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Contribution by Iran

to the CSTD 2026-2027 priority theme on
"Data Governance for Development: From Asymmetry to Equitable Stewardship"

Responses of the Islamic Republic of Iran to the Secretariat Questionnaire of the United Nations Commission on Science and Technology for Development (CSTD)

On "Data Governance for Development: From Asymmetry to Equitable Stewardship"

Question 1

What challenges does your country face in creating and leveraging data capacities, including issues related to infrastructure, data ownership and stewardship, trusted cross-border data flows, and benefit-sharing? (Please provide examples and, where possible, quantitative evidence or indicators illustrating these challenges and their impacts.)

In recent years, the Islamic Republic of Iran has made significant progress in expanding its digital infrastructure, particularly in the development of telecommunications networks and data centres. Fourth- and fifth-generation mobile networks now provide extensive coverage across urban, rural, and remote areas, while the vast majority of public services are delivered electronically through digital government platforms.

Despite these achievements, several structural challenges continue to constrain the country's data ecosystem. Fragmentation of data repositories across public institutions, the absence of fully harmonized data exchange standards, and limited large-scale data processing capabilities remain among the principal obstacles. To address these challenges, the Government has initiated the development of an integrated digital ecosystem based on a **"System of Systems"** approach, interconnecting seven strategic domains—including finance, taxation, health, logistics, energy, and land administration—to accelerate digital government transformation. In parallel, the adoption of emerging technologies, particularly artificial intelligence (AI), has been identified as a key pillar of national development strategies.

At the institutional level, data sharing among public entities has expanded considerably in recent years. From a legal and regulatory perspective, Iran has established the initial foundations of its national data governance framework through the adoption of several legislative instruments, including the **National Data and Information Management Act**, the **Act on Publication and Free Access to Information**, the **Electronic Commerce Act**, the **Computer Crimes Act**, as well

as national policy documents relating to Smart Government and Artificial Intelligence.

Nevertheless, the country's digital transformation continues to face substantial external constraints. Unilateral economic sanctions have significantly restricted access to advanced hardware, global cloud computing services, software updates, and other critical digital technologies. These restrictions have increased both the operational costs and the technological complexity associated with maintaining and upgrading domestic data centres.

Consequently, although Iran possesses a highly skilled workforce and relatively extensive digital infrastructure, challenges arising from sanctions, the lack of internationally harmonized standards, and limitations on international cooperation continue to impede its ability to participate on an equal footing in global data value chains.

Going forward, achieving an appropriate balance between data protection, national sovereignty, and the economic value of data has become a central policy priority. Future policy solutions should therefore promote greater interoperability, standardization, and constructive engagement with the global data economy while fully respecting national circumstances and development priorities.

Question 2

How are inequalities embedded in the processes of data generation, collection, and use in your country? In particular, how do biases in data collection and use—such as gender data gaps—affect policymaking, service delivery, and development outcomes? (Please provide examples, evidence, and information on measures being undertaken to address these inequalities.)

One of the principal challenges relates to the limited availability of effective legal and institutional mechanisms governing access to government-held data. A substantial volume of data collected by public authorities could support the delivery of more integrated public services and foster innovation by both public institutions and the private sector. However, access to and reuse of such data remain constrained.

At the same time, concerns regarding the misuse of data by technologically advanced countries, together with the absence of effective international legal mechanisms to safeguard the rights and interests of developing countries, have led to a more precautionary approach to data governance. While this approach has strengthened data protection, it has also imposed practical constraints on the productive use and sharing of data in routine governmental and economic activities.

With regard to gender, although the digital gender divide has narrowed significantly in recent years, disparities in access and digital participation persist in certain regions and among specific social groups. These disparities may result in the underrepresentation of particular needs and experiences within national datasets, thereby affecting evidence-based policymaking and service delivery. To address these challenges, the Government has expanded e-government services, improved Internet connectivity, and promoted digital literacy programmes aimed at enhancing equitable access to digital opportunities.

Another important source of data inequality stems from the reliance on formal administrative channels for data collection. A considerable share of economic and social activities—such as home-based online businesses and informal participants in digital platform economies—are not fully captured by official statistical systems. As a result, these activities remain largely invisible in national datasets, creating what may be described as **"missing data"** and limiting the comprehensiveness of policy analysis.

From an infrastructure perspective, the expansion of the National Information Network and domestic data centres has been driven, in part, by the need to reduce dependence on international service providers, particularly in cloud computing, where sanctions have restricted access for Iranian users. While this has stimulated the growth of domestic cloud and hosting providers, their advanced processing capabilities—especially AI-oriented computing infrastructure—and system redundancy remain below internationally recognised benchmarks.

In the area of data ownership and stewardship, responsibilities for data management remain dispersed across ministries, executive agencies, the Central Bank, telecommunications operators, municipalities, and other public institutions. A comprehensive and integrated national framework for data governance is still under development.

With respect to cross-border data flows, unilateral sanctions have limited the ability of Iranian institutions, researchers, and businesses to access international data-

sharing platforms, digital payment systems, and global scientific collaboration networks. Furthermore, institutional arrangements for ensuring the equitable sharing of benefits derived from data with citizens and data-generating communities have yet to be systematically established.

Question 3

Has your country implemented national strategies, regulatory frameworks, or policy instruments to promote fair and interoperable data governance? What lessons have been learned? (Please describe any specific challenges, setbacks, or successes encountered during implementation.)

The Islamic Republic of Iran is advancing the integration of its electronic public service platforms through the development of a unified Government Digital Ecosystem. To date, seven strategic ecosystems—including finance, taxation, logistics, health, energy, and land and property administration—have been identified and are being integrated with the objective of achieving effective interoperability across public-sector digital services.

One of the principal lessons learned from this process is that successful digital transformation depends on several interrelated factors: the adoption of common data standards, enhanced interoperability among information systems, meaningful participation of the private sector, and the establishment of transparent mechanisms to safeguard privacy and ensure the secure management of personal and public data.

In parallel, Iran has adopted a number of legislative and regulatory measures to strengthen its national data governance framework. Key instruments include the **National Data and Information Management Act** and the **Act on Publication and Free Access to Information**, which provide the legal foundation for data management, transparency, and public access to information.

Among the most significant achievements has been the establishment of integrated national data management systems, the development of long-term policy scenarios for the country's digital transformation, and the adoption of a hybrid governance model that seeks to balance technological innovation with constitutional principles,

including the protection of human dignity, individual rights, and national sovereignty.

More broadly, through the adoption of legislation, national policy documents, and institutional arrangements, Iran has taken important steps toward establishing a fair, interoperable, and intelligent data governance framework. In particular, the **National Data and Information Management Act** assigns responsibility for the overall governance of the production, storage, processing, access, integration, exchange, and security of national data and information to the **Supreme Council of Cyberspace**, thereby providing a centralized policy framework for data governance at the national level.

Question 4

Please share your country's experience in reducing data asymmetries and promoting more equitable data stewardship in development sectors such as public services, education, health, and agriculture. (Where possible, please include examples, lessons learned, and remaining challenges.)

The Islamic Republic of Iran has undertaken a range of initiatives to reduce data asymmetries and enhance equitable data stewardship across key development sectors by strengthening digital public infrastructure and promoting the integration of sectoral information systems.

In the area of **public service delivery**, the **National Smart Government Services Portal**, together with services linked to the national identification system, has significantly improved citizens' access to government services by providing a unified digital gateway for public administration.

In the **education sector**, the development of education management information systems and the expansion of digital learning platforms have strengthened the continuity of educational services. During the COVID-19 pandemic, the **SHAD (Student Education Network)** platform enabled millions of students across the country to continue their education remotely. At the same time, its implementation highlighted persistent disparities in digital access, particularly in underserved and remote areas, underscoring the importance of continued investment in digital inclusion and connectivity.

The integration of digital platforms has also contributed to improved service delivery in the **health sector**. A notable example is the interoperability established between health insurance organizations, physicians, and pharmacies through the national electronic prescription system. Patients are able to receive prescribed medicines using a unique identification code, while insurance claims are processed automatically through integrated digital platforms, thereby improving efficiency, transparency, and accessibility.

In addition, the **SIB Integrated Health System**, operational since 2015, represents one of the country's most successful digital health initiatives. The system integrates health data from primary healthcare centres in both urban and rural areas with specialized hospitals, facilitating the development of comprehensive electronic health records and contributing to more equitable access to healthcare services, particularly for populations in less-developed regions.

In the **agriculture sector**, Iran has expanded the use of digital information systems for land monitoring, water resource management, and agricultural planning to support evidence-based decision-making. Furthermore, the **Smart Flour and Bread Subsidy System** collects real-time data on flour distribution among bakeries, improving transparency, monitoring, and the efficiency of subsidy management.

These experiences demonstrate the significant potential of integrated data systems to enhance public service delivery and support inclusive development. Nevertheless, several challenges remain, including the need for greater interoperability among sectoral databases, continued investment in digital infrastructure for remote and underserved areas, and further strengthening of data-related skills and institutional capacities.

Question 5

What mechanisms or institutional arrangements exist in your country to strengthen cooperation among different stakeholders on data governance for development (e.g., university–industry initiatives, public–private partnerships, or multi-stakeholder arrangements)?

The Islamic Republic of Iran has established a range of institutional mechanisms to foster collaboration among government entities, academia, the private sector, and other stakeholders in support of data governance for sustainable development.

A key national initiative is the design of the **Government Digital Ecosystem**, which aims to enable seamless data exchange and interoperability across the country's

seven priority digital ecosystems. The conceptual framework for this initiative has been developed through the collaboration of seven leading universities, while its implementation is expected to be undertaken in partnership with the private sector. This approach reflects Iran's commitment to leveraging academic expertise alongside private-sector innovation in advancing digital transformation.

In parallel, collaboration between universities and industry has expanded in areas such as artificial intelligence, data analytics, and digital transformation, contributing to research, innovation, and the practical application of emerging technologies.

At the national governance level, the **Supreme Council of Cyberspace**, as the country's highest policymaking body for cyberspace affairs, provides an institutional platform for engaging private-sector actors, telecommunications operators, and relevant stakeholders in the formulation of national data governance policies and strategic priorities.

Furthermore, the **National Center for Cyberspace** convenes specialized committees comprising representatives from government ministries and agencies, telecommunications operators, knowledge-based enterprises, and other industry stakeholders. These committees facilitate cooperation on issues including data standardization, interoperability, cybersecurity, and digital governance.

University–industry collaboration is also promoted through joint working groups established under the **Vice Presidency for Science, Technology and Knowledge-Based Economy**, as well as by sectoral ministries. These initiatives support cooperation between academic institutions and data-driven enterprises in areas such as research commercialization, innovation, and digital capacity-building.

Public–private partnerships have likewise played an increasingly important role in strengthening data governance. For example, the **Iran Information Technology Organization (ITO)**, affiliated with the Ministry of Information and Communications Technology, has cooperated with the **Iran E-Business Union** in the development of a **Data Users' Rights Charter**, reflecting a collaborative approach to protecting users' rights and promoting responsible data governance.

In addition, the **Statistical Center of Iran**, during the design of the **Integrated National Information System**, has organized consultative meetings with representatives of the banking sector, insurance companies, and academic institutions to ensure that the perspectives and data requirements of all key stakeholders are appropriately reflected in national data standardization efforts.

Overall, these institutional arrangements demonstrate Iran's commitment to a **multi-stakeholder approach** to data governance, recognizing that effective and inclusive governance requires sustained cooperation among public institutions, academia, industry, and civil society.

Question 6

In which major bilateral, regional, or international partnerships has your country participated to strengthen fair and interoperable data governance? Please describe the benefits of participation, as well as any challenges related to coordination, capacity, trust, interoperability, or benefit-sharing.

The Islamic Republic of Iran actively participates in a range of bilateral, regional, and multilateral initiatives aimed at promoting fair, inclusive, and interoperable data governance. These engagements provide opportunities to exchange experiences, strengthen technical cooperation, contribute to international norm-setting, and advance the interests and priorities of developing countries in the evolving global data governance landscape.

At the multilateral level, Iran actively engages in the work of the **International Telecommunication Union (ITU)**, the **Asia-Pacific Telecommunity (APT)**, as well as regional organizations such as the **Economic Cooperation Organization (ECO)**. The country also participates in broader multilateral processes, including **BRICS** and the **Shanghai Cooperation Organization (SCO)**, while closely following global digital governance discussions—such as the **World Summit on the Information Society (WSIS)** process and the **Global Digital Compact (GDC)**—through its Permanent Missions in Geneva and New York.

Participation in these forums enables Iran both to share its national experiences and best practices and to benefit from the experiences of other countries. At the same time, these platforms provide an opportunity to articulate national priorities and contribute constructively to international discussions on emerging digital policy issues.

Within the framework of **BRICS**, the Islamic Republic of Iran is cooperating with other member States to promote common positions on key principles of data governance, including national sovereignty over data, protection of privacy, trusted cross-border data flows, and the need to prevent the concentration of data-related power in ways that could disadvantage developing countries. These efforts are intended to contribute to a more balanced, equitable, and inclusive international data

governance architecture while reducing excessive dependence on dominant global digital platforms.

Iran also plays an active role within the **Economic Cooperation Organization (ECO)**, where cooperation on emerging technologies and regional digital integration has been identified as a strategic priority. In collaboration with ECO member States, Iran has supported technical initiatives on the standardization of geospatial and statistical data. Such initiatives facilitate interoperable data exchange across the region while enabling all member States—including smaller and less-developed economies—to benefit from common standards and equitable access to data resources.

In addition, the Islamic Republic of Iran has concluded a number of bilateral memoranda of understanding with partner countries in areas related to data governance. These agreements focus on cooperation in cybersecurity, cross-border data standardization, artificial intelligence, and smart government. They are intended to promote regulatory convergence, strengthen technical cooperation, reduce the regional digital divide, and expand equitable access to digital infrastructure and technical expertise, particularly among countries facing comparable development challenges and external constraints.

While these partnerships have generated valuable opportunities for knowledge exchange, capacity-building, and policy coordination, challenges remain. These include disparities in technological capacity, differences in regulatory approaches, constraints on access to advanced digital infrastructure, and external restrictions that affect international digital cooperation. Addressing these challenges through inclusive dialogue, mutual trust, and strengthened international cooperation remains essential for achieving fair and interoperable global data governance.

Question 7

How can international cooperation strengthen fair and interoperable data governance to ensure that data contributes to shared prosperity and sustainable development? In what ways can the United Nations Commission on Science and Technology for Development (CSTD) support these efforts?

International cooperation has a critical role to play in advancing fair, inclusive, and interoperable data governance frameworks that enable data to serve as a driver of shared prosperity and sustainable development. Achieving this objective requires collaborative action across several key areas.

First, the international community should work towards the development of a set of common principles and baseline norms governing data governance. Such principles should encompass respect for national sovereignty over data, protection of privacy and fundamental rights, transparency, accountability, and trusted cross-border data flows. Establishing a shared understanding of these principles would help foster trust, enhance interoperability, and facilitate international cooperation.

Second, greater emphasis should be placed on effective technology transfer, capacity-building, and knowledge-sharing for developing countries. Bridging existing digital and data-related divides requires more than policy dialogue; it necessitates practical support for developing technical capabilities, strengthening institutional capacities, and expanding access to digital infrastructure and emerging technologies.

Third, international efforts should promote the development and adoption of open, transparent, and non-proprietary standards that are accessible to all countries on an equitable basis. Such standards are essential for preventing fragmentation of the global data ecosystem and ensuring that developing countries can participate meaningfully in the digital economy.

Fourth, international cooperation should encourage the establishment of fair benefit-sharing mechanisms to ensure that the value generated from data contributes to inclusive development outcomes. Particular attention should be given to the interests and developmental needs of developing countries and data-generating communities.

Finally, regional and interregional data corridors and cooperation frameworks can contribute to greater resilience, interoperability, and diversification within the global data ecosystem, while reducing excessive dependence on a limited number of centralized digital platforms and infrastructures.

The experience of the Islamic Republic of Iran demonstrates that restrictions on access to advanced digital infrastructure, cloud computing services, and emerging technologies can create significant barriers to digital development. In this context, South–South cooperation and regional partnerships have become increasingly important mechanisms for knowledge exchange, capacity-building, and technological collaboration.

The **United Nations Commission on Science and Technology for Development (CSTD)** can make a valuable contribution by providing an inclusive and neutral platform for dialogue in which all countries, regardless of their level of development or specific national circumstances, can participate on an equal footing. The

Commission can further support Member States by facilitating the exchange of best practices, promoting evidence-based policy discussions, and encouraging consensus-building on key data governance issues.

In addition, the CSTD could contribute by developing practical policy guidance and implementation-oriented recommendations, conducting independent assessments of emerging standards and governance approaches, supporting South–South and triangular cooperation initiatives, and promoting pilot projects that demonstrate how data governance can contribute to sustainable and inclusive development in practice.

Ultimately, international cooperation should aim to ensure that data governance serves as an instrument for reducing inequalities, fostering innovation, and advancing sustainable development, rather than reinforcing existing digital divides. Through inclusive multilateral cooperation, equitable participation, and shared responsibility, the global community can help build a data ecosystem that benefits all nations and peoples.