integration and linkage with other systems, including the banking system.

❖ **Advancements in agricultural technology, including drought-resistant crops and precision farming.**

# Decent Work and Economic Growth




- **Diversifying the economy and creating decent work opportunities are critical for sustainable growth.** Diversification efforts in agriculture, manufacturing, and services.
- A large number of **knowledge-based companies** have been established in Iran resulted to creation of job for educated young people ( near10000 units).Growth of local startups and emphasis on technology-driven job creation.
- Developmental interventions in **labor market(ALMP)** such as wage and social insurance subsidy in the labor market and financing SME<sub>s</sub> by the government led to decrease in the unemployment rate in particular in deprived and rural areas through related software.
- Establishment of the “**National Licensing Portal** “through a networking framework by related governmental organization from three years ago.



# Image 4 – Science, Technology, and Innovation in Iran at a Glance

## Enrolment in and Graduation from Higher Education in Iran

	2021-2022	2022-2023
Students	-	2087524
Graduates	413870	-
Enrolments	-	617378

• No data is available for students of Islamic Azad University

## Gender Balance in Higher Education



Source: IRPHE, <https://irphe.ac.ir/>

## Knowledge - intensive Employment Rate

Year	%	Rank
2021	19/93	76



Source: GII 2023, <https://www.wipo.int>

	Year	Rank
Iran's rank in GII	2023	62 <sup>nd</sup> among the 132 economies
Graduates in science and engineering %	2020	3
Gross Expenditure on R&D (GERD), % GDP	2019	46
High-tech Manufacturing of Total Manufacturing Output, %	2019	44

Source: GII 2023, <https://www.wipo.int>

## Knowledge-Based Firms



	2024
Startup	6,779
Technology	795
Innovative	1,985

Source: <https://pub.daneshbonyan.ir/dashboard>, updated: Jan,23,2024

## The Number of S&T parks in Iran



## The Number of Incubators in Iran



The Number of Knowledge-based Firms —→ 9,559 Jan. 2024

The Number of Creative companies —→ 1,914 Jan. 2024

The Number of Innovation Centers —→ 419 Jan. 2024

The Number of Accelerators —→ 159 Jan. 2024

Source: <https://isti.ir>; <https://www.msrt.ir>; <https://pub.daneshbonyan.ir/dashboard>

## Global Network Readiness Index

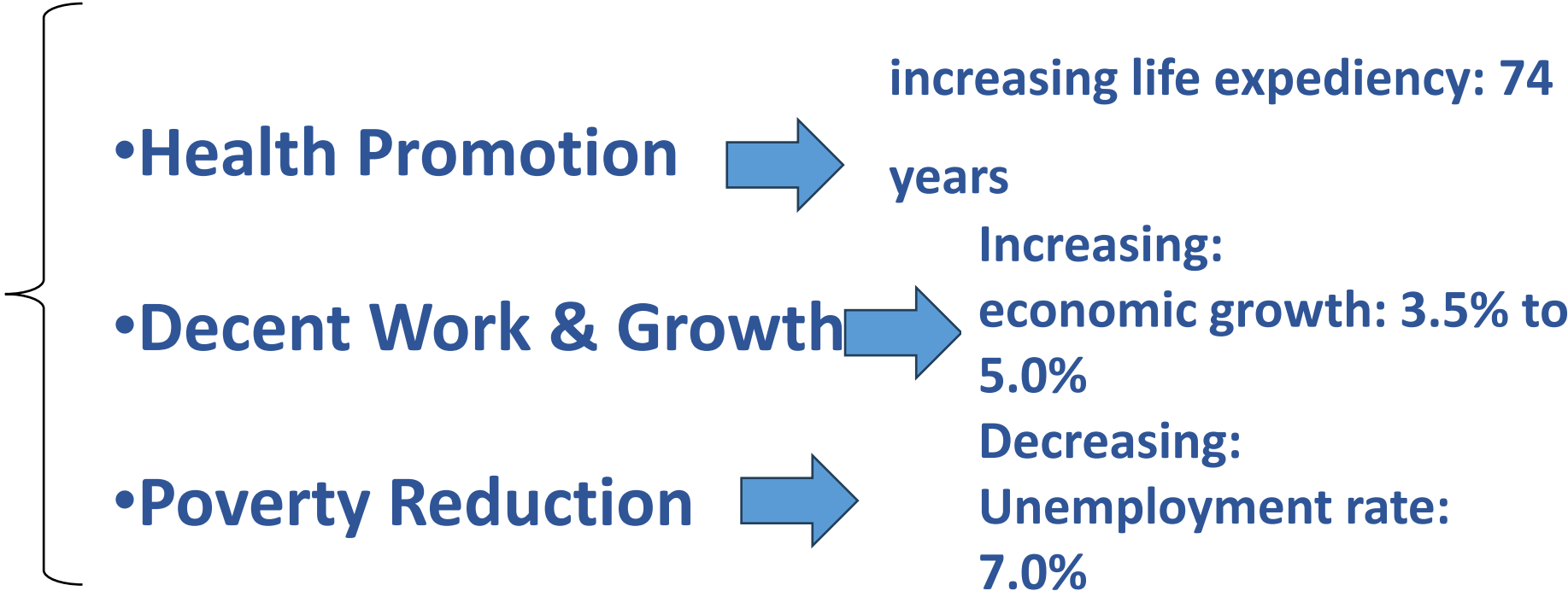
2023 —→ 87<sup>th</sup> out of the 134 economies



Source: NRI 2023, <https://networkreadinessindex.org>



## Development Interventions in Iran: Innovation in technology

- 
- **Health Promotion** → increasing life expectancy: 74 years
  - **Decent Work & Growth** → Increasing: economic growth: 3.5% to 5.0%
  - **Poverty Reduction** → Decreasing: Unemployment rate: 7.0%

# Challenges and Expectation

- Iran(I.R.), as part of the ESCAP region, faces numerous challenges in the field of sustainable development.
- These challenges include water scarcity, climate change, air and water pollution, deforestation, desertification.
- However, we believe that by relying on innovation and creativity, and leveraging knowledge, technology, and **favorable access to regional capacities**, we can overcome these challenges.
- It is important to note that innovation is not only about developing new technologies but also about adopting new methods in management, policymaking, data processing, education, and public participation.

# Policy Instruments for Science-Based, Technological, and Innovative Approaches to Accelerate the Achievement of SDGs

**Support for Science, Technology, and Innovation at the Regional Scale:** From ideation to implementation, with an emphasis on risk reduction, improving access to resources, stimulating investment flows in research, development, and innovation, as well as the development of hardware and software infrastructure to accelerate, facilitate, and reduce the costs of advancing SDGs.

**Regional Financing , Research & Development:** In the area of tools for stimulating the supply side of innovation, which are relatively more extensive than other types of tools, various financing mechanisms for research and development play a special role.

**Regional Diffusion of Science, Technology, and Innovation "Leaving No One Behind":** Encouraging the rapid dissemination of knowledge and awareness based on facilitating infrastructures that enhance industry-science interaction, the development of value chains, and innovation networks to accelerate the realization of sustainable development goals.

**Regulation, Governance, and Standard Framework for Technology, Innovation, and Science-Based Data in the ESCAP Region:** : Includes a wide range of regulatory, oversight, guidelines and evaluation tools. It covers various policy initiatives such as the development of regulatory frameworks, national and regional strategies and programs, related laws in the field of technology development, the necessary developmental standards, intellectual property laws, and incentive policies.

**Enhancing Regional Institutional and Human Capacities:** Through advisory services, technical assistance, training, and regional and sub-regional research within ESCAP.

# Conclusion1 :

We believe that by drawing inspiration from our rich heritage in innovation and sustainability, and by **adopting a multifaceted approach** that specifically considers the Sustainable Development Goals, **we can achieve a more sustainable and equitable future for Iran and the ESCAP region.**

- A future in which all individuals/countries have equal opportunities and can live in a healthy and sustainable environment.
- To reach this goal, we need strong determination, collaboration, and innovation.

## Conclusion 2:

We can share our experiences, especially in the field of health, with other countries, and in return, benefit from the experiences of other countries, especially in the field of improving economic growth and knowledge-based activities based on improving production.

**At the end,**

we would like to emphasize alongside the central slogan of ESCAP, “**Leave No One Behind**,” the importance of ensuring that “**No Settlement, Region, Country is Left Behind.**”

We look forward to a secure, growing, and innovative future for the region. Farewell until we meet again.

**Thanks**



# Proposed Solutions

- To achieve sustainable development in Iran and the ESCAP region, a multifaceted approach is required, one that specifically addresses the Sustainable Development Goals (SDGs). This approach includes the following:  
Development of New Technologies: Supporting research and development in clean technologies, encouraging the use of innovative technologies in various economic sectors, and developing the necessary infrastructure for their deployment. These actions directly contribute to achieving SDGs 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation, and Infrastructure).  
Improvement of Management and Policymaking: Reforming laws and regulations, creating supportive mechanisms, integrating environmental and social considerations into decision-making processes, and developing monitoring and evaluation systems.



## Part 2: "Iran's Crucible—Resilience Amidst Crisis"

- “Let me now turn to my homeland, Iran—a living laboratory of resilience.
- **A Land of Extremes:**
- Earthquakes rattle our cities, droughts parch our farmlands, and sandstorms swallow entire villages.
- Lake Urmia, once the Middle East's largest saltwater lake, is now 90% gone—a tragedy for 5 million who depended on its waters.
- Tehran, a megacity of 13 million, sinks 25 centimeters yearly due to vanishing groundwater.
- **Climate Change as a Threat Multiplier:**
- Last summer, temperatures hit 52°C in the Dasht-e Lut Desert—a world record. Crops failed. Hospitals overflowed.
- Yet, ***“Despite sanctions limiting access to technology and finance, innovation thrives.”***, Iran innovates:
  - *DroughtGuard*: A community app predicting water shortages, co-designed with APDIM.
  - *Sandstorm Sensors*: Low-cost devices deployed across Central Asia, sharing real-time data with Mongolia and Pakistan.
- **But Iran's pain is not unique.**
- Thailand loses 5 meters of coastline yearly.
- Pakistan's glaciers melt, flooding villages.
- Central Asia's dust storms choke lungs from Kabul to Astana.
- **Disasters know no borders. Neither should our solutions.”**